

BOOK OF DEPARTMENTAL THESES ABSTRACTS

(1971-72 to 2020-21)



Compiled & Edited by

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-: MESSAGE FROM VICE CHANCELLOR:-

Research and its adoption in agriculture and allied sectors remain critical since they can greatly impact the livelihood of two third of Indian population. Junagadh Agricultural University is extensively engaged in research, education and extension education since its inception from May, 2004.

Publication of Research work is a vent for the cooperating group to expand further to include a whole lot of peers crisscrossing the boundaries. Publication can also be regarded as an asset that enable authors to gain traction and recognition as experts in a particular field at national and international levels.

Over the past few decades, a lot has changed regarding knowledge dissemination in agriculture and allied disciplines. Simultaneously, rapid expansion of technology is being used swiftly to make the published research available online through multiple web portals and domains. The recent development, in technology have made all the stakeholders in the research set-up right from researchers to practitioners, policy makers, students and farmers to access, search and share information increasingly with greater ease and speed. All these attributes need to put in use for common betterment and social upliftment.

I am happy to note that the Department of Agricultural Extension, College of Agriculture, JAU, Junagadh has brought out useful and timely publication "**Book of Departmental Theses Abstracts**" comprising all the abstracts of students' thesis research in chronological order since 1971 to 2021. I congratulate Dr. N. B. Jadav and his team for bringing out this important work. I am very sure that this document will be of immense help to the students and academic community of social science discipline and help them while deciding on their research problem and well as in identifying research gaps in their studies.

Date: - 12.03.2021

(V. P. Chovatia)



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-: FORWARD :-

Research is an art of carrying out experiments, trials or social surveys precisely within the boundaries of approved procedures and guidelines. On the other hand, publication is a craft whereby a researcher has got to know not only how to present his or her key findings in the form of tables, graphs and diagrams but also how to discuss and validate the results convincingly. An academician par researcher has to be a master of not only the art of conducting research but also in the craft of publishing it which alone would complete the research process. Such is the importance of publications that had the outstanding researchers not published their findings, the world would have been bereft of their contributions.

Research in social science, especially extension, is unique as it mainly hinges on the discussions of findings rather than simple presentation of results. The discussions are usually elaborate with the researcher attempting to justify the findings of the model with the help of logic. In extension, more than any other science, theory plays a major role as without them, there won't be any models in the first place. Only those researchers who are sound in their domain knowledge can expand their research base besides findings new areas of research.

Looking at this document an titled: "**Book of Departmental Theses Abstracts**" I feel happy that the researchers in the Department of Agricultural Extension, CoA, JAU, Junagadh have carried out their research problems over a wide gamut of agrarian issues of Saurashtra region along with Gujarat state and the country as well. This publication will certainly cater the future research needs of the students, scholars and faculties alike. For this commendable work, I congratulate Dr. N.B. Jadav, Professor & Head and his team of scientists for their forethought in publishing such a useful compendium of theses abstracts.

(K.A.Khunt)

Date: 16.03.2021

PREFACE

A thesis is a long piece of writing based on your own ideas and research that you do as part of a university degree, especially a higher degree such as a M.Sc. and Ph.D. for students and teachers on basis of university's instruction our department of Agricultural Extension, CoA, Junagadh compile all departmental M.Sc. and Ph.D. thesis in abstract form. With a purpose, the researcher gets accepted practices of laying out a proposition and creating a structure of support to validate the proposition. It helps to fulfil students need regarding research work. It includes knowing how to formulate a proposition, how to construct a valid argument, and how to resolve the question. This is the foundation of intellectual inquiry and learning to do this properly is fundamental to making reasoned choice and influencing discourse responsibly.

Understandingly, the department of Agricultural Extension, CoA, JAU, Junagadh has been providing a sound academic and research environment to the student community for conducting M.Sc. and Ph.D. dissertation research since many decades. Till date, 151 Masters and 37 Doctoral theses have been approved and submitted by the department after passing through rigours public defence. This book is a compilation of abstracts of all the theses works carried out the department during 1971-72 to 2020-21.

As it could be seen in this compilation, the department has since decades encouraged the students to research not only in new area but also in the issue that have a direct impact on the farming community. Almost all the fields or research areas of agricultural extension including training need of farmers, farmer women, cattle owner and many other regarding different agricultural practices, knowledge of famers about different varieties, technology and practices which is popular and given by university. Technological gap & Adoption of improved cultivation technology related to different local crop like groundnut, mango, cotton, chickpea etc., capacity building of farmers through training on different farming practices, entrepreneurial behaviour famers etc. have been given to both M.Sc. and Ph.D. students for research from time to time. In this compilation, also include an abstract which is based on indigenous knowledge of farmer, crisis management, communication pattern of different system and institute, role of different organise to empower farmers and farmer women etc.

The students have always been made to realize that they need to keep the upliftment of farmers in their mind while conducting their research studies. As the new research areas are emerging like that of experimental Agricultural Extensions, we sincerely hope that this compilation will be enormously used by students as well as the academic community alike to identify the research gaps, to substantiate their findings and even to have a better grasp of the farm level realities.

-Editor

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M.Sc. Thesis



1. SOME FACTORS ASSOCIATED WITH THE EFFECTIVENESS OF AGRICULTURAL EXTENSION OFFICERS IN GUJARAT STATE

YEAR : 1971

NAME OF STUDENT

T. V. R. Reddy

MAJOR ADVISOR

Dr. I. C. Patel

Objectives:

1. To discover the extension methods used by AEOs in disseminating information about improved farm practices to farmers.
2. To identify and analyse various jobs and the time spent by AEOs after each kind of job.

It is beyond the scope of the study to identify and analyse each and every job in terms of time spent by AEOs. Hence, the jobs will be grouped and analysed as follows:

- a. Teaching job-time spent in teaching either farmers or village level workers.
- b. Administrative job – time spent in attending office, preparing reports and subsidy papers and other clerical jobs.
- c. Supervisory job – time spent in inspecting and supervising work of the village level worker, his records, spot checking visits, record of cooperative societies and village panchayats and such other jobs.
- d. Meetings time spent in attending staff meetings, panchayat meeting and such other meetings.
- e. Other jobs not included above, such as, time spent in travelling, leave, private work, etc. all of the activities under grounds (b), (c) and (e) are considered non-teaching jobs for the purpose of this study.
3. To discover the differences, if any, in the types of jobs and the amount of time spent after each group of jobs by more effective and less effective AEOs.
4. To identify some of the personal and background traits of more effective and less effective AEOs. The personal traits included in the study are:
 - a. Age of AEOs.
 - b. Formal education of AEOs.
 - c. Extension training of AEOs.
 - d. Rural background of AEOs.
 - e. Mode of recruitment of AEOs.
 - f. Other job selection.
 - g. Choice for AEO.
 - h. Other Department preference.
5. To determine the relative importance of each of the personal and background traits included above for occupational success.

2. EVALUATION OF THE NATIONAL DEMONSTRATION PROGRAMME IN GUJARAT STATE

YEAR : 1971

NAME OF STUDENT

N. H. Balar

MAJOR ADVISOR

Dr. I. C. Patel

Objectives:

1. To analyse the procedures and techniques followed in conducting N.Ds. and find out the weak points, if any.

2. To determine the impact of N.Ds. in terms of adoption of demonstrated farm practices by the farmers.
3. To determine the extent to which the objectives of the N.D. programme have been achieved.
4. To suggest measures for improving the effectiveness of the N.D. Programme.

3. A STUDY OF TALUKA DEVELOPMENT OFFICERS IN GUJARAT STATE

YEAR : 1972

NAME OF STUDENT

N. R. Kaila

MAJOR ADVISOR

Dr. I. C. Patel

Objectives:

1. To identify and analyse various jobs and the time spent by TDOs after each kind of job. It is beyond the scope of the study to identify and analyse each and every job in terms of time spent by TDOs hence, the jobs are grouped and analysed as follows :
 - a. Teaching job – time spent in teaching either extension workers or farmers.
 - b. Administrative job – time spent in attending office work and paper correspondence.
 - c. Supervisory job – time spent in inspecting and supervising the work of extension workers, the records of co-operative societies, village panchayats and such other jobs.
 - d. Meetings and Training – time spent in attending staff meetings, Panchayat meeting and such other meetings and training programmes.
 - e. Other jobs not included above – such as, time spent in leave, and such other jobs.
2. To discover the differences, if any, in the types of jobs and the amount of time spent after each group of jobs by effective and ineffective TDOs.
3. To identify some of the personnel and back-ground variables of effective and ineffective TDOs. The personal traits included in the study are:
 - a. Age
 - b. Formal education
 - c. Training
 - d. Rural background
 - e. Mode of recruitment
 - f. Other job selection
 - g. Other department preference

4 STUDY OF SOME FACTORS ASSOCIATED WITH ADOPTION AND NON-ADOPTION OF HYBRID BAJRA CULTIVATION IN VIRAMGAM TALUKA OF GUJARAT STATE

YEAR : 1972

NAME OF STUDENT

N. R. Patel

MAJOR ADVISOR

Prof. P. V. Patel

Objectives:

1. To determine the personal and socio-economical factors associated with adopters and non-adopters of hybrid bajra cultivation.
2. To study the extent of adoption of improved farm practices of hybrid bajra cultivation.
3. To find out the sources of information through which farmers were made aware of hybrid bajra cultivation.

4. To find out the influence of change agency contacts with the farmers
5. To investigate the reasons of adoption and non-adoption of the hybrid bajra cultivation as stated by both categories of farmers

5. FARMERS INCENTIVES TO ADOPT HYBRID BAJRA IN DHULIA TALUKA OF MAHARASHTRA STATE

YEAR : 1973

NAME OF STUDENT

M. H. Patil

MAJOR ADVISOR

Dr. I. C. Patel

Objectives:

1. To identify important personal characteristics of adopters of hybrid bajra crop
2. To identify some of the important incentives that led farmers to accept recommended farm practices of hybrid bajra crop
3. To determine relationship between incentives and personal characteristics of adopters
4. To study the dis-incentives that prevented farmers from adopting recommended farm practices of hybrid bajra crop
5. To identify important communications channels and sources of information through which the adopters received information about improved farm practices of hybrid bajra

6. FARMER RESISTANCE TO TECHNOLOGICAL CHANGE IN DHOLKA TALUKA OF GUJARAT STATE

YEAR : 1973

NAME OF STUDENT

M. M. Padheria

MAJOR ADVISOR

Dr. I. C. Patel

Objectives:

1. To study the different groups of farmers in relation to the selected improved farm practices recommended by the Department of Agriculture
2. To find out co-relation between the score value of the selected factors responsible for farmer resistance obtained through judges and respondents
3. To identify some of the factors responsible for the resistance of selected farm practices by the farmers in selected crops
4. To study the relative importance of selected factors responsible for the farmer resistance in selected practices of selected crops
5. To determine the sources of information about improved farm practices of the selected crops
6. To suggest measures to make the farmers technologically minded

7. SOCIO-ECONOMIC AND ADOPTION PATTERN OF FARMERS OF VADAL VILLAGE JUNAGADH DISTRICT GUJARAT STATE

YEAR : 1973

NAME OF STUDENT

A. M. Pasalia

MAJOR ADVISOR

Dr. I. C. Patel

Objectives:

1. To analyse socio-economic patterns of the farmers

2. To determine the extent of adoption and form of adoption of recommended farm practices
3. To study the characteristics of adopter and non-adopter farmers
4. To study the problems of adopter and non-adopter farmers
5. To determine the sources of information through which farmers obtained information about improved farm practices
6. To suggest measures for speeding up the agricultural extension programme in the village

8. IMPACT OF RURAL RADIO PROGRAMME BROADCASTED BY All India Radio RAJKOT IN DISSEMINATING AGRICULTURAL INFORMATION TO THE FARMERS OF JUNAGADH DISTRICT OF GUJARAT STATE

YEAR : 1973

NAME OF STUDENT

B. R. Dhadhal

MAJOR ADVISOR

Dr. I. C. Patel

Objectives:

1. To study some of the personnel traits of rural radio listeners
2. To determine the utility of agricultural broadcast as a source of information for improved farm practices
3. To determine the credibility of RRP as an authority of information
4. To suggest measures for improving the effectiveness of RRP

9. CONTRIBUTION OF VILLAGE PANCHAYATS IN AGRICULTURAL DEVELOPMENT OF JUNAGADH TALUKA OF GUJARAT STATE

YEAR : 1973

NAME OF STUDENT

K. D. Pagi

MAJOR ADVISOR

Prof. P. V. Patel

Objectives:

1. To study some important characteristics of superior and inferior village panchayats as judged from the view point of agricultural development
2. To determine the extent of contribution of village panchayats in the development of agriculture
3. To study the types of agricultural activities, provision of budget for agricultural development and utilisation of budget for the development of agriculture by the panchayats
4. To study the difficulties experienced by village panchayats in the programmes of agricultural development
5. To suggest measures for greater participation by village panchayats in the programmes of agricultural development

10. STUDY OF ESSENTIAL STEPS AND THEIR SEQUENCE FOR EFFECTIVE EXECUTION OF RESULT DEMONSTRATIONS

YEAR : 1974

NAME OF STUDENT

M. P. Parjapati

MAJOR ADVISOR

Dr. I. C. Patel

Objectives:

1. To identify some of the essential steps that make result demonstrations effective

2. To determine the sequence of such essential steps
3. To determine the difference if any, between personal characteristics of respondents and their judgement regarding importance of steps and sequence of steps. Personal characteristics of the respondents included in the study are :
 - a. Educational qualifications
 - b. Experience
 - c. Position
4. To suggest essential steps and sequence of such steps that must be followed by extension workers so as to make result demonstrations effective

11. STUDY OF RADIO LISTENING HABITS OF JUNAGADH DISTRICT FARMERS HEARING RURAL RADIO PROGRAMME BROADCASTED BY ALL INDIA RADIO RAJKOT

YEAR : 1974

NAME OF STUDENT

M. C. Soni

MAJOR ADVISOR

Dr. I. C. Patel

Objectives:

1. To study the personal traits of the members and non-member farmers listening rural radio programme
2. To study the listening habits of members and non-member farmers
3. To study the usefulness of rural radio programme.
4. To study the difficulties of listening farmers
5. To suggest measures for improvement of the programme

12. EVALUATION OF FARMERS' TRAINING PROGRAMME IN JUNAGADH DISTRICT OF GUJARAT STATE

YEAR : 1974

NAME OF STUDENT

V. K. Patel

MAJOR ADVISOR

Dr. I. C. Patel

Objectives:

1. To determine the extent to which the objectives of the training programme have been achieved
2. To study some of the personal traits of farmers' trained at the farmers' training centre
3. To study the extent of participation of trained farmers in Radio Farmers' Forums
4. To determine the nature and extent of contact maintained by trained farmers with the staff of the farmers' training centre.

13. A STUDY OF SOME FACTORS AS RELATED TO ADOPTION AND REVERSION OF HYBRID BAJRA CULTIVATION IN MEHSANA DISTRICT OF GUJARAT STATE

YEAR : 1974

NAME OF STUDENT

H. P. Patel

MAJOR ADVISOR

Prof. P. V. Patel

Objectives:

1. To study relationship, if any, between adoption and reversion and some of the personal and socio-economic traits of farmers.

2. To study the pattern, extent and level of adoption of improved farm practices of hybrid bajra cultivation.
3. To determine the trend, pattern and extent of reversion.
4. To find out the important reasons for reversion.
5. To study the problems faced by adopters of hybrid bajra cultivation.
6. To study the extent of contact of extension agency with respondents.
7. To determine the important sources of information through which farmers were made aware of hybrid bajra cultivation.
8. To suggest the measures for reducing the farmer's resistance and reversion of hybrid bajra cultivation.

14. A STUDY TO ANALYSE THE INSTITUTIONAL FARMERS' TRAINING PROGRAMME CONDUCTED AT FARMERS' TRAINING CENTRE, JAMNAGAR OF GUJARAT STATE

YEAR : 1974

NAME OF STUDENT

M. N. Popat

MAJOR ADVISOR

Prof. P. V. Patel

Objectives:

1. To study the personal and social characteristics of the trained farmers
2. To evaluate the various aspects of the institutional farmers' training programme
3. To study how far the institutional farmers' training is useful to the farmers
4. To examine the suggestions of the trainees and trainers for bringing improvement in farmers' training programme
5. To suggest the necessary measures on the basis of findings for improving the farmers' training programme

15. A STUDY OF SOME PROBLEMS OF VILLAGE LEVEL WORKERS IN GUJARAT STATE

YEAR : 1975

NAME OF STUDENT

B. V. Patel

MAJOR ADVISOR

Prof. M. I. Patel

Objectives:

1. To study personal and socio-economic background of V.L. Ws.
2. To identify the administrative, organisational and training problems of V.L. Ws.
3. To study the problems experienced by V.L. Ws. while performing their job.
4. To study the extent of visits and guidance received by V.L. Ws. higher officials in solving these problems.
5. To examine the suggestions made by V.L. Ws. for improving their efficiency.
6. To collect the suggestions to solve some of the problems of V.L. Ws.

16. A STUDY OF SOME PROBLEMS FACED BY THE STUDENTS OF AGRICULTURAL COLLEGES UNDER GUJARAT AGRICULTURAL UNIVERSITY

YEAR : 1975

NAME OF STUDENT

M. K. Sonagara

MAJOR ADVISOR

Prof. P. V. Patel

Objectives:

1. To study the personal and socio-economic background of the students.

2. To know how the students, spend their college and vacation period.
3. To find out the participation of the students in various co-curricular activities.
4. To identify the various types of problems faced by the students.
5. To collect suggestions of the students for solution of their problems.
6. To suggest the solutions to solve their problems.

17. A STUDY ON THE EFFECTIVENESS OF SOIL TESTING SERVICE IN JUNAGADH DISTRICT OF GUJARAT STATE

YEAR : 1976

NAME OF STUDENT

B. R. Karkar

MAJOR ADVISOR

Prof. M. I. Patel

Objectives:

1. To study the personal and socio-economic characteristics of the farmers who have got their soil samples analysed in Soil Testing Laboratory
2. To ascertain the extent of role played by extension agents
3. To determine extent of adoption of recommended procedure of sampling
4. To evaluate the farmers' knowledge regarding ingredients present in different types of fertilizers
5. To investigate the probable reasons for non-adoption of recommendations
6. To invite suggestions for improving the effectiveness of Soil Testing Service

18. A STUDY OF SOME FACTORS ASSOCIATED WITH THE EXTENT OF ADOPTION OF IMPROVED FARM PRACTICES OF COTTON CROP UNDER INTENSIVE COTTON DEVELOPMENT PROGRAMME IN SURENDRANAGAR DISTRICT OF GUJARAT STATE

YEAR : 1976

NAME OF STUDENT

D. J. Patel

MAJOR ADVISOR

Prof. P. V. Patel

Objectives:

1. To determine the adoption behavior of farmers in relation to their personal and socio-economic characteristics
2. To find out the reasons of partial adoption of agricultural practices recommended in intensive cotton development programme
3. To study the extent of contact of extension agency with respondents
4. To determine the important sources of information through which farmers were made aware of improved farm practices of cotton crop
5. To study the extent and level of adoption of improved farm practices of C02-170 and V-797 cotton cultivation
6. To study the problem faced by the adopters
7. To suggest the measures for wide adoption of improved farm practices

19. JOB PATTERN OF AGRICULTURAL GRADUATES

YEAR : 1978

NAME OF STUDENT

H. B. Ambalia

MAJOR ADVISOR

Prof. P. V. Patel

Objectives:

1. To analyses academic performance of agricultural graduates.

2. To determine job pattern of agricultural graduates.
3. To ascertain association between job pattern and their academic performance.
4. To ascertain association between job pattern and some of their family characteristics.
5. To find out reasons for non-acceptance of farming as their occupation.
6. To find out reasons for accepting farming as occupation.
7. To know the reasons for accepting present job by these graduates.

20. DIFFICULTIES EXPERIENCED BY SMALL FARMERS IN ADOPTION OF IMPROVED PRACTICES OF SUGARCANE CULTIVATION IN KODINAR TALUKA OF GUJARAT STATE

YEAR : 1980

NAME OF STUDENT

V. D. Joshi

MAJOR ADVISOR

Prof. M. I. Patel

Abstract:

Majority of the farmers in India own small holdings and have several difficulties in adoption of new technology in agriculture. A study entitled "The Difficulties Experienced by small Farmers in Adoption of Improved practices of Sugarcane cultivation in Kodinar Taluka of Gujarat State" was undertaken with following specific objectives : (i) to find out the extent of adoption of some of the improved practices (ii) to ascertain relationship, if any, existing between extent of adoption and some of the personal and socio-economic traits of the small farmers, (iii) to find out difficulties faced by them in adoption of some of the improved practices (iv) to seek suggestions to solve their difficulties. The hypotheses were formulated from the theoretical orientation based on reviewed literature.

A sample of 120 respondents was selected from villages nearer and away from Kodinar taluka head quarter and these respondents were interviewed. The difficulties as well as suggestion from the respondents were recorded.

Findings:

Majority of the farmers were medium adopters. The extent of adoption was positively associated with one's education, quantity of sugarcane produced per unit area, extension contact, social participation, economic motivation and economic status.

The difficulties regarding adoption of improved practices of sugarcane cultivation stated by the farmers of villages nearer and away from taluka headquarter were more or less similar. The important difficulties experienced were i). lack of equipments ii) not convinced about merits iii) high price of inputs iv) untimely supply of inputs v) low price of produce and vi) lack of irrigation.

The suggestions offered by the respondents to solve their difficulties were: price of produce should be more and inputs should be subsidized.

21. COMPARATIVE STUDY OF BENEFICIARY AND NON-BENEFICIARY SMALL FARMERS OF SFDA (SMALL FARMERS DEVELOPMENT AGENCY) JUNAGADH OF GUJARAT STATE

YEAR : 1981

NAME OF STUDENT

B. N. Patel

MAJOR ADVISOR

Prof. M. I. Patel

Abstract:

Majority of the farmers in India hold less than two hectares of land which ultimately

resulted into low productivity and have made a non-viable proposition to the small farmers. They cannot adopt improved technology developed in agriculture as they are economically weak. A study entitled “Comparative study of Beneficiary and Non- Beneficiary Small Farmers of SFDA Junagadh of Gujarat State” was undertaken with following specific objectives:

1. To compare the personal, social and economic characteristics of beneficiary and non-beneficiary small farmers.
2. To compare the sources of information of beneficiary and non-beneficiary small farmers regarding SFDA activities.
3. To ascertain relationship, if any, exists between the attitude and characteristics of the small farmers.
4. To study the extent of benefits availed by the beneficiaries.
5. To compare the problems faced and suggestions offered by the beneficiary and non-beneficiary small farmers.

A sample of 100 respondents each of beneficiary and non-beneficiary small farmers was selected from the villages having atleast five such respondents. These respondents were interviewed. The data so collected were tabulated and analysed.

Findings:

Majority of the respondents were from middle age group, illiterate, having medium knowledge and less favourable attitude towards SFDA. Nearly half of them belonged to intermediate caste group and had medium sized family. Majority of them had low social participation. More than half of the respondents had medium level of income and were medium adopters. Majority of them utilized sources like friends, neighbors, relatives and VLWs for information regarding the activities of SFDA.

There was no association between farmers' attitude and their age, education, caste, family size, social participation, annual income and adoption. However, association was observed between farmers attitude and their knowledge. Majority of the respondents had availed the benefits to medium extent and for 2 to 3 development activities.

The problem stated in availing the benefits by the farmers were: poor economic condition, cumbersome procedure, inadequate supply of credit and benefits, lack of investment potential and lack of proper guidance etc.

The suggestions offered by the respondents to overcome their problems were: procedure should be made simple and easy, timely supply of credit /loan, limits of benefits per item and total should be increased, easy and adequate supply of loan/credit from the banks and benefits should be made available for inputs also.

22. FARMERS' ATTITUDE TOWARDS PRIMARY AGRICULTURAL CREDIT SOCIETIES IN MATAR TALUKA OF GUJARAT STATE

YEAR : 1980

NAME OF STUDENT

K. Nagabhushanam

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

Farm finance has assumed new and wider dimension in the present context of technology development in Indian agriculture. Thus, a study entitled “Farmers' attitude towards primary agricultural credit societies in Matar taluka of Gujarat State” was undertaken with the following specific objectives :

1. To identify some of the important personal and socio-economic characteristics of the farmer members of primary agricultural credit societies.
2. To study the farmers' attitude towards primary agricultural credit societies.
3. To find out the utilization pattern of the credit by the borrowers.
4. To find out the time lag for disbursement of credit by primary agricultural credit societies.
5. To ascertain the association of farmers' attitude towards primary agricultural credit societies with the personal and socio-economic characteristics of the farmer borrowers of the societies.
6. To find out the reasons for unfavourable attitude towards primary agricultural credit societies and
7. To seek the suggestions from borrowers for strengthening the working pattern of societies.

The hypotheses were formulated from the theoretical orientation based on reviewed literature.

A sample of 100 borrower farmers was selected from six selected societies in Matar taluka and they were interviewed. The reasons for farmers' unfavourable attitude towards P.A.C.S. as well as suggestions for strengthening and improving the working pattern of P.A.C.S. were recorded from the respondents.

Findings:

Majority of the borrower farmers were from intermediate caste group, middle aged, educated upto elementary having large family size, staying in joint families, possessed small land holdings, had medium social participation, medium adopters of paddy practices, had medium farm mechanization index, getting lower annual income, medium paddy producers, received the credit within one month after application, had decision themselves, sources like friends, neighbors and cooperative staff were utilized for the information about paddy practices and had favorable attitude towards P.A.C.S.

There was no association between farmers' attitude towards P.A.C.S. and their caste group, age, education, family size, family type, typology and production of paddy per unit area. However, there was a significant association between farmers' attitude toward P.A.C.S. and their social participation, extent of adoption of paddy practices, farm mechanization, total income and time lag for receiving the credit.

Majority of the borrowers were productively utilized their cash and kind credits. Mis utilization was more in case of cash credit rather than kind credit.

The important reasons for farmers' unfavourable attitude towards P.A.C.S. were: 1. Little guidance and technical "know-how", 2. Amount given is not adequate, 3. Do not provide inputs, 4. Procedure is cumbersome and 5. High rate of interest.

The suggestions offered by the respondents to strengthen and improve the working patter of P.A.C.S. were: 1. The supervision on secretarys work, 2. Farmers should be made aware about the activities of the P.A.C.S., 3. Low interest on the credit, 4. Adequate financial position of the lending institutions, 5. Expansion of the Union Bank branches and 6. Recruitment of agricultural personnel in P.A.C.S. to provide technical "know-how".

23. A COMPARATIVE STUDY OF DAIRY EXTENSION THROUGH CO-OPERATIVES ESTABLISHED IN THREE DISTRICT OF GUJARAT STATE

YEAR : 1981

NAME OF STUDENT

M. B. Patel

MAJOR ADVISOR

Dr. N. C. Patel

Abstract:

The co-operative organization provides marketing facilities and a number of technical inputs to the farmers for raising milk production. In spite of uniform endeavours by milk co-operative unions, the level of adoption of improved animal husbandry practices is quite uneven in various districts of the state. The present study was, therefore, conducted to find out the reasons for uneven progress in dairy development in various districts, with the following objectives:

1. To study some personal and socio-economic characteristics of the members of milk co-operatives.
2. To study extent of members' awareness about supplies and services rendered by district level co-operative milk union.
3. To determine level of adoption of improved animal husbandry practices by member farmers.
4. To study attitude of member farmers towards dairy farming.
5. To ascertain association between level of adoption and some personal and socio-economic characteristics of the dairy farmers.
6. To determine association between level of adoption and attitude of dairy farmers towards dairy farming.
7. To find out reasons for adoption and non-adoption of recommended improved animal husbandry practices.

The present study was conducted in two randomly selected villages having VMPCS from purposively selected taluka of each district. Twenty-five respondents from each afore-said village were selected by using systematic sampling method. Thus one hundred fifty respondents' dairy farmers were interviewed personally in the month of June – July 1980. Methodological procedures for the study consisted of measurement of level of adoption and attitude towards dairy farming by using suitable scales developed by other investigators. The relationship between dependent and independent variables was tested with the help of chi-square test.

Major findings:

1. Majority of the respondents were middle aged with primary education and moderate dairy farming experience in the three selected districts.
2. Majority of the respondents were from higher caste, with joint and medium size family, medium to high social participation and medium extension contact in all the three districts.
3. Majority of the respondents had dairy plus farming occupation, small land holding, small herd size and kuccha animal housing facility in all the three districts.
4. Most supplies and services rendered by district level cooperative milk union were known to the majority of the respondents in Kheda, Mehasan and Junagadh districts in order.

5. Majority of the respondents had higher level of adoption and more favourable attitude towards diary farming in all the three districts.
6. Personal and socio economic characteristics viz, middle age, secondary education, higher caste, joint and large size family, high social participation, high extension contact, medium and large land holdings and small herd size were found to have significant relationship with level of adoption in all the three districts.
7. Important reasons given by most of the respondents of all the three districts, for adoption of major three A.H. practices were higher milk production, more chances of conception, prevention of disease infection, prevention of spread of the diseases, increased milk production through balanced diet and green fodder.
8. The important reasons for non-adoption of the major three animal husbandry practices expressed by majority of the respondents of all the three districts were need of more than one insemination, no faith in A.I., need of repeated vaccination, no faith in vaccination, traditional method cheaper than chaff cutting and ignorance about balanced diet.

24. CATTLE OWNERS' ATTITUDE TOWARDS ARTIFICIAL INSEMINATION

YEAR : 1980

NAME OF STUDENT

L. M. Chothani

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

white Revolution would be a reality if greater number of Indian farmers are mentally tuned to accept and adopt different dairy innovations. Thus, a study entitled 'Cattle owners' attitude towards artificial insemination' in I.C.D.P. area of Junagadh district of Gujarat State was undertaken with following specific objectives :

1. To study some of the characteristics of the cattle owners.
2. To determine the cattle owners' attitude towards A.I.
3. To ascertain the association, if any, exists between cattle owners' attitude towards A.I. and their some of the personal and socio-economic characteristics.
4. To find out the reasons for less favourable attitude towards A.I. as well as non-adoption of A.I.
5. To seek suggestions made by the cattle owners (adopters) for high adoption of A.I.

A sample of 60 adopters and 60 non-adopters making total of 120 cattle owners were selected randomly from four selected centers of two selected talukas in I.C.D.P. area, Junagadh district. A schedule was prepared in light of the objectives of the study and respondents were interviewed. The Likert type scale developed by Koura and Sign (1968) was used to measure the attitude towards A.I.

Findings:

Majority of the adopters of A.I. were from middle aged group, educated up to primary, belonged to intermediate caste, having joint type and large size families. They had low social participation, had medium extension contact and media exposure. Adopters having farming as a main occupation, possessed larger land holding, kept small herd size, possessed pucca houses for their stay and low material possession. They were getting higher annual income, had medium socio-economic status, were medium level adopters of A.I. and disposed milk through milk Producers 'co-operative society.

Majority of the non-adopters of AI were from middle aged group, illiterate, belonged to intermediate caste, having nuclear type and large size of families, had low social participation, had medium extension contact and low media exposure. They had farming as a main occupation, possessed larger land for cultivation and small herd size. Further they possessed katcha houses, had low material possession and lower annual income; but they had medium socio economic status and disposed surplus milk through M.P.C.S.

Most of the adopters had more and great majority of the non-adopters had less favourable attitude towards A.I.

There was no association between adopters' attitude towards A.I. and their age, education, size of holding, size of herd and extent of adoption of A.I.; but extension contact, media exposure and socio economic status were significantly associated.

Increase of non adopters, age and education were not associated with their attitude; whereas extension contact, media exposure, size of holding, size of herd and socio economic status were significantly associated.

Important reasons for less favourable attitude towards A.I. were: religious belief, A.I. is inhuman and no confidence in A.I. However, important reasons leading to non adoption were: religious beliefs, A.I. is inhuman and ability of local bull.

The suggestions offered by the adopters for high adoption of A.I. were: refrigerator should be provided with M.P.C.S., more intensive educational efforts to convince about A.I.

25. AN ANALYSIS OF GROUNDNUT GROWERS' KNOWLEDGE ABOUT PLANT PROTECTION MEASURES IN GROUNDNUT

YEAR : 1981

NAME OF STUDENT

V. G. Bhalara

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

Knowledge is one of the important components of the farmers' behavior and as such plays an important role in covert or overt behavior of the farmers. They should possess sound knowledge regarding the package of practices recommended by the scientists. Otherwise, they will not adopt all the recommended practices and as a result yield will be poor. With sharp focus on this fact a study on Groundnut growers' knowledge about plant protection measures in groundnut was undertaken with following specific objectives :

1. To construct a standardized knowledge test on plant protection measures in groundnut.
2. To assess the groundnut growers' knowledge about plant protection in groundnut.
3. To ascertain an association, if any, between groundnut growers' knowledge and some of their personal and socio-economic traits.
4. To explore the reasons for low knowledge.
5. To seek suggestions from the groundnut growers for improving their level of knowledge.

A random sample of 130 groundnut growers was drawn from the seven randomly selected villages of Gondal taluka. An interview schedule was prepared in light of the objectives of the study. The standardized knowledge test consisting 36 dichotomized questions was constructed for the scientific measurement of the knowledge.

Findings:

Majority of the groundnut growers were middle aged, educated upto primary, belonged to intermediate caste having joint type and large sized family. They had low social participation, low to medium extension contact, medium land holdings and medium annual income. Majority of the respondents were found to be low to medium adopters of plant protection practices.

Only one fourth of the groundnut growers possessed high knowledge about plant protection measures in groundnut.

The characteristics of the groundnut growers viz; age, education, socioeconomic status and extent of adoption of plant protection were observed to be significantly associated with their level of knowledge.

Important reasons for low knowledge were, lack of experience about plant protection practices and lack of education. Intensive training to the farmers and VLWs should take keen interest about plant protection were the important suggestions made by the farmers for increasing their knowledge.

26.	PROBLEMS FACED BY THE FARMERS IN ADOPTION OF PLANT PROTECTION MEASURES FOR GROUNDNUT CULTIVATION
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YEAR : 1981

NAME OF STUDENT

B. K. Mathukia

MAJOR ADVISOR

Dr. K. G. Halyal

Absract:

Groundnut is the most thrived age-old major oilseed crop as well as cash crop of Saurashtra region of Gujarat State. Yield of groundnut is affected to a great extent due to incidence of pests and diseases. plant protection measures (P.P.M.) which are the product of modern science and technology and very essential to increase yield in dry farming area which increase slightly the cost from 10 to 15 per cent of the total cost of cultivation, but influence of the measures is such that it materially affects the total yield. However, most of the groundnut growers have not adopted the P.P.M. for groundnut cultivation in dry land area due to several problems faced by them in adoption. A study entitled "Problems Fuced by the Farmers in adoption of Plant Protection measures for groundnut cultivation" was undertaken with following specific objectives:

1. To find out the extent of adoption of plant protection measures for groundnut cultivation.
2. To ascertain an association, if any, between extent of adoption of P.P.M. and some of the personal, social, economic and psychological traits of the farmers.
3. To find out the problems faced by the farmers in adoption of P.P.M. for groundnut cultivation.
4. To seek suggestions from respondents to solve the problem faced by them in adoption of P.P.M.

The hypotheses were formulated from the theoretical orientation based on reviewed literature.

A sample of 120 respondents was selected randomly from eight randomly selected villages of Drought Prone Area of Jasadan taluka in Gujarat State. A schedule was prepared in light of the objectives. The problems as well as suggestions from the respondents were recorded.

Findings:

Majority of the farmers were low adopters. The extent of adoption of PPM was significantly associated with one's education, knowledge about PPM for groundnut cultivation, social participation, extension contact, size of land holding, socio economic status, production of groundnut per unit area, level of risk preference and economic motivation.

The important problems regarding adoption of P.P.M. for groundnut cultivation expressed by the farmers were 1. Low price of produce as compared to cost of production. 2. Unawareness of pests and diseases, 3. Lack of technical know-how. 4. Increase in production cost due to costly pesticides, 5. Ineffective as neighbours do not adopt, 6. Unavailability of required pesticides in time. 7. P.P.M. is complicated method. 8. Not possessing plant protection appliances 9. Unavailability of pesticide at interior village and 10. Shortage of skilled labour.

The important suggestions stated by the respondents to solve their problems were 1. Training should be given in plant protection practices to the farmers, 2. Gramsevak should give guidance about P.P.M. through regular visits 3. Mass control measures should be taken by the government, 4. Reasonable prices of produce should be available and 5. Government should make arrangement for aerial spray.

27. ADOPTION PROBLEMS OF IMPROVED DRY WHEAT CULTIVATION IN BHAL AREA OF GUJARAT STATE

YEAR : 1981

NAME OF STUDENT

N. B. Chauhan

MAJOR ADVISOR

Dr. K.G. Halyal

Abstract:

Wheat is one of the most important food crops of 'Bhal' area of Gujarat State. Bhal area is also well known for the production of best quality wheat, but average yield in this area is very low. Probable reasons for low production of dry wheat are due to adverse effect of natural hazards and low adoption of improved practices of dry wheat cultivation by farmers. Improved farm practices, which are the product of modern agricultural science, very essential to increase yield in dry farming area. However, most of the dry wheat growers of Bhal area have not adopted improved farm practices of dry wheat cultivation due to several adoption problems. A study entitled "Adoption problems of improved dry wheat cultivation in Bhal area of Gujarat State" was undertaken with following specific objectives:

1. To study the extent of adoption of improved farm practices of dry wheat cultivation by adopters.
2. To ascertain an association, if any, between extent of adoption of improved practices of dry wheat cultivation and some of the personal, social, economic and psychological traits of the farmers.
3. To find out the first sources of information through which farmers were made aware of improved practices of dry wheat cultivation.
4. To investigate the reasons of non adoption of improved practices of dry wheat cultivation.
5. To collect suggestions of the farmers for solution of their adoption problems.

The hypotheses were formulated from the theoretical orientation based on reviewed literature.

A sample of 210 respondents was selected randomly from sixteen randomly selected villages of 'Bhal' area of Dholka and Dhandhuka taluka of Gujarat State. A schedule was prepared in light of the objectives. The problems as well as suggestions from the respondents were recorded.

Findings:

Nearly half of the respondents were non adopters. The extent of adoption of improved practices of dry wheat cultivation was significantly associated with one's education, caste, type of family, social participation, extension contact, size of land holding, socio economic status, annual income and economic motivation.

Among non adopter group of farmers, nearly one third of them had got first information from friends, whereas, more than two fifth of low adoption group of farmers and nearly one third of high adoption group of farmers had got first information about improved practices of dry wheat for village level workers.

The problems regarding adoption of improved practices of dry wheat cultivation stated by farmers were 1. Low market value of product 2. Unawareness of recommendation 3. Not convinced about merits 4. High price of inputs and 5. Unavailability of required seed at a time.

The suggestions offered by the respondents to solve their problems were 1. More research work should be done for best quality of dry wheat so that high market value of product can be received and 2. Improved latest seeds of dry wheat should be made available timely at cheaper rate, directly from research station or any competent agency in required quantity.

28. PROBLEMS OF THE MANGO GROWERS IN ADOPTION OF IMPROVED PRACTICES FOR MANGO CULTIVATION IN JUNAGADH DISTRICT

YEAR : 1981

NAME OF STUDENT

P. R. Chavda

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

Among all the fruit crops, mango is cultivated commercially in a number of contries of the world but no where does it achieve the same premier position as in the subcontinent of India, where it is actually the king of all fruits. It has great adaptability and thrives in a wide range of climatic and soil conditions. It is not only due to the maximum area devoted to it but its productivity, popularity, hardy nature, low cost of cultivation and maintenance and above all, is the choicest of Indian table fruits having the premier place in the country and easily occupies a prominent place among the best fruits of the world. Among all the fruit crops the mango is the most thrived age old major cash crop of the Junagadh district of Gujarat State. In Gujarat total area under mango cultivation and its production of mango is low as compared to other (Andhara Pradesh, Karnataka and Orissa, etc.) states of the country. Improved farm practices, which are the product of modern agricultural science, very essential to increase yield of crops. Mango growers faced various problems in adoption of improved practices for mango cultivation in this area. They have their own problems in adopting new innovations. A study entitled "problems of the mango growers in adoption of improved practices for mango cultivation in Junagadh district" was undertaken with the following objectives:

1. To find out the extent of adoption of selected improved practices for the mango cultivation.

2. To study some of the personal, social, economic and psychological characteristics of the mango growers.
3. To ascertain an association, if any, between mango growers' extent of adoption of improved practices for mango cultivation and their some of the personal, social, economic and psychological characteristics.
4. To study the problems faced by the mango growers' in adoption of selected improved practices for mango cultivation.
5. To seek suggestions made by the mango growers' to overcome their problems in adoption of improved practices for mango cultivation.

The hypotheses were formulated from the theoretical orientation based on reviewed literature.

A sample of 150 mango growers was selected randomly from six randomly selected villages of Junagadh district of Gujarat State. A schedule was prepared in light of the objectives of the study. The problems as well as suggestions from the mango growers were recorded.

Result:

More than two-fifth of the mango growers were medium adopters. The extent of adoption of improved practices of mango cultivation was significantly associated with one's age, education, social participation, extension contact, size of orchard holdings, socio-economic status, economic motivation and risk preference. There was no significant association between mango growers extent of adoption of improved practices and characteristics like, caste, family type and family size.

The problems regarding adoption of improved practices for mango cultivation stated by mango growers were:

1. Lack of improved agricultural implements.
2. High prices of fertilizers, pesticides and farm fuel.
3. Lack of mango spraying equipments.
4. Lack of co-operation of mango orchard contractor.
5. Difficulty in spraying.
6. Shortage of skilled labourers.
7. Unawaewness of recommendation.
8. Can not afford recommended dose of chemical fertilizers and pesticides.
9. Lack of technical guidance.
10. Irregular and insufficient power supply.
11. Lack of irrigation facility.

The suggestions offered by the mango growers to solve their problems were:

1. Modern spraying equipment should be evolved.
2. Co-operative/government cell should be opened at taluka level for easy availability of agricultural inputs.
3. Prices of pesticides and fertilizers should be low.
4. Farmer's horticultural co-operative marketing society should be established at taluka level.
5. Required pesticides and fertilizers should made available in time.
6. Training should be given to the fruit growers in relation to the best orchard cultivation.
7. Required farm fuel should made available at low prices in adequate quantity.

8. Research station should provide required mango grafts of improved variety to the farmers.

29. COMMUNICATION BEHAVIOR OF THE CONTACT FARMERS SELECTED UNDER TRAINING AND VISIT T & V SYSTEM IN RAJKOT DISTRICT

YEAR : 1981

NAME OF STUDENT

R. G. Bhalara

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

The "Training and Visit" system as suggested by Deniel Benor was introduced with world Bank's assistance in India. The new methodology envisages that the Village Level Workers (VLWs) and Agricultural Extension Officers (AEOs) would be utilized in an intensive time bound management system in a fixed programme of training as well as visits to the selected farmers' fields regularly every fortnight. These selected farmers are known as the contact farmers on whom VLW concentrates his efforts. They act as a second line of extension workers. So the contact farmers occupy a key position in the communication network in farming community. Consequently, their communication behavior can be helpful in transferring the agricultural technology.

In view of the importance of contact farmers in effective communication of new ideas in farming community, the study was undertaken to know the communication behavior of the contact farmers selected under T & V system in Rajkot district of Gujarat State. The study was undertaken with following specific objectives:

1. To measure the communication behavior of the contact farmers in respect of agricultural technology.
2. To study some of the personal, social, economic and psychological characteristics of the contact farmers.
3. To determine the association of some of the selected personal, social, economic and psychological characteristics of contact farmers with their communication behavior.
4. To study the role performed by the contact Farmers under T & V system.
5. To know the improved farm practices on which information was passed on by the contact farmers to their followers.
6. To seek important suggestions of the contact farmers for making the T & V system more effective.

In order to realize the above mentioned objectives, a sample of 100 contact farmers from Dhoraji and Rajkot talukas (50 from each) of Rajkot district was drawn.

Finding:

More than half of the contact farmers had medium level of communication behavior in respect of agricultural technology.

Village level workers earned the first rank among the different sources of information as utilized by the contact farmers.

Majority of the contact farmers were middle aged and educated upto primary level. They had low social participation with high opinion leadership. More than half of the contact farmers had medium socio-economic status, while nearly half of them had medium level of risk preference and innovation proneness, but they had high level of cosmopolite-localiteness.

Contact farmer's communication behaviour had significant and positive association with their characteristics viz., education, opinion leadership, socio-economic status, risk preference, innovation proneness and cosmopolite-localiteness.

More than half of the contact farmers were in high group as regards to their attendance in meetings of the VLWs. Majority of the contact farmers had high contact with fellow farmers and majority of them always followed the recommended practices on their farms. Start Paragraph Plant protection measures, improved varieties and their practical application, fertilizer and its application, narrow spacing in groundnut and plantation of nilgiri were the improved practices on which information was passed on by the contact farmers to fellow farmers.

Procurement of the improved seed for the contact farmers and minimizing the working area of VLW were the most important suggestions of the contact farmers for making the T & V system more effective, while visits of the subject matter specialists to the demonstration plots, frequent visits of supervising officers and providing the agricultural literature to the farmers by the VLW were some minor suggestions.

30. PROBLEMS FACED BY THE SMALL FARMERS IN ADOPTION OF PLANT PROTECTION MEASURES FOR GROUNDNUT CULTIVATION

YEAR : 1981

NAME OF STUDENT

D. M. Delvadia

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

Land is the basic capital asset and resource of the farmers. A vast majority (62.00 per cent) of farmers in the villages possess small holding. A number of problems like. techno-economic problems followed by social problems stand in the way of small farmers in adopting farm practices.

In Gujarat state, Saurashtra region in particular groundnut is one of the most important oilseed cash crop. Although, the yield of groundnut is very low in saurashtra region particularly in Rajkot district, one of the major factors attributed for such low yield is the less attention paid to plant protection measures (P.P.M.) which are essential to increase yield of groundnut. However, most of the small farmers have not adopted P.P.M. due to several problems faced by the small farmers in adoption of plant protection measures for groundnut cultivation” was undertaken with following specific objectives:

1. To study some of the personal, social, economic and psychological characteristics of the small farmers.
2. To find out the small farmers' extent of adoption of plant protection measures for groundnut cultivation.
3. To ascertain an association if any between extent of adoption of P.P.M. and some of the personal, social, economic and psychological traits of the small farmers.
4. To find out the problems faced by the farmers in adoption of P.P.M. for groundnut cultivation.
5. To seek suggestion from the respondents to overcome their problems in adoption of P.P.M. for groundnut cultivation.

The hypotheses were formulated from the theoretical orientation based on reviewed literature.

A sample of 140 respondents was drawn from the twelve selected villages of Rajkot taluka of Rajkot district randomly. An interview schedule was prepared in light of the

objectives of the study. The problems as well as suggestions from the respondents were recorded.

Result:

Majority of the small farmers were middle aged, illiterate, had not visited dry farming research station, belonged to higher caste group, belonged to nuclear type of family and had medium size of family. They had low social participation, low extension contact but whenever they contacted got satisfactory guidance from extension agencies. They had low annual income, low socio-economic status, medium groundnut production and medium economic motivation.

Majority of the small farmers were low adopters of P.P.M. for groundnut cultivation. Start Paragraph the small farmer's extent of adoption of P.P.M. for groundnut cultivation was significantly associated with their characteristics, vis., education visits to dry farming research station, social participation, extension contact, annual income, socio-economic status, production of groundnut per unit area and economic motivation.

The problems faced by the small farmers of the villages nearer and away from taluka head quarter in adoption of P.P.M for groundnut cultivation were more or less similar. The important problems faced were:

1. Lack of money.
2. High prices of pesticides.
3. Low price of produce.
4. High price of pesticides.
5. Low price of produce.
6. Uncertainty of rain.
7. Lack of plant protection equipment.
8. Lack of credit facilities.
9. Adulteration in pesticides affecting the quality of pesticides and lack of guidance.

The suggestions offered by the respondents of villages nearer and away from taluka head quarter were more or less similar. The important suggestions stated were:

1. Reduction the price of pesticides.
2. Remunerative price for groundnut.
3. Information about efficient use of pesticides need to be provided frequently.
4. Mass plant protection measures should be undertaken.
5. Adulteration in pesticides need to be checked.
6. The training should be imparted about plant protection to the farmers.
7. Timely availability of necessary pesticides in adequate quantity.
8. More financial facilities need to be provided.

31. TRAINING NEEDS OF CATTLE OWNERS IN I.C.D.P AREA OF JUNAGADH DISTRICT

YEAR : 1981

NAME OF STUDENT

O. D. Vanpariya

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

There is a wide gap between the availability and requirement of milk in India. Cattle

play a vital role in rural economy of our country. Cattle are the foundation of agriculture in India. In order to increase the country's feed production both plant and animal origin, it is imperative that the quality of our cattle be improved. It requires a thorough understanding and repeated practice of different skills on the part of cattle owners. Therefore, the cattle owners should be trained in specific operational and technical know - how and skills embracing all phases of milk production for maximizing their economic returns. Thus, a study entitled "Training needs of cattle owners in I.C.D.P. area of Junagadh district" was undertaken with following specific objectives :

1. To determine the training needs of the cattle owners in the sub-items of animal husbandry practices.
2. To determine the training needs of the cattle owners in the main-items of animal husbandry practices.
3. To study the personal and socio-economic characteristics of the cattle owners.
4. To study the association between the selected personal and socioeconomic characteristics of the cattle owners with their training needs.
5. To seek suggestions of the cattle owners for effective farmers' training programme in relation to animal husbandry.

A sample of 130 cattle owners was selected randomly from four selected centres of two selected talukas in I.C.D.P. area of Junagadh district. A schedule was prepared in light of the objectives of the study and respondents were interviewed. The data were analysed in light of above objectives.

Results:

1. Of the six major items, maximum priority was given by the respondents for animal health, diseases control and animal breeding.
2. Majority of the respondents were in the middle age group, educated upto primary level and were from intermediate caste, belonged to the joint families having more than 5 members. They had low social participation, had medium extension contact and low media exposure, having farming as main occupation, possessed larger land holding and herd size. They were getting medium annual income, had medium socio-economic status, were medium level adopters of improved animal husbandry practices and disposal milk through milk producers.
3. There was no association between cattle owners training needs and their agr, extension contact and size of holding.
4. There was significant association between training needs of cattle owners and their social participation.
5. There was highly significant association between cattle owner's training needs and their education, media exposure, size of herd, socio-economic status and extent of adoption of improved animal husbandry practices.
6. For effective training programmes, the respondents suggested the following:
 - VenueAt the village level.
 - SeasonPost harvest season.
 - Duration.....5 days.
 - Size of training group.....25 farmers.
 - Extension teaching methodAudio-Visual aids and demonstration.

32. LISTENERS' ATTITUDE TOWARDS FARM RADIO BROADCASTS IN RAJKOT DISTRICT OF GUJARAT STATE

YEAR : 1981

NAME OF STUDENT

G. M. Bhuva

MAJOR ADVISOR

Prof. M. I. Patel

Abstract:

Radio is the modern communication medium through which agricultural innovations are transmitted to a large number of farmers within the shortest possible time over a wide spread area. However, the diffusion of latest agricultural technology depends to a great extent on effectiveness of farm radio broadcasts and also on the listeners' attitude towards it. With sharp focus on this fact a study entitled "Listeners' Attitude Towards Farm Radio Broadcasts in Rajkot District of Gujarat State" was undertaken with following specific objectives :

1. To study some of the personal and socio-economic characteristics of the listeners.
2. To determine the listeners' attitude towards farm radio broadcasts.
3. To ascertain an association, if any, exists between the listeners' attitude towards farm radio broadcasts and some of their selected personal and socio-economic characteristics.
4. To reveal the difficulties faced by the listeners.
5. To seek important suggestions from the listeners for making farm radio broadcasts more effective.

A sample of 200 FRB listeners was drawn from the six selected villages of Jetpur and Lodhika talukas of Rajkot district randomly. An interview schedule was prepared in light of the objectives of the study. The attitude scale developed by Jha and Katiyar (1972) was used to determine the listeners' attitude towards farm radio broadcasts.

Findings :

Majority of the listeners were middle aged, educated upto primary, belonged to unclear type of family and had medium size of family. They had low social participation, low extension contact and low media exposure. Also, they had medium annual income, medium material possession, medium to large size of holding and medium socio-economic status. Majority of them possessed their own radio sets, though, they rarely listened to FRBs.

About one-half of the listeners had favourable attitude towards farm radio broadcasts.

The listener's attitude towards FRBs was significantly associated with their characteristics, viz., education, social participation, extension contact, media exposure, size of holding and socio-economic status.

Majority of the listeners faced difficulties, while listening to FRBs. These difficulties were, insufficient time allotted to FRBs, speedy presentation, difficulty in understanding technical words, inconvenient time of broadcasts and difficult to remember statistical information.

The suggestions offered by the listeners for making FRBs more effective were, time allowed to FRBs should be increased, broadcast session should be evening, statistical information should be minimum and broadcasted twice in a programme, speaker should be well acquainted with subject-matter and topics should be in line with the current farm operations and need based. They preferred progressive farmers and agricultural university scientists for FRBs, discussion as a mode of presentation and plant protection as the most interesting content area for FRBS.

33. TRAINING NEEDS OF SUBJECT MATTER SPECIALIST OF T & V SYSTEMS IN GUJARAT STATE

YEAR : 1981

NAME OF STUDENT

R. M. Dave

MAJOR ADVISOR

Prof. M. I. Patel

Abstract:

The flow of new ideas and discoveries from various laboratories and fields of Agriculture is at an ever accelerated rate in the present day fast moving age of technology. If at all, one wishes to keep pace with these latest scientific development, one has to make concentrated efforts to acquaint with them. In order to perform any job efficiently one has to undergo continuous in service training rather than satisfied with the formal education. For continuous growth, continuous training is a must. Training ensures improvement in the quality of work performed by an individual. Therefore, T & V system has given priority to the training of SMSs. In designing and organizing an effective training programme, the essential step is to identify specific training needs of the trainees. Keeping this fact in mind, the present study "Training Needs of Subject Matter Specialists of T & V system in Gujarat State" was undertaken with following specific objectives:

1. To study some of the personal characteristics of the SMSs.
2. To determine the degree of training needed by the SMSs for each competency.
3. To ascertain the association, if any, exists between the training needs of SMSs & their some of the personal characteristics.
4. To determine the weighage in terms of time for theory and practical training for each competency.
5. To ascertain their opinion on duration and period of training most suited to them.
6. To suggest a model list of competencies in subjects of agronomy, plant protection and Extension Education.

Result:

1. Majority of the respondents had age above 35 years, education up to B.Sc.(Agri.) level, rural back-ground, experience of working on own farm, medium length of service and acquired inservice training previously.
2. The SMSs needed training in full details in following competencies in Agronomy.
 - (a) Methods and suitable time for application of compost and chemical fertilizers.
 - (b) Selection of crop variety.
 - (c) Layout of trials and experiments.
 - (d) Economical aspects of mixed farming.

They needed elementary training without much details in remaining competencies.

3. The SMSs needed training in full details in following competencies of plant protection.
 - (a) Identification of major pests and diseases of various crops.
 - (b) The latest plant protection measures, recommended for various pests and diseases.
 - (c) Stage of crop at which different pests appear and cause disease.
 - (d) The principles of plant protection.
 - (e) Biological control.
 - (f) Operation and repairs of various plant protection equipments.

- (g) Compatibility of various pesticides.
- (h) Suitable weather condition for attack of different pests.
- (i) Seed treatment.
- (j) Classification of various insecticides, fungicides, manufacturing firms and cost.
- (k) First aid in case of poisoning.

They needed elementary training without much details in remaining competencies.

4. The SMSs needed training in full details in following competencies of extension education.

- (a) Demonstration and campaigns.
- (b) Approach to farmers through various extension methods.

Needed elementary training without much details in remaining competencies.

5. There was no association between the training needs of SMSs and some of their personal characteristics like, education, rural/urban back-ground, length of service, experience of working on own farm and training acquired.
6. The SMSs expressed 43.81% and 56.19%, 41.61 % and 58.38% and 38.05% and 61.95% weightage in terms of teaching theory and practical in the subjects of Agronomy, Plant Protection and Extension Education respectively.
7. The SMSs preferred monthly training for two days duration

34. TRAINING NEEDS OF GROUNDNUT GROWERS OF JUNAGADH DISTRICT

YEAR : 1981

NAME OF STUDENT

K. L. Purohit

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

Groundnut is the most thrived age-old major oilseed crop as well as cash crop of saurashtra region of Gujarat State. Though the improved varieties are available to the groundnut growers, there has been no major break-through in groundnut production. The technology of improved varieties of groundnut is complex and sophisticated. It requires a through understanding and repeated practice of different skills on the part of groundnut growers to reap rich harvests. Therefore, the groundnut growers should be trained in specific operational and technical know-how and skills embracing all phases of production for maximizing their economic returns. Keeping this fact in mind, the present study "Training needs of Groundnut Growers of Junagadh district" was undertaken with the following specific objectives:

1. To determine the training needs of the groundnut growers in the sub-items of groundnut cultivation.
2. To determine the training needs of the groundnut growers in the main-items of groundnut cultivation.
3. To study the personal and socio-economic characteristics of the groundnut growers.
4. To study the association, if any, exists between the selected personal and socio-economic characteristics of the groundnut growers with their training needs.
5. To ascertain the relative suitability of venue, season, duration, size of training group

and extension method for the groundnut growers in relation to groundnut.

To realize these objectives, three talukas were selected randomly out of fifteen talukas and two villages were selected randomly from each of the selected taluka. Totaly 120 groundnut growers were selected randomly from selected villages.

Responses were collected with the help of personal interview. The data were analysed in the light of above objectives.

Result:

1. The respondents needed training not only in the sub-items of package of practices but also in credit, storage, and marketing.
2. Of the twelve major items, maximum priority was given by the respondents for plant protection measures.
3. Majority of the respondents were in the middle age group, illittrate and were from intermediate caste, belonged to the nuclear families having more than 5 members. They had low social participation, low extension contact and medium media exposure, possessed large size of holding, had medium total annual income of Rs. 5,000 to Rs. 10,000/-, possessed medium socio-economic status, were medium adopters of improved groundnut practices and high producers of groundnut per unit area.
4. There was a significant association between training needs of groundnut growers and characteristics, like, education, ectension contact, production of groundnut per unit area, socio-economic status, extent of adoption of improved groundnut practices and total income, age, media exposure and size of holding had no association with their training needs in relation to groundnut.
5. For effective training programme, the respondents suggested the following:
 Venue.....Sardar smruti Kendra, junagadh.
 SeasonOnset of groundnut season.
 Duration5 days and above.
 Size of training group.....25 farmers.
 Extension method.....Discussion and demonstration.

35. ATTITUDE OF VILLAGE LEVEL WORKERS TOWARDS T & V SYSTEM IN JUNAGADH DISTRICT OF GUJARAT STATE

YEAR : 1982

NAME OF STUDENT

B. P. Vasoya

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

The "Training and Visit" system as suggested by Daniel Benor has been introduced in Gujarat State in the year of 1978. The T & V system is playing a crucial role for transfer of latest agricultural technology to the farmers' field. Village Level Worker (VLW) is the grass root worker and is the backbone of the T & V system and forms the vital link between the rural masses and government machinery. VLWs receive periodical training from the AEOs and SMSs at the interval of fortnight on current field operations and disseminate the relevant technology to contact farmers during their regular visit.

Thus, VLW is a basic extension worker of the T & V system. However, credibility and effectiveness of T & V system depends to a considerable extent on VLWs' attitude towards it. In view of the importance of VLWs, the study was undertaken to explore the "Attitude of VLWs towards T & V system in Junagadh district of Gujarat State" with the following specific objectives :

1. To study some of the personal, social and situational characteristics of the VLWs.
2. To determine the attitude of VLWs towards T & V system.
3. To ascertain an association, if any, exists between the attitude of VLWs towards T & V system and some of their selected personal, social and situational characteristics.
4. To study the difficulties faced by the VLWs in performing their duties.
5. To find out the reasons for less favourable attitude towards T & V system.
6. To seek important suggestions from the VLWs for making T & V system more effective.

In order to realize the above mentioned objectives, all the VLWs working under T & V system who were available on the day of personal interview (100 VLWs) were selected as respondents from the Junagadh district of Gujarat State. The attitude scale developed by Dalal and Kamlesh Kumar (12) was used with slight modification to determine the attitude of VLWs towards T & V system.

Result:

More than one-half of the VLWs belonged to young age group. Majority of the VLWs had passed Agricultural Diploma, were married, had not acquired any type of inservice training, had length of service upto 10 years and had permanent family obligation. Also majority of the VLWs were recruited directly, had medium work load, possessed rural background and were nearer to the city. Moreover, majority of the VLWs had less area of jurisdiction, were nearer to their native place, had not been provided residential facility by government and had fair residential accommodation.

Two-third of the VLWs had more favourable attitude towards T & V system.

Attitude of VLWs towards T & V system was positive and significantly associated with their characteristics, vis., education, training acquired and rural/urban background.

Majority of the VLWs faced difficulties in performing their duties. They were pay and allowances were not received in time, no separate facility of office, vacant posts were not filled in time, sufficient audio-visual aids were not provided for the extension activity, useful literature was not provided for the extension activity, useful literature was not provided to perform self duties, solution of reported problems were not received in time by higher authority, vehicle facility was not provided for the official duties, it was very difficult to reach interior villages due to lack of approach roads and children's education suffered due to stay in villages.

Main reasons expressed by the VLWs for less favourable attitude towards T & V system were meagre scope for promotion, powers are limited as compared to responsibilities and remuneration is less in comparison to work.

Arrangement of tour for contact farmers to get inspiration, residential facility at each head quarters for VLWs, passing T.A. bills in time and arranging more exhibitions and film shows were the most important suggestions of the VLWs for making the T & V system more effective, while, providing vehicle facility to VLWS for performing their duties smoothly, less area of jurisdiction of VLWs, immediate appointment of VLWs on vacant posts and providing printed literature, posters, leaflets, etc. about improved farming practices in time were minor suggestions of the VLWs for making the T & V system more effective.

36. JOB SATISFACTION OF AGRICULTURAL EXTENSION OF OFFICERS WORKING UNDER T & V TRAINING AND VISIT SYSTEM IN RAJKOT DIVISION OF GUJARAT STATE

YEAR : 1983

NAME OF STUDENT

H. S. Patel

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

The "Training and Visit" system as suggested by Daniel Benor has been introduced in Gujarat state in the year of 1978. The T & V system is playing a crucial role for transfer of latest agricultural technology to the farmers' field. Agricultural Extension Officer (AEO) is the key person of the T & V system and forms the vital link between the Village Level Worker (VLW) and Subject Matter Specialist (SMS) in the government machinery. AEOs receive periodical training from the SMSs of sub-divisional level and district level at the interval of fortnight on current field operations and disseminate the relevant technology to VLWs and farmers during their regular visit.

Thus, AEO is a basic extension worker of the T & V system. However, creditability and effectiveness of the T & V system depends to a considerable extent on job satisfaction. In view of the importance of AEOs, the study was undertaken to explore the "Job satisfaction of Agricultural Extension Officers working under Training and visit system in Rajkot Division of Gujarat State" with the following objectives:

1. To study some of the personal, social and situational characteristics of the AEOs.
2. To determine the level of job satisfaction of the AEOs working under T & V system.
3. To ascertain an association if any, exists between the level of job satisfaction of the AEOs and some of their selected personal, social and situational characteristics.
4. To study the difficulties faced by the AEOs in performing their duties.
5. To find out reasons for low level of job satisfaction.
6. To seek suggestions from the AEOs to improve their level of job satisfaction.

In order to realize the above mentioned objectives, all the AEOs working under T & V system who were available on the day of personal interview (60 AEOs) were selected as respondents from the Rajkot Division of Gujarat State. The job satisfaction scale developed by Chakravarty (5) was used with slight modification to determine the job satisfaction of AEOs working under T & V system.

Result:

More than three-fourth of the AEOs belonged to middle age group, more than one-half of the AEOs had passed Agril. Diploma, were married and had acquired inservice training, had length of service above 15 years and had permanent family obligation. Majority of the AEOs were recruited by promotion, had high work load, possessed rural back-ground. Moreover, one-half of the AEOs had less area of jurisdiction, were nearer to their native place and were not provided residential facility by government.

Two-third of the AEOs had high job satisfaction toward T & V system. Job satisfaction of the AEOs towards T & V system was positive and significantly assorted with their characteristics viz., age, length of service and mode of appointment. Majority of the AEOs faced difficulties in performing their duties they were lack of transport facility, no separate office facility, heavy administrative work load and frequent transfers.

Main reasons expressed by the AEOs for less job satisfaction towards T & V system were, less chance of promotion, no fixed schedule for transfer, less social status in the society.

More promotion prospects in future, arrangement of vehicle in touring and separate office facility were the most important suggestions of the AEOs for improve their level of job satisfaction.

37. A STUDY ON THE JOB WORKING OF VILLAGE LEVEL WORKERS OF TRAINING AND VISIT SYSTEM IN RAJKOT DIVISION OF GUJARAT STATE

YEAR : 1983

NAME OF STUDENT

R. L. Chudasama

MAJOR ADVISOR

Prof. S. V. Patani

Abstract:

Agriculture in India is a way of life for rural majority. Efforts to increase low yields started with inception of Community Development programme in 1952.

The VLW was first introduced as grass root extension worker. His job working prescribed under job – chart was not changed much, since inception, however, the programme and strategy underwent many changes.

In order to give moment to educational approach through extension, by providing better, regular and equipped services, with the recommendation and assistance of World Bank, a new programme – Training and Visit system was introduced in the country and with its good results it was introduced in state of Gujarat in 1978. The VLW'S job-chart was revised with more regular visits and equipped VLW to interpret and propagate science and technology, The evaluation reports of the programme have many points out of these the point which is of vital importance is, how the new extension working of jobs assigned to VLW in the programme, is being attended. A pilot study was there fore planned to this study in one division of the state.

Result:

The following jobs were properly attended

- (1) Assistance to farmers for all crop practices.
- (2) In solving field problems.
- (3) Assistance to sub-contact farmers.

The following jobs were generally or normally attended.

- (1) Keeping list of contact farmers and vital village statistics.
- (2) Visit only 3 to 5 contact farmers per day and maintaining diary.
- (3) Use only discussion method for passing information
- (4) Conducting crop cutting experiment.
- (5) Assisting agricultural extension officer in their work when required.

The following jobs were not adequately performed or where deficient in working.

- (1) Selection of farmers as per norms.
- (2) Preparing farm plans.
- (3) Organizing of group meetings.
- (4) Collection of soil samples for analysis.
- (5) Sending farmers for training.
- (6) Proper reporting of monthly progress.

The job working was cross-checked with supervisory staff and contact farmers and their opinions also were got confirmed. The findings of study in group (3) that, these jobs are not properly attended, confirm evaluation reports and other studies.

However, the picture obtained from study is brighter than before for all jobs, but it has been considered equally useful for more effective approach, with better planning of visits and with more frequency of contact for their entire farming system, as well as assistance in getting input and credit supply by proper farm planning deficiency like, field and farm visits, demonstrations, soil testing and other issue also needs special care for supervisory staff, the job working will be effective.

Training has helped in equipping them and raising their information level, for technology to be transferred and gaining the confidence.

The contact farmers have expressed their positive attitude, with need, for more effective contacts. It has been observed that the job-chart is quite adequate and jobs assigned are sufficient enough, however, the job of scrutiny of subsidy papers need to be deleted. The grievances expressed by VLWS for certain physical facilities, area of approach, etc. needs adequate action.

The state wide study with more detailed objectives need to be carried out for getting total picture to confirm findings of this pilot study.

38. ADOPTION OF IMPROVED GROUNDNUT CULTIVATION TECHNOLOGY BY THE FARMERS IN JUNAGADH DISTRICT

YEAR : 1984

NAME OF STUDENT

R. K. Popat

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

Groundnut is the most thrived age-old major oilseed crop as well as cash crop of saurashtra region of Gujarat State. Gujarat Co-operative oilseeds growers federation Limited (GROFED) came into existence by great efforts of Dr. V. Kurien with National Dairy Development Board's assistance. This co-operative organization provides marketing and storage facilities and number of technical inputs to the groundnut growers for raising groundnut production. In spite of uniform endeavours by GROFED, Training and Visit system and other extension agencies, the level of adoption of improved practices of groundnut cultivation differs from area to area and from individual to individual member and non-member farmers of GROFED. There has been no major break-through in groundnut production even though the improved practices of groundnut cultivation are feasible to the groundnut growers. Keeping this fact in mind, the present study "Adoption of improved groundnut cultivation technology by the farmers in Junagadh district" was undertaken with the following specific objectives:

1. To study some of the personal and socio-economic characteristics of the member and non-member farmers of GROFED.
2. To find out the level of knowledge of member and non-member farmers pertaining to groundnut cultivation technology.
3. To determine extent of adoption of improved groundnut cultivation practices by member and non-member farmers.
4. To explore the extent of awareness of member and non-member farmers about supplies and extension services rendered by GROFED.
5. To ascertain the association between extent of adoption and some of the personal and socio-economic characteristics of groundnut growers.
6. To study the constraints in adoption of improved groundnut cultivation technology.
7. To seek the suggestion for improving the working of groundnut co-operative societies.

In order to realize the above mentioned objectives, a sample of 100 groundnut growers i.e. 50 member farmers and 50 non-member farmers of GROFED from Vanthali and Porbandartalukas (50 from each) of Junagadh district was drawn randomly. Responses were collected with the help of personal interview. The data were analysed in the light of specific objectives.

Result:

1. Majority of the groundnut growers were middle aged, educated upto primary, having joint type and medium sized family. They had low social participation, low extension contact, low media exposure, medium to large land holdings, high socio-economic status and high knowledge level. Equal proportion of the respondents were found to have low and high adoption of improved groundnut cultivation technology.
2. Majority of the member farmers were middle aged, educated upto primary, having joint type and medium sized family. They had high social participation, high to low extension contact, high media exposure, possessed large size of land holding, had high socio-economic status and high knowledge level. Majority of the member farmers were found to be high adopters of improved practices of groundnut cultivation.
3. Majority of the non-member farmers were old aged, illiterate, having joint type and medium sized family. They had low social participation, low extension contact, low media exposure, medium land holding, low socio-economic status and high knowledge level.
Majority of the non-member farmers were low adopters of improved practices of groundnut cultivation.
4. Most of supplies and services rendered by GROFED were well known among the majority of the groundnut growers, member and non-member farmers of GROFED.
5. The characteristics of the groundnut growers and member farmers viz., knowledge level, family type, extension contact, mass media exposure and socio-economic status had positive significant association with their extent of adoption; while, the characteristics of the non-member farmers viz., knowledge level and mass media exposure had positive and significant association with their extent of adoption.
6. Important constraints in adoption of improved groundnut cultivation technology were: less remunerative and more expensive modern farming inputs not available in required quantity in time, inadequate lending facility, lack of necessary guidance and inputs and implements not available locally.

To the suggestions offered by the respondents for improving the working pattern of groundnut co-operative societies were : remunerative prices should be given to the producers, inputs should be supplied in required quantity in time, crop insurance scheme should be introduced, care should be taken to provide pesticides in time, make purchasing and selling procedure simple, payment should be given immediately after purchasing of products, advances should be granted to meet the expenditure during standing crop and eighty per cent advances should be given on the spot at the time of purchasing.

39.	ANALYTICAL STUDY OF THE GAMNO CHORO PROGRAMME BROADCASTED BY ALL INDIAN RADIO, RAJKOT
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YEAR : 1984

NAME OF STUDENT

R. J. Pandya

MAJOR ADVISOR

DR. K. G. Halyal

Abstract:

Radio is the modern communication medium through which agricultural research findings are transmitted to a large number of farmers even in remotest areas within short span of time. However, spread of latest agricultural technology amongst the farmers

through rural broadcast depends to a large extent on the listener farmers' views, opinion, suggestions and preference about various counts of the broadcast. With sharp focus on this fact a study entitled "Analytical Study of the "GamanoChoro" Programme Broadcasted by All India Radio, Rajkot" was undertaken with following specific objectives.

1. To identify listening area of "GamanoChoro" programme broadcasted by AIR, Rajkot.
2. To study the personal, social and economic characteristics of listener farmers.
3. To appraise awareness of the listener farmers, suitability of time and duration of the "GamanoChora" programme.
4. To study the listening behaviour of listener farmers for the "GamanoChoro" programme.
5. To measure the opinion of the listener farmers about the usefulness of the "Gamano Choro" programme.
6. To gauge the preference of the listener farmers about the programmes, practices and formats of the broadcast.
7. To find out the extent of information and to seek suggestions for the improvement of the "GamanoChoro" programme.
8. To find out barriers expressed by listener farmers about presentation of the programme and language used.
9. To study the relative effectiveness of the studio based and field based programmes of 'Gamano Choro'.
10. To determine the association of some selected personal and social characteristics of the listener farmers with their regularity in listening the programme.
11. To ascertain an association if any, that exists between listener farmers extent of interest in the programme and some of their selected personal and economic characteristics.
12. To know the association if any, that exists, between listener farmers' preference of practices and their some selected personal and economic characteristics.
13. To see the association if any, that exists, between listener Farmers' language difficulties and their education.

A sample of 180 listener farmers was drawn from 18 selected villages in Saurashtra region. Out of them 12 villages from Junagadh district and 6 villages from Surendrangar district were selected randomly. An interview schedule was prepared in light of the objectives of the study. The opinion, views, likings, preference and suggestions from the respondents were recorded.

Result:

More than there fourth of the listener farmers had low level of education, low social participation, large size of holding and medium level of economic status.

Cent per cent of the listener farmers of "Gamno choro" programme were aware about the broadcast of this programme and time of the broadcast. A great majority of the listener farmers had found the duration and time of the broadcast as suitable.

More than half of the listener farmers were regular in listing the programme.

About two-fifth of the listener farmers had opined the "Gamno choro" programme as very interesting.

Majority of the listener farmers had most preferred level of preference about the hard core agricultural programme.

The suggestion that information should be collected directly from the authority to increase the creditability of the “Gamno choro” programme was ranked first by the listener farmers.

The knowledge of “new farming at door steps” and timely and continuous information received were the two contents of advantages which were ranked first and second by the listener farmers, respectively.

Interview technique, featurised presentation and play in katha style were ranked first amongst each frequently used, some times used and rarely used formats for “Gamno choro” programme.

About one-fourth of the listener farmers had stated that speedy presentation of the programme made it difficult to understand.

Talk by specialist in studio based and interview by specialist in field based programmes were ranked first by the listener farmers as effective ites of presentation. But there was no significant difference between effectiveness of the studio and field based programmes.

There was no association between listener farmers age, education and type of family and their regularity in listening. But there was significant association between the listener farmers extension contact and their regularity in listening.

There was no association between the listener farmers age, education and economic status and their interest in the "Gamno choro" programme.

There was no association between the listener farmers age, education and economic status and their preference of farming practices.

There was no association between the education of the listener farmers and their difficulties in respect of language used in the broadcast.

40. PATTERN OF INVOLVEMENT OF RURAL FARM WOMEN IN HOUSEHOLD WORKS AND AGRICULTURAL ACTIVITIES IN JUNAGADH DISTRICT OF GUJARAT STATE

YEAR : 1987

NAME OF STUDENT

Ms. Kanta S. Vaghani

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

From ancient days, women have played a pivotal role in agricultural production in India. The rural women perform a variety of tasks both on farm as well as at home. This calls for completion of tasks in accordance with expectations. The daily work schedule of rural women is very busy. The days for her starts in the early hours of the morning. Even before the sunrise and she is the last member to retire to bed at night. In addition to participation in farm activities and the physical work, women also participate in decision making with regard to farm practices and other operations. Women as wives and mother, have a considerable part in decision making in the farm and at the home. When so significant is her contribution in home and on the farm, it is necessary to know wether she has any say in decision-making on matters related to farming and home management. Keeping this fact in mind, the present study "patterns of Involvement of Rural Farm Woman in Household Works and Agricultural Activities in Junagadh District of Gujarat State" was undertaken with the following specific objectives:

1. To study some of the personal and socio-economic characteristics of the rural farm women.
2. To find out the extent of participation of rural women in household tasks and other subsidiary occupations if any, livestock work and farm operations.

3. To determine the daily work schedule of the rural women including work performed seasonally or periodically.
4. To compare the time utilization pattern of farm women belonging to small, medium and big land holding families as well as from landless families.
5. To study of the association of certain personal, socio-economic variables of the rural women with the time spent in different farm activities and home tasks.
6. To determine the extent of participation of farm women in decision-making related to farm-business, household tasks and about their children welfare.
7. To delineate the areas of decision-making in rural families and ranking them in order of importance.
8. To study the association of certain, personal and socio-economic variables of the farm women with the decision-making in agriculture, household task (expenditure pattern) and their children education and marriage.

In order to realise the above mentioned objectives, a sample of 104 rural women i.e. 36 respondents from big size of land holding, 21 respondents from medium size of land holding and remaining 29 respondents were selected from landless labourer farm women of Junagadh district, was drawn randomly. Responses were collected with the help of personal interview. The data were analysed in the light of objectives.

Result:

1. Majority of the (pooled sample) rural women were middle aged, illiterate, had medium size of family, no social participation, possessed big size of land holding and low socio-economic status. Nearly equal percentage of the respondents were found to have joint and nuclear type of family.
2. There was a significant difference between age, caste, type of family, size of family and socio-economic status of the small, medium and big size land holder farm women as well as landless farm women.
3. Farm women belonging to big, medium and small size of land holding, on an average worked for 16.75 hours, 16.44 hours and 14.63 hours respectively, while landless farm women worked for 15.75 hours daily.
4. There was positive and highly significant association between the average time spent on household and agricultural activities and their age, education, caste, type of family, land holding, and socio-economic status of the rural women.
5. In majority of the big size land holdings farm families, the decision regarding farm operation was made by husband alone, while in majority of the small size land holding farm families the decision was made by husband and wife jointly.
6. The farm women were never consulted in the decision regarding use of pesticides, weedicides and application of fertilizers and manures.
7. In case of majority of the rural farm families the decision about education of children was made jointly by husband and wife.
8. In majority of the rural farm families, the decision regarding expenditure pattern (household tasks) was made jointly by husband and wife.
9. In majority cases of the rural farm families the decision regarding amount and form of dowry, form of marriage was made jointly by husband and wife.
10. There was positive and highly significant association between the age, education, caste, type of family, land holding and socio-economic status and decision-making regarding home expenditure, farm operations and their children welfare.

41. COMMUNICATION BEHAVIOR OF THE CONTACT FARMERS**YEAR : 1987****NAME OF STUDENT**

V. J. Savaliya

MAJOR ADVISOR

Dr. M. N. Popat

Abstract:

The "Training and Visit" system which is popularly known as "Benor Programme" was introduced with world Bank's assistance in India. The "contact Farmers" selected under T & V system occupy a key position in the communication network in farming community. They receive new information from extension workers and pass on these messages to others.

In view of the importance of contact farmers in effective communication of new ideas in farming community, the study was undertaken with the following specific objectives: To know the communication behaving of the contract farmers selected under T & V system in Junagadh district of Gujarat State. The study was undertaken with the following specific objectives.

1. To study the communication behavior of the contact farmers in respect of agricultural technology.
2. To study some of the personal, social, economic, psychological and extension communication characteristics of the contact farmers.
3. To ascertain the association of the selected personal, social, economic, psychological and extension communication characteristics of the contact farmers with their communication behavior.
4. To know the direct and indirect effects of the selected independent variables on the communication behavior of the contact farmers.
5. To study the role performed by the contact farmers as learners and as teachers in T & V system.
6. To know the improved farm practices on which information passed on by the contact farmers to their followers.
7. To seek suggestions from the contact farmers for making the T & V system more effective.

In order to realize the above mentioned objectives, a sample of 100 contact farmers from Mendarda and Keshod talukas (50 from each) of Junagadh district was drawn. Responses were collected by personal interview of 100 contact farmers. The data were analysed in light of the specific objectives.

Result:

The most of contact farmers utilized VLW as the most credible source of information. About two-third of the contact farmers had medium level of communication behaviour in respect of agricultural technology.

Majority of the contact farmers belonged to middle age group. They had medium socio-economic status and adoption level. They had also medium level of risk preference, localite-cosmopolite value orientation and extension participation. More than half of them had medium social participation, large size of land holding and medium level of extension contact. Nearly half of them were educated up to primary level and had medium opinion leadership.

Communication behavior of the contact farmers had significant and positive association with their characteristics like education, opinion leadership, social participation, socio-economic status, adoption level, localite-cosmopolite value orientation, extension contact and extension participation, whereas, significant and negative association was found with their age.

There was very high positive direct effect of extension contact on communication behaviour of the contact farmers followed by positive direct effects of education, socio-economic status and social participation which were of high magnitude. Indirect effects of education, adoption level and extension participation via extension contact were positive and of high magnitude.

Majority of the contact farmers got sometimes satisfactory reply from VLMs and their fellow farmers followed some of the recommended practices. More than half of them were in high group as regards to their attendance in the meetings of VLW and communicated the message with other farmers through talk only.

Loan-advances and crop insurance, fertilizer and its application, plant protection, improved varieties and their practices etc. were the improved practices on which information was passed on by the contact farmers to fellow formers.

Providing subsidy in case of currently evolved form practice, arrangement for agricultural inputs, night meetings by the extensionworkers and visits of the contact farmers to the research station were the most important suggestions of the contact farmers for making T & V system more effective.

42. ANALYSIS OF COMMUNICATION BEHAVIOR OF THE CONTACT FARMERS SELECTED UNDER TRAINING & VISIT SYSTEM IN RAJKOT DISTRICT (GUJARAT STATE)

YEAR : 1988

NAME OF STUDENT

R. N. Rakholia

MAJOR ADVISOR

Dr. K. G. Halyal

Abstract:

The "Training and Visit" system as suggested by Daniel Benor was introduced with World Bank's assistance in India. The new methodology envisages that the Village Level Workers (VLWs) and Agricultural Extension Officers (AEOs) would be utilized in an intensive time bound management system in fixed programme of training as well as visit to the selected farmers' field regularly every fortnight. These selected farmers are known as contact farmers on whom VLW concentrates his efforts. They act as second line of extension workers. So, the contact farmers occupy a key position in the communication network in farming community. Consequently, their communication behavior can be helpful in transferring the agricultural technology. In view of the importance of contact farmers in effective communication of new ideas in farming community, the study was undertaken to know the communication behavior of the contact farmers selected under T & V system in Rajkot district of Gujarat state. The study was undertaken with following the specific objectives:

1. To study some of the personal, social, economic, psychological and extension communication characteristics of the contact farmers.
2. To measure communication behavior of the contact farmers in respect of agricultural technology.
3. To determine the association of some selected personal, social, economic, psychological and extension communication characteristics of the contact farmers with their communication behavior.
4. To assess the cause and effect relationship between the selected variables on communication behavior of the contact farmers.
5. To study the role to be performed by the contact farmers under T & V system.
6. To know the improved farm practices on which information was passed on by the contact farmers to their followers.

7. To seek suggestions from the contact farmers for making T & V system more effective.

In order to realize the above mentioned objectives, a sample of 100 contact farmers from Rajkot and Jetpur talukas (50 from each) of Rajkot district was drawn.

Result:

More than half of the contact farmers had medium level of communication behavior in respect of agricultural technology. Village level worker earned the first rank among the different sources of information as utilized by the contact farmers.

More than half of the contact farmers were middle aged and three-fifth were educated upto primary level. Most of them had medium social participation and three-fifth possessed high opinion leadership. Majority of them had medium level of socio-economic status and more than half of them had large size of land holding. Majority of the contact farmers had medium risk preference, medium level of extension contact, extension participation and localite-cosmopolite value orientation.

The contact farmer's communication behavior had significant and positive association with their characteristics viz., education, social participation, opinion leadership, socio-economic status, innovation proneness, knowledge level, and extension contact and extension participation.

The total combined effect of twelve characteristics of the contact farmers on their communication behaviour was 70.65 per cent.

Majority of the contact farmers were in high group as regards to understanding the messages of VLWs and also getting satisfactory answers to their questions from the VLWs. Three-fifth of the fellow farmers had followed some of the practices recommended by the contact farmers and majority of the contact farmers had communicated messages to the fellow farmers through discussion only.

Improved varieties and their practices, introduction of new crops, use of improved implements, crop insurance and plant protection measures were the improved practices on which information was passed on by majority of the contact farmers to fellow farmers.

Making arrangement for visits of contact farmers to the research atations, more visits of VLW to the contact farmers at fields, providing subsidy for the currently introduced farm practices, providing the agril. Literature to the farmers through VLWs, arranging film shows, agril. Exhibitions and weekly visit of VLW and minimizing the circle area of VLWs, were the most useful suggestions of the contact farmers.

43. EXTENT OF ADOPTION OF GROUNDNUT PRODUCTION TECHNOLOGY AND CONSTRAINTS EXPERIENCED IN ADOPTION BY THE GROUNDNUT GROWERS OF JUNAGADH DISTRICT OF GUJARAT STATE

YEAR : 1988

NAME OF STUDENT

R. C. Patel

MAJOR ADVISOR

Prof. D. H. Dave

Abstract:

Groundnut is the most thrived age-old major oilseed crop as well as cash crop of Saurashtra region of Gujarat state. Main Oilseeds Research Station, GAU, Junagadh has developed and recommended improved technology for increasing groundnut production through improved varieties and agronomic practices like seed rate, spacing irrigation

schedules, alongwith schedules of plant protection measures for groundnut crop. The Training and Visit system of extension (T & V), Integrated Rural Development Programme (IRDP) and Gujarat Co-operative oil seeds Growers Federation (GROFED) provide technical guidance, credit facilities, marketing and storage facilities to the groundnut growers for raising groundnut production. However, the adoption of the recommended groundnut production technology differs from area to area and individual to individual. There has been no major break-through in groundnut production, eventhough the recommended practices of groundnut cultivation are feasible to the groundnut growers, because of their personal and local constraints such as, lack of knowledge, lack of finance, lack of technical guidance, small size of landholding and poor socio-economic status etc. Keeping these facts in mind, the present study entitled "Extent of Adoption of Groundnut Production Technology and Constraints Experienced in Adoption by the Groundnut Growers of Junagadh district of Gujarat state" was undertaken with the following

Objectives:

1. To study some of the personal, social and economic characteristics of the groundnut growers.
2. To ascertain the knowledge level of the groundnut growers about the recommended groundnut production technology.
3. To determine the extent of adoption of the recommended groundnut production technology by the groundnut growers.
4. To study the constraints, if any, experienced by the groundnut growers in adoption of the recommended groundnut production technology.
5. To find out the association, if any, between some of the personal, social and economic characteristics of the groundnut growers and extent of adoption of the recommended groundnut production technology.
6. To find out association between groundnut growers knowledge about the recommended groundnut production technology and extent adoption of the same.
7. To find out the association, if any, between some of the personal, social and economic characteristics of the groundnut growers and constraints experienced by them in adoption of the recommended groundnut production technology.
8. To find out association between groundnut growers' knowledge about the recommended groundnut production technology and constraints experienced by them in adoption of the same.
9. To find out the association between groundnut growers' extent of adoption of the recommended groundnut production technology with technological, institutional as well as overall constraints experienced by them in adoption of the same.
10. To seek suggestions from the groundnut growers to overcome their constraints, which they experienced in adoption of the recommended groundnut production technology.

In order to realize the above mentioned objectives, hypotheses were formulated, from the theoretical orientation based on literature reviewed. A sample of 120 groundnut growers was selected randomly, from 12 randomly selected villages, covering six talukas, viz., Vanthali, Keshod, Mendarda, Bhesan, Porbandar and Kutiyana of Junagadh district (2 villages from each taluka). An interview schedule was prepared in light of the objectives of the study. The data were analysed in light of the specific objectives.

Result:

1. Majority of the groundnut growers were middle aged, educated up to primary level and had nuclear and medium sized family. They had low social participation and low extension contact. They possessed large size of land holding and medium

- socio-economic status.
2. One half of the groundnut growers had medium level of knowledge about the recommended groundnut production technology. Majority of them had fairly good knowledge about the recommendations of improved varieties and seed treatment. More than half of the groundnut growers knew the recommended spacing for both spreading and bunch type of groundnut, but only one fourth of them knew the recommended seed rate for spreading and bunch types of groundnut, Similar trend was also observed in their knowledge about the recommended dose of chemical fertilizers and plant protection measures. None of the groundnut growers had any knowledge about the recommendations of chemical weed control measures.
 3. Regarding the extent of adoption, majority of the respondent groundnut growers were medium adopters of the recommended groundnut production technology. Majority of them had adopted improved varieties of spreading and bunch type of groundnut. They had also adopted recommendation of seed treatment. Majority of the respondents followed recommended spacing for bunch type of groundnut but that was very limited for spreading type of groundnut in which they continued wider spacing. Nearly half of the groundnut growers applied chemical fertilizers and pest control measures as per recommendations. But very few applied control measures against diseases in groundnut. It is interesting to note that none of the groundnut growers had adopted chemical weed control.
 4. Important technological constraints experienced by the groundnut growers in adoption of the recommended groundnut production technology were: lack of finance, high prices of inputs, and unawareness of the recommendations and lack of technical guidance.
The major institutional constraints were:
low prices of produce at harvesting period, low contact with extension workers and non availability of credit as per requirement.
 5. Age, education, knowledge level, social participation extension contact, size of land holding and socio-economic status of the groundnut growers were significantly associated with their extent of adoption of the recommended groundnut production technology, whereas, type of family and size of family had no association with extent of adoption. Similarly, age, extension contact and socio-economic status were significantly associated with the constraints experienced by the groundnut growers in adoption of the recommended groundnut production technology.
 6. Extent of the adoption of the recommended groundnut production technology was significantly associated with technological constraints, but there was no association with institutional constraints. However, there was significant association between extent of adoption and the overall constraints i.e. technological as well as institutional constraints together.
 7. The suggestions offered by the respondents' groundnut growers to overcome their constraints in order of priority were: protection under crop insurance scheme in case of crop failure, remunerative price of produce, frequent contacts with village level workers for technical guidance about the new farm technology and timely supply of inputs at subsidized rate. They expected more number of demonstrations on their farms and facilities of training for new farm technology near their village. They also expected timely supply of inputs in required quantity and availability of credit in time for purchase of inputs. All these deserve careful considerations by the concerned agencies dealing with increasing the groundnut production in the state.

44. ATTITUDE OF VILLAGE LEVEL WORKERS TOWARDS TRAINING & VISIT SYSTEM IN JUNAGADH DIVISION OF GUJARAT STATE
YEAR : 1989
NAME OF STUDENT

G. K. Gangani

MAJOR ADVISOR

Dr. D. H. Dave

Training and Visit system has been introduced in Gujarat State since April 1978. The T and V system is playing a crucial role in transfer of latest agricultural technology to the farmers' fields. Village Level Extension Worker (VLW) is the pivotal person working under the T and V system. He is the grass root worker and the backbone of the T and V system and forms the vital link between the farmers and the Government machinery. VLWs receive periodical training from the AEOs and SMSs at the interval of each fortnight on current field operations. A well designed schedule of visit of the farmers by the VLW is suggested under this system. A regular visit of contact farmers during a fortnight is considered a pre-condition for the success of this system, because the transfer of farm technology among the farmers depends on efficiency of the VLWs under his jurisdiction. The credibility and effectiveness of the T and V system depends to a considerable extent on VLW's attitude towards it. In view of this, the study was undertaken to explore the "Attitude of VLWs towards the T and V system in Junagadh Division of Gujarat State" with the following specific objectives:

1. To study some of the personal, social, situational and communication characteristics of the VLWs.
2. To determine the attitude of the VLWs towards different components of the T and V system.
3. To ascertain an association if any, that exists between the attitude of VLWs towards different components of the T and V system and their selected personal, social, situational and communication characteristics.
4. To determine overall attitude of the VLWs towards the T and V system.
5. To ascertain an association, if any that exists between the overall attitude of the VLWs towards the T and V system and their selected personal, social, situational and communication characteristics.
6. To identify the difficulties faced by the VLWs in performing their duties.
7. To seek important suggestions from the VLWs for making the T and V system more effective.

Result:

Maximum numbers of the VLWs were from middle age group followed by young and old group. Most of the VLWs possessed minimum qualifications. They had acquired training in different subjects, had rural background and were recruited directly and by the District panchayats. Majority of the VLWs had length of service upto ten years, had professional experience above five years, had a joint family obligation, had their headquarters beyond 10km from the nearest taluka place, had more than 800 farm families under their jurisdiction up to 8 km. Majority of them had their native place in the same district of their headquarters, but were not provided with residential facility by the Government although they performed duties mainly for extension work. Majority of the VLWs got the information and guidance through AEOs' visits and also used periodicals on agriculture. However, they could visit less than sixty contact farmers during their

fortnightly visits and received good response from the contact and sub-contact farmers; however, they could receive less number of field problems during their fortnightly visits.

Majority of the VLWs had medium level attitude towards training, visits, physical facilities, supervision and guidance, supplies and services, administrative variables and psychological variables of the farmers under the T and V system.

Attitude of the VLWs towards training was negative and significantly associated with their length of service, number of farm families covered and native place of the VLWS, whereas, positive and significant association was observed with their workload, sources of information and field problems received and solved by them.

Attitude of the VLWs towards visit was negative and significantly associated with the number of farm families covered and native place of the VLWs whereas, it was positive and significantly associated with the number of field problems received and solved by them.

Regarding attitude of the VLWs towards physical facilities, it was negative and significantly associated with their rural/urban background and number of farm families covered. Their attitude towards supervision and guidance was also negative and significantly associated with the number of farm families covered.

The attitude of the VLWs towards supplies and services was negative and significantly associated with the length of service of the VLWS, whereas, it was positive and significantly associated with their family obligations and sources of information.

Attitude of the VLWs towards administrative variables was negative and significantly associated with the number of farm families covered by them. Their attitude towards psychological variables of farmers was negative and significantly associated with the family obligations of the VLWS, whereas, it was positive and significantly associated with the number of sub-contact farmers contacted during fortnightly visits.

Regarding the overall attitude of the VLWs towards the T and V system, majority of the VLWs had medium level attitude, only one sixth of them had high level attitude towards the T and V system, and about one seventh of them had low level attitude towards the T and V system. The overall attitude of the VLWs towards the T and V system was negative and significantly associated with the number of farm families covered, whereas, it was positive and significantly associated with sources of information and field problems received and solved by them.

Majority of the VLWS faced difficulties in performing their duties, which included separate facility of office, travelling allowances not being received in time, supplies and services for inputs not arranged in time, vacant posts not filled in time and vehicle facility not provided for the official work. They faced difficulties to reach the interior villages due to lack of approach roads and their children's education suffered due to stay in distant villages. They felt no recognition for good work under the T and V system.

A great majority of the VLWS suggested for providing loans for the purchase of moped or motor cycle for performing their duties smoothly. They were in favour of less area of jurisdiction and optimum number of contact farmers, economic incentives to contact farmers for arranging demonstrations, and recognition for goodwork. They also expected quick solution for the field problems. All these are worth taking into consideration for making their attitudes more favourable towards the T and V system.

45. MOTIVATIONAL PATTERNS OF FARM BENEFICIARIES AND UTILIZATION OF FACILITIES UNDER THE INTEGRATED RURAL DEVELOPMENT PROGRAMME IN JUNAGADH DIVISION OF GUJARAT STATE

YEAR : 1989

NAME OF STUDENT

Y. S. Trivedi

MAJOR ADVISOR

Dr. D. H. Dave

Abstract:

The integrated Rural Development Programme (IRDP) is a major effort of the Government strategy to alleviate poverty. It envisages the development of the rural people living below poverty line through a strategy of creating facilities to provide loans and subsidies for having them productive assets through nationalized banks.

The objectives of the present study were :

1. To study the personal, social and economical characteristic of the farm beneficiaries under the IRD programme.
2. To assess the awareness of the farm beneficiaries regarding different activities encouraged under the IRD programme.
3. To assess the utilization pattern of the activities by the farm beneficiaries.
4. To study the motivations and aspirations of the farm beneficiaries.
5. To seek important suggestions from the farm beneficiaries for better utilization of facilities provided under the IRD Programme.

Result:

1. Majority of the respondents were middle aged, nearly half of them illiterate and 42 per cent literate upto primary level. Joint family system was prevalent among small and marginal farmers, where more nuclear families were observed among the agricultural labourers.
2. The average number of members per family were minimum with the agricultural labourers (6.18) followed by those with the small farmers (7.03) and marginal farmers (7.7). There was no much variation in percentage of working males and working females. School going boys and girls were comparatively more than working boys and girls.
3. A greater number of the respondents (41 per cent) did not participate in any group activities or organization. Membership in cooperative society was found only among the small and marginal farmers.
4. Their employment status ranged from 120 days (marginal farmers) to 330 days (small farmers) in a year, majority, being engaged for a period of 191 to 260 days with maximum days in monsoon.
5. Majority of the respondents had annual income in the range of Rs. 6401 to Rs. 10000.
6. Small and marginal farmers mostly possessed bullocks for farming along with milch animals while the agricultural labourers possessed milch animals for their subsidiary income.
7. Housing position was better with the small and marginal farmers than the agricultural labourers.
8. Their average indebtedness was Rs. 12,606 borrowed from nationalised banks and Rs. 4493 from private sources.

9. About half of the respondents perceived the IRD Programme useful and one-third of them as every useful. Village Level Workers and Bank officials were the major motivators. The most popular activities to which they were aware of were kits supplied for different crops, subsidy for bullocks, bullock with cart, buffalo and cow as milch animals, submersible pump, digging of new wells and repairing of old wells.
10. The maximum amount of loan was taken by small farmer (Rs. 33,500) followed by marginal farmer (Rs. 12,850) and agricultural labourer (Rs.9000). Nearly half of the respondents had taken loan upto Rs. 4000.
11. Majority of the small and marginal farmers had utilized the facilities of minor irrigation activities and the agricultural labourers utilised more the animal husbandry and dairy development activities.
12. A large number of respondents (79 per cent) mentioned that they earned more due to facilities of loan from the IRDP. Majority of them (51 per cent) were not ready to take employment at places far away from their village, and were not willing to sell their land. Their major obstacles were inadequate irrigation, irregular employment, lack of resources and costly agricultural implements.
13. Majority of the respondents suggested for working hard as their prime measure for improvement, followed by obtaining loan from the Government and regular employment. They aspired to 'earn more' and 'achieve better status' followed by 'purchase of more milch animals', 'to develop business' and 'to live a peaceful life' in descending order.
14. Their aspiration to educate boys was higher than for girls. Thus giving premium to boys. More than half of them aspired for occupation other than parental job for their children.
15. Majority of them expressed their fear of failure of rains and crops followed by children's settlement in future, inability to educate children and likely indebtedness in the future.
16. Their major discontents were about less income, less land, self not educated, inadequate irrigation facilities and low prices of farm produces. These were also reflected in their important needs.
17. Regarding decision making, the major decisions about personal and social matters were taken by self, followed by friends, family members, wife and father respectively. In economical matters, bank officers and block officials influenced them; whereas in political matters, caste people, friends and co-workers motivated them to some extent.
18. Their aspiration levels for development in certain areas of life situation measured on a ladder scale showed that their present positions were rated higher than the past and the future was aspired even higher. The magnitudes of the mean ratings were higher in case of the small and marginal farmers than those of the agricultural labourers. Significant differences existed in their mean ratings although all of them aspired for a better future standard of living.
19. Majority of the respondents suggested for more economic assistance, timely availability of agricultural inputs and training facilities for agriculture and animal husbandry development activities.
20. For evolving a motivation strategy one has to develop and understanding of the existing need areas of the target people and create better facilities to fulfil their felt needs.

46. TEACHERS' ATTITUDE TOWARDS TEACHING AT THE COLLEGE OF AGRICULTURE, JUNAGADH
YEAR : 1989
NAME OF STUDENT

V. R. Ardeshana

MAJOR ADVISOR

Dr. A. O. Kher

Abstract:

The teacher is considered as one of the vital pivots of the society. He is said to be an architect of 'future generation'. The society has many expectations from him and in a democratic set up the importance of the teacher can not be minimised because education has been regarded as one of the most important instruments of democracy. But on the other hand, the teachers to-day are being partly responsible for various problems, like unresr and indiscipline. The performance of a university can be best judge by the competence of its teachers and accomplishment of its objectives.

The teachers of agricultural university have to put tangible results before the community to show their worth. And the achievement of these results depends upon the teachers' attitude towards teaching.

Keeping this in view, a study entitled "Teachers' attitude towards teaching at the college of Agriculture, Junagadh" was undertaken with the following specific objectives:

1. To study the characteristics of the teachers at the college of Agriculture, Junagadh.
2. To measure the teachers' attitude towards teaching at the college of Agriculture, Junagadh.
3. To study the relationship between teachers' attitude towards teaching and their selected characteristics.
4. To predict the extent of variation in the level of attitude of the teachers towards teaching caused by selected variables.
5. To identify the constraints faced by the teachers of College of Agriculture, Junagadh.
6. To seek suggestions from the teachers of College of Agriculture, Junagadh to overcome the constraints.

In order to realize the above objectives, a sample of 65 (92.85 per cent) teachers was drawn for the study out of 70 teachers (as on 1-6-1989) of the College. To measure the teachers' attitude towards teaching, a scale developed by Jhansi Rani (1985) was used with slight modifications. Independent variables were measured with the help of responses to appropriate questions and teacher made scales. For collecting the data questionnaires were distributed among 65 teachers. Statistical measures such as coefficient of correlation and multiple regression were used. The data were analysed in the light of the specific objectives.

Result:

Majority (78.46 per cent) of the teachers had favourable attitude towards teaching.

Majority (64.62 per cent) of the teachers were belonged to the middle age group and 53.85 percent were educated upto M.Sc. level. As many as 46.15 percent of them were Assistant Professors and 78.47 per cent had medium teaching experience. Majority (72.30 per cent) of them were low trained and 53.84 per cent of them experienced that they had heavy workload. Majority (73.84 per cent) of the teachers expressed that the facilities available in their departments were average and 84.64 per cent of them had medium professional development. Majority (70.76 percent) of them were satisfied with their job and 70.77 per cent of them possessed good reading habits.

There was positive and significant association between attitude of the teachers towards teaching and their characteristics like age, training received and reading habit of the teachers. The total contribution of these three variables such as age, training received and reading habit was 21.17 per cent of the variation towards teachers' attitude towards teaching. Further, the contribution of reading habits, training received and age was in descending order.

Some of the most important constraints faced by the teachers were : (1) teachers are frustrated due to lack of promotion, (2) less use of audio-visual aids appropriate to the subject in teaching, (3) lack of appreciation of the teachers for good teaching, (4) lack of enthusiasm of students towards study, (5) Travelling Allowance is not paid timely to the teachers, (6) teachers are overloaded with work, (7) indiscipline in the students, (8) course contents are not revised frequently, (9) lack of residential facilities to the teachers, (10) poor training facilities to the teachers.

Some of the most important suggestions to overcome the constraints faced by the teachers in teaching were (1) frequent transfer of the teachers should be avoided, (2) teachers should be given incentives for good work and the best teachers of the year should be selected and honoured, (3) powers of nominating teachers to attend seminar etc. may be entrusted to the principal, (4) better environment for the students like homely atmosphere should be created at the campus, (5) residential facilities should be provided to the teaching staff, (6) transport facilities should be provided in each department for field orientation, (7) administrative work should not be entrusted on teachers, (8) qualified teachers should be appointed according to the aptitude of the teachers towards teaching, (9) administrative procedure should be simplified, (10) evaluation of teachers work should be done regularly.

47. A STUDY ON READING BEHAVIOR, READERSHIP PATTERN AND EXTENT OF UTILIZATION OF FARM LITERATURE BY THE FARMERS OF JUNAGADH DISTRICT

YEAR : 1990

NAME OF STUDENT

M. G. Chavda

MAJOR ADVISOR

Dr. D. H. Dave

Abstract:

The printed material has been considered as the important tool to timely convey the information to the literate people. Among printed farm literature magazines, leaflets, folders, bulletins, news stories etc. occupy a key position in providing the latest agricultural information to the farmers. However, they differ from each other in terms of quality of printing, designing, contents and circulation. In such condition, it was very much essential to study the usefulness and effectiveness of the literature under circulation in Junagadh district. Four monthly magazines under circulation in Junagadh district and khedut patrikas published by the Sardar Smruti Kendra, Gujarat Agricultural University, Junagadh, were selected to study the reading behavior, readership pattern and extent of utilization of farm information by their reader farmers with the following objectives.

1. To study some selected personal and socio-economic characteristics of the readers of the farm literature.
2. To understand the reading behavior of the readers.
3. To know readership pattern of the farm literature.
4. To know the readers' preference regarding the content of the farm literature.

5. To assess the extent of utilization of agricultural information by the reader farmers.
6. To judge the effectiveness of the published farm literature as evidenced from changes brought about by the farmers in their farming.
7. To know the relationship between some selected socio-economic characteristics of the readers and their reading behaviour, as well as extent of utilization of agricultural information.
8. To seek suggestions from the readers to make the farm literature more effective and popular among farmers.

Result:

1. Regarding personal and socio-economic characteristics, majority of the respondents were in middle age group, had farming as their main occupation, belonged to nuclear family system with more than 5 members in their families. They possessed at least one well for one irrigation and one pair of bullocks for their farming. They possessed a two room house to reside and had gross annual income between Rs. 10,001 to 20,000 group.
2. Higher percentage of the respondents (45.00 per cent) were with middle level education, possessed medium size of land holding and had membership in one or more than one organisations.
3. Majority of the respondents were in medium level of socio-economic status.
4. Majority of the respondents read Krushi Jivan farm magazine followed by other magazines and also Khedut Patrikas. They also read farm literature with their family members and other persons for more than five years. They could spare time of one hour or less in a week for reading according to their convenience for purpose of gaining knowledge. They had the habit of discussing on agricultural information with others, but they had no habit of noting the agricultural information of their interest.
5. It was also found that majority of the respondents were in the category of medium level of reading behaviour.
6. The readership pattern of these farmer readers included items of interesting articles, followed by look at the photographs and pictures, articles with important points in them, short and small news, contents and editorial column in descending order.
7. Fifty per cent of the respondents read some part of the farm literature followed by forty eight per cent who read completely.
8. The farmer readers preferred to read more about the plant protection measures, followed by reading about improved agricultural practices, question-answers, farmers' interviews and their experiences, improved agricultural implements, animal husbandary and dairy cultivation of fruits and vegetables respectively in descending order.
9. Majority of the respondents were of the opinion that reading the farm literature helped them in providing information in plant protection measures, created interest in their profession, enriched their knowledge about new agricultural information. It also inspired them to look for new areas in agriculture and helped in solving their problems. The farm literature also helped them in developing commercial outlook towards agriculture and in developing favourable attitude towards agriculture in adoption of new technology in respective order.
10. Majority of the respondents (74.00 per cent) were of medium level utilizers of agricultural information.

11. Majority of the respondents perceived Krushi Jivan, Krushi Go Vidya and Khedut Patrika of Sardar Smruti Kendra, Gujarat Agricultural University, Junagadh Campus as " most effective" and also perceived Narmada Kisan Parivar Patra and Krushi Jagat as " effective".
12. There were significantly positive association between farmer readers' personal and socio-economic characteristics of occupation and social participation and their reading behaviour, whereas age, education and income showed no significant association with their reading behaviour.
13. The extent of utilization of agricultural information had no significant association with their age, education, occupation, social participation and income of the farmer readers.
14. Important suggestions made by the respondents to make the farm literature more effective and popular, were for including information on beneficial schemes, month wise agricultural operations, contents of the next issue and more number of illustrations and photographs in articles. They also wanted publication of short reviews and information about plant medicines, ayurvedic treatment and home science matters on farm yield storage for their family members. They further suggested for use of easy words, short sentences, short paragraphs with bold letter size and good quality of printing papers along with useful advertisements. All these suggestions are worth noting for future improvement.

48. AUTHORS' MOTIVATION TOWARDS WRITING ARTICLES IN KRUSHI GO VIDHYA FARM MAGAZINE

YEAR : 1990

NAME OF STUDENT

N. V. Soni

MAJOR ADVISOR

Dr. V. V. Mayani

Abstract:

The KRUSHIGOVIDYA authors are playing a vital role for providing farm literature in palatable form to the farming community with a view to make desirable changes in farming practices for prosperous Indian agriculture. For writing the articles, some inner and external motives may exist in the authors. The motives prove useful in increasing the authors' motivation level towards writing articles. But on the other end, some constraints decrease the authors' motivation level for writing articles.

The authors of KRUSHIGOVIDYA from magazine have to put tangible results before the community to show their worth. And the achievement of these results depends upon the authors' motivation towards writing articles. Keeping this in view, a study entitled "AUTHORS' MOTIVATION TOWARDS WRITING ARTICLES IN KRUSHIGOVIDYA FARM MAGAZINE" was undertaken with the following specific objectives :

1. To study the selected characteristics of the authors
2. To measure the motivation level of authors towards writing articles
3. To study the relationship between authors' motivation level and their selected characteristics
4. To study the motives of authors for writing articles
5. To study the constraints faced by the authors in writing articles
6. To seek suggestion from the authors to overcome the constraints in writing articles

Result:

Majority (79.27 per cent) of the authors had medium level of motivation towards writing articles.

Majority (58.54 per cent) of the authors were belonged to the middle age group and 53.66 per cent of the authors educated up to M.Sc. level. As many as 45.12 per cent of the authors were Assistant Professors and 62.20 per cent had medium service experience. Majority (69.52 per cent) of the authors had medium writing experience and 54.88 per cent of them experienced that they had heavy workload. Majority (56.10 per cent) of the authors expressed that the facilities available in their departments were average, 74.39 per cent of the authors had medium professional development and 76.84 per cent of the authors had good reading habits.

The most important motives were perceived by the authors for writing articles were : (1) self-motivation, (2) getting popularity in the field, (3) increase writing ability, (4) helps in getting promotion, (5) provide agricultural information to peasantry, (6) helps to the farming community for prosperous Indian agriculture and (7) articles publishing in popular journals/magazines.

The most important constraints were faced by the authors in writing articles were : (1) fear about adding the name of higher officer in the articles (2) feel unhappy due to non-publication of articles (3) no facility of Artist-cum-Photographer (4) lack of office/departmental library (5) heavy workload due to unproductive works, and (6) the personal expenses are borne for figures and photographs.

The most important suggestions were perceived by the authors to overcome the constraints in writing articles were: (1) More opportunities should be given to authors for participating in various seminars/workshops/conferences/trainings etc. (2) adequates quantity of books and periodicals should be kept (3) higher officers should give guidance to their subordinates for writing articles, (4) each office/department should have own library, (5) the facility of typing work should be provided to authors, (6) unnecessary administrative burden should not be entrusted on authors, (7) the articles for seminars/workshops should be sent in time and (8) the author of the best article should be awarded in a year.

49. CONSTRAINTS IN ADOPTION OF LIME PRODUCTION TECHNOLOGY

YEAR : 1990

NAME OF STUDENT

V. S. Patel

MAJOR ADVISOR

Dr. V. V. Mayani

Abstract:

The gap between the know-how already attained and their application in the fields, is still quite large, despite of considerable advance in lime production technology. There is a wide scope for increasing the lime production per unit area. Lime is the important fruit crop of the Bhavnagar district. However, majority of the lime growers did not adopt improved line production technology due to several problems experienced by them in adoption of recommended practices. Keeping the above fact in view, the study entitled "Constraints in Adoption of lime production Technology" was undertaken with the following specific

Objectives:

1. To study the selected characteristics of the lime growers
2. To find out the lime growers' extent of adoption of lime production technology
3. To ascertain the association of lime growers' extent of adoption of line production technology with their selected characteristics.
4. To predict the extent of variation in lime growers' level of adoption caused by independent variables

5. To identify the constraints perceived by the lime growers in adoption of lime production technology
6. To seek suggestions from the lime growers to overcome the constraints in adoption of lime production technology

Result:

As many as 67.00 percent of the lime growers had large operational size of farm holding. Majority (65.00 per cent) of them had medium irrigation potentiality and 72.00 per cent had medium lime crop intensity. As many as 52.00 per cent of them were belonged to the middle age group and 59.00 per cent were educated upto primary level. Majority (67.00 per cent) of them had medium social participation and 62.00 per cent had medium lime yield index. As many as 65.00 percent of them had medium profitability index and 69.00 per cent had medium innovation proneness. Majority (54.00 per cent) of them had medium knowledge index and 63.00 per cent had medium extension participation index.

Majority (63.00 per cent) of the lime growers were medium adopter of lime production technology. Lime growers' adoption was more with respect to the practices such as; spacing (96.78 per cent), nursery management (90.00 per cent), water management (89.67 percent), organic manure (88.55 per cent) and disease control (69.36 percent).

There was positive and significant association between the lime growers' extent of adoption of lime production technology and their characteristics such as; knowledge index, lime yield index, innovation proneness, extension participation index, operational size of farm holding, profitability index, social participation and education. There was negative and significant association between lime growers' adoption and their irrigation potentiality. They were jointly contributing significantly to 79.14 per cent of the variation in the level of adoption of lime production technology. Knowledge was the most important variable directly affecting the adoption of lime production technology.

Some of the more important constraints expressed by the lime growers were: (1) irregular and insufficient electric power supply, (2) lack of awareness of importance of micro-nutrient, (3) lack of sufficient irrigation facility, (4) lack of recognition of deficiency of micro-nutrient, (5) fertilized crop become susceptible to diseases, (6) High price of fertilizer (7) high price of fungicide (8) more incidence of diseases and pests, (9) high labour wages and (10) high price of growth regulator.

Some of the more important suggestions from the lime growers to overcome the constraints in adoption of lime production technology were: (1) regular electric power supply should be made available, (2) exploration of additional irrigation facility, (3) crop insurance scheme should be evolved, (4) effective control of diseases should be evolved, (5) Training should be given to the fruit growers in relation to best orchard cultivation and (6) agricultural inputs should be subsidized.

50.	LEVEL OF KNOWLEDGE AND TRAINING NEEDS OF GROUNDNUT GROWING FARM WOMEN WITH RESPECT TO GROUNDNUT PRODUCTION TECHNOLOGY
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YEAR : 1991

NAME OF STUDENT

Ms. Kapila M. Sakaria

MAJOR ADVISOR

Dr. A. O. Kher

Abstract:

Woman is indeed a pivot around whom the family, society, rather the whole humanity moves. From ancient days, women have played a pivotal role in agriculture production in

India. In modern agriculture too, women continue to share a number of farm operations with men. Thus, the woman is the main architect of change in the rural farming.

Among the five major oilseed crops (Groundnut, Castor, Mustard, Linseed and Sesamum) grown in India, groundnut occupies the first rank both in terms of area and production however, its average yield per hectare is comparatively low.

There are many reasons for low production of groundnut. one of the major reasons is the traditional method of farming, which is due to poor knowledge of the groundnut growing farm women with respect to groundnut production technology.

Keeping this in view, a study entitled, "LEVEL OF KNOWLEDGE AND TRAINING NEEDS OF GROUNDNUT GROWING FARM WOMEN WITH RESPECT TO GROUNDNUT PRODUCTION TECHNOLOGY" was undertaken with the following specific objectives :

1. To study the characteristics of groundnut growing farm women
2. To identify the farm operations to be performed by groundnut growing farm women with respect to groundnut production technology
3. To know the level of knowledge of groundnut growing farm women with respect to groundnut production technology
4. To determine the areas of the training needs for groundnut growing farm women in relation to groundnut production technology.
5. To ascertain the association of groundnut growing farm women's level of knowledge about groundnut production technology and their selected characteristics
6. To predict the extent of variation in the level of knowledge about groundnut production technology caused by the selected characteristics of groundnut growing farm women
7. To seek some suggestions for desire, venue, duration and period of training from groundnut growing farm women.

Result:

Majority (57.00 per cent) of the respondents belonged to middle age group, 49.00 per cent of the respondents were illiterate and 66.00 per cent of the respondents had poor reading habits. As nearly three fourth (73.00 per cent) of the respondents were untrained and 66.00 per cent of the respondents had large size of family, a great majority (72.00 per cent) were from medium ratio of females to total number of family members and equal number (43.00 per cent) of respondents were from low and medium ratio of children to total number of females in the family.

Majority (41.00 per cent) of the respondents were from medium size of land holding. As many as 72.00 per cent of the respondents had medium irrigation potentiality. Majority (70.00 per cent) of the respondents were medium producer and a great majority (82.00 per cent) of the respondents were not participated in social affairs. Majority (53.00 per cent) of the respondents had low extension participation.

Major farm operations performed by the respondents in groundnut cultivation were winnowing, cleaning and grading of seed and groundnut produce, stripping, picking pods from straw and collection of pods, bagging of seeds for sowing, picking remaining seeds from the field and bagging for marketing.

Majority (71.00 per cent) of groundnut growing farm women had medium level of knowledge with respect to groundnut production technology.

The respondents possessed more knowledge with respect to weed control, soil preparation, general (flowering) and sowing. And they did not possess any knowledge about inter cropping.

The respondents had high training needs in the areas/practices viz., seed treatment, fertilizer application, plant protection, and inter cropping and low training needs in areas viz., soil preparation and weed control.

Majority (56.00 per cent) of the respondents need medium training with respect to groundnut production technology.

There was positive and significant association between knowledge level of the respondents with respect to groundnut production technology and their age, training received by them, ratio of females to total number of family members and social participation.

There was negative and non-significant association between knowledge level of the respondents with respect to groundnut production technology and their size of family and size of land holding.

Other variables viz., level of education, reading habits, ratio of children to total number of females in the family, irrigation potentiality, groundnut yield index and extension participation had not significant association with the level of knowledge of the respondents with respect to groundnut production technology.

The total contribution of these six variables viz., age, training received, size of family, ratio of females to total number of family members, size of land holding and social participation was 16.98 per cent. The contribution of training received by them and social participation was in descending order and these two variables were important in affecting the knowledge level of groundnut growing farm women with respect to groundnut production technology.

A great majority (91.00 per cent) of the respondents were desired to take training in agriculture and suggested own village, 1 to 3 days and February to April as the most convenient venue, duration and period of training, respectively.

51. EVALUATION OF LAB TO LAND PROGRAMME ORGANIZED AT JUNAGADH CAMPUS OF THE GUJARAT AGRICULTURAL UNIVERSITY

YEAR : 1991

NAME OF STUDENT

R. F. Patel

MAJOR ADVISOR

Dr. D. H. Dave

Abstract:

The Lab-to-Land programme organized by the Indian council of Agricultural Research is a major effort of the Government strategy to increase agriculture production through higher adoption of latest technology evolved by the agricultural scientists. It envisages the development of the rural people including small farmers, marginal farmers and landless labourers through a strategy of creating facilities to provide agriculture inputs, crop demonstration, field trainings and farm literature in popular language. The objectives of the present study were:

1. To study the personal and socio-economic characteristics of the respondents.
2. To ascertain the knowledge level of the respondents about the recommended crop and animal production technology under the 'Lab-to-Land' programme.
3. To determine the extent of adoption of the recommended crop production technology for field crops under the Lab-to-Land programme by the respondents.

4. To determine the extent of adoption of the recommended fruit and vegetable crop production technology under the Lab-to-Land programme by the respondents.
5. To determine the extent of adoption of the recommended animal husbandry technology for milch animals under the Lab-to-Land programme by the respondents.
6. To ascertain overall adoption levels of Recommendation or crop production and animal husbandry technology.
7. To ascertain difference in production levels before and after adopting the recommended farm technology under the 'Lab-to-Land' programme as visualized by the farmers.

Result:

1. Majority of the respondents were middle aged, educated up to primary level and had joint and medium sized family. They had low social participation, but medium to high level of extension participation. Two-third of the respondents possessed land upto 1.4 hectares and were under medium level of annual income (Rs. 3001/- to Rs.7000/-).
2. Fifty-four per cent of the respondents were growing groundnut followed by those growing cotton, bajra, vegetables and fruit crops respectively. Twenty – nine per cent possessed buffaloes and 16 per cent each had cows and goats as milch animals.
3. Majority of the respondents (58.59 per cent) possessed meium level of knowledge and 21.21 per cent were under high level of knowledge about new crop production technology recommended under Lab-to-Land programme.
4. Regarding the extent of adoption of crop production technology majority of the respondents were medium adopters, they adopted improved varieties, sowing distance, manure and fertilizer application, plant protection measures and timely hand weeding. However, only one-third of them adopted seed treatment before sowing.
5. Majority of the fruit and vegetable growers had adopted improved varities and grafts, fertilizer application, check basin and sprinkler irrigation systems, insecticide application and recommended harvesting technique. However, nobody applied fungicides. All fruit growers practiced grading before marketing, but it was not practiced by vegetable growers.
6. Regarding the extent of adoption of the recommended milk production technology majority of the buffalo and cow owners had followed feeding of Rajdan concentrates as per recommendation along with green and dry fodder. However, use of salt bricks, mineral mixture and vaccination were not adopted by the respondents.
7. All the crop growers had medium level of adoption, However, there was a good trend for moving to high level of adoption in crops grown by them.
8. Due to adoption of improved farm technology, the average crop production per hecter had increased from 5.50 to 31.9 per cent for groundnut, 21.5 to 36.6 per cent for cotton and 6.14 per cent for bajra crops. However, such increased productivity in fruit and vegetables crops and milk production could not be assessed. More concentrated efforts were required to be put in increasing production of fruits, vegetables and milk through adoption of scientific recommendations so as to increase subsidiary income of the small and marginal farmers.

52. EVALUATION OF THE INSTITUTIONAL FARMERS' TRAINING PROGRAMME CONDUCTED AT FARMERS' TRAINING CENTER, JUNAGADH DISTRICT OF GUJARAT STATE

YEAR : 1991

NAME OF STUDENT

G. K. Satrola

MAJOR ADVISOR

Dr. D. H. Dave

Abstract:

Government of India launched a scheme for training of farmers since the year 1966-67 as an integral part of High Yielding various programme. The institutional training center produce changes in creating awareness, motivation and interest among the new agricultural technology of high yielding varieties of crops. Moreover, it plays an important role in transfer of farm technology to the farmers for adoption of new innovations. Periodical evaluation of this programme is necessary to make programme really effective and attractive to the farmers. Keeping these facts in mind, the present study entitled "Evaluation of the Institutional Farmers' Training Programme Conducted At the Farmers' Training Centre, Junagadh District of Gujarat State" was undertaken with following objectives :

1. To study the personal and socio-economic characteristics of the trained farmers.
2. To know the sources of information used by the trained farmers for joining the training programme
3. To know the purpose of trained farmers for joining the training programme.
4. To find out the level of knowledge of trained farmers regarding the improved farm practices.
5. To determine the extent of adoption of the improved farm technology by the trained farmers as recommended for major field crops and animal husbandry practices.
6. To ascertain the association between extent of adoption of improved farm practices and some of the personal and socio-economic characteristics of the trained farmers (Major crop : Groundnut).
7. To study the direct and indirect effects of the selected independent variables of the trained farmers on the extent of adoption of improved practices of groundnut crop (the dependent variable).
8. To seek suggestions from the trained farmers for making the training programme more effective.

In order to realize the above mentioned objectives, hypotheses were formulated from the theoretical orientation based on literature reviewed. A sample of 100 trained farmers was selected randomly, who were trained at FTC Junagadh during kharif season of 1989 and 1990, from six villages of five talukas of Junagadh district, viz.. Vanthli, Junagadh, Keshod, Mendarda and Visavadar talukas of Junagadh district. An interview schedule was prepared in light of the objectives of the study. The data were analysed with the help of the statistical measures for testing the hypotheses.

Result:

1. Majority of the respondents belonged to young age with primary level of education, intermediate caste, had large and joint type of family and their annual income ranged from Rs. 5001 to 10,000/- having farming as the main occupation.

2. Majority of the respondents had medium socio-economic status, with no membership in any organization. They possessed medium size of land holding with 1 to 2 animals.
3. Village level workers had played important role in providing information for attending programme and the respondents joined the training programme to improve farming, to get new knowledge and to increase skill.
4. Training programme played a vital role in increasing the knowledge of the trained farmers about improved practices of groundnut and cotton crops, and to some extent for animal husbandry practices. This required to be strengthened regarding pest and disease control measures, knowledge about gobar gas plant and cross-bred cows. It also played an important role in differential adoption of the improved farm practices by the trained farmers, but that needed to be strengthened for disease control measures and feeding of fodders to farm animals.
5. There was a positive and significant association between knowledge level, education, family type, farm size, and socio-economic status with the extent of adoption of improved practices of groundnut crop of the trained farmers, but there were no significant association with age, family size and social participation.
6. Direct and indirect effects of independent variables viz., personal and socio-economic characteristics on dependent variable viz., extent of adoption of the trained farmers indicated that there was a very high and positive direct effects of knowledge level and socio-economic status on the extent of adoption of the trained farmers, followed by positive direct effects of education, size of land holding, family size and age. At the same time that the social participation and family type had negative and high direct effect.

There were positive and high indirect effects of socio-economic status, social participation, family type, size of land holding and family size through knowledge level.

7. Most of the respondents suggested that training programme be arranged during crop season, and should be of 5 days duration with a group of 25 farmers. They expected better hostel facilities, supply of farm literature and visit to demonstration plots for making the training programme more convincing and effective.

The study clearly indicated that training played a significant role in transfer of new agricultural technology among farming community, but there was good scope for improvement and strengthening of facilities available at present.

53. MILCH ANIMAL OWNERS' KNOWLEDGE, ADOPTION AND CONSTRAINTS WITH RESPECT TO IMPROVED ANIMAL HUSBANDRY PRACTICES

YEAR : 1991

NAME OF STUDENT

P. S. Gajera

MAJOR ADVISOR

Dr. V. V. Mayani

Abstract:

A study entitled, "Milch Animal Owners' Knowledge, Adoption and Constraints with respect to Improved Animal Husbandry Practices" was under taken the following objectives:

1. To develop a standardized knowledge test for measuring the knowledge level of milch owners with respect to improved animal husbandry practices.
2. To study the characteristics of the milch animal owners.
3. To measure the extent of knowledge of milch animal owners with respect to improved animal husbandry practices.
4. To ascertain the association of milch animal owners' knowledge about improved animal husbandry practices with their selected characteristics.
5. To determine the extent of adoption of improved animal husbandry practices of milch animal owners.
6. To predict the extent of variation in the level of knowledge of milch animal owners about improved animal husbandry practices caused by selected variables.
7. To identify the constraints as faced by the milch animal owners in adoption of the improved animal husbandry practices.
8. To seek suggestion from the milch animal owners to overcome the constraints in adoption of improved animal husbandry practices.

In order to achieve the above objectives a sample of 120 milch animal owners representing 16 villages of 4 talukas of junagdh district (Gujrat) was drawn by using multistage random sampling techniques. To measure the milch animal owners' knowledge about improved animal husbandry practices, a knowledge test was standardised. the data were collected with the help of structured schedule by personal interview method, the data were compiled, analyzed and interpreted in the light of objectives.

Result:

A standardized knowledge test consisted of 28 items was developed to measure the milch animal owners' extent of knowledge pertaining to improved animal husbandry practices.

There were equal number of respondent (34.17 per cent) had medium and large operational size of farm holding. As many as 67.50 per cent of the milch animal owners had medium irrigation potentially. Majority (66.67 per cent) of them had medium fodder crop intensity and nearly one-half (47.50 per cent) of the respondents had medium herd size.

Half (50.00 per cent)of the milch animal owners were belonged to the middle age group and 59.17 per cent were educated up to primary level. Majority (70.84 per cent) of the milch animal owners had dairying plus farming as the main occupation. More than half (57.50 per cent) of the respondents belonged to higher caste and 42.50 per cent of them had medium family size. Majority (68.34 per cent) of them had medium social participation and 70.00 per cent had medium milk yield index.

As many as 60.84 per cent of the milch animal owners had medium adoption index and majority (63.34 per cent) of them had medium knowledge index.

Majority (61.67 per cent) of the milch animal owners had medium extension contact. Most (85.83 per cent) of the respondents had medium extension participation index and 66.67 per cent of them had medium localite-cosmopolite value orientation.

Majority (63.34 per cent) of the milch animal owners had medium level of knowledge to improved animal husbandry practice.

There was not significant association of the level of knowledge about improved animal husbandry practices with their characteristics such as operational size of farm holding, irrigation potentiality, fodder crop intensity herd size, caste, family size and milk yield index. The age of the milch animal owners was negatively and significantly associated with their extent of knowledge. At the same time, education, occupation, social participation, adoption index, extension contact, extension participation and localite-cosmopolite value orientation of the milch animal owners, were positive and highly significant associated with the extent of knowledge about improved animal husbandry practices.

There was largest and positive direct effect of adoption index (0.690) on extent of knowledge of milch animal owners, followed by education (0.422). The milk yield index (0.148), extension contact (0.096) and operational size of farm holding (0.077) had substantial direct effects on extent of knowledge.

Majority (60.84 per cent) of the milch animal owners were medium adopters of improved animal husbandry practices. The practice wise adoption of improved animal husbandry practices by the milch animal owners were: clean milk production (63.25 per cent), animal health care (59.20 per cent), watering (59.00 per cent), housing (58.50 per cent), feeding (58.00 per cent) and breeding (48.28 per cent).

Some of the important constraints faced by the milch animal owners were: (1) lack of awareness about contagious disease, (2) lack of information about availability of anti-infective material for washing udder, (3) lack of vaccine in time, (4) lack of awareness about breeding and (5) high cost of construction of good housing.

Some of the more important suggestions from the milch animal owners to overcome the constraints in adoption of improved animal husbandry practices were: (1) provide proper guidance about animal breeding, (2) effective control measures of contagious and other diseases should be evolved, (3) regular supply of anti-infective material for washing udder should be made available, (4) remunerative price of milk should be provided to the milch animal owners and (5) provide proper guidelines about feeding practice.

54. UTILIZATION PATTERN OF THE BENEFICIARIES IN RESPECT OF THE ACTIVITIES ENCOURAGED UNDER INTEGRATED RURAL DEVELOPMENT PROGRAMME

YEAR : 1991

NAME OF STUDENT

V. C. Sarvaiya

MAJOR ADVISOR

Dr. A. O. Kher

Abstract:

Integrated Rural Development Programme is an approach towards development of area and the people through optimum development and utilization of local resources (Physical, biological and human) by bringing about necessary institutional, structural and attitudinal changes.

IRDP is a major effort of the Government strategy to alleviate rural poverty by identifying those families which are below the poverty line and providing them with means of livelihood. It envisages the development of rural people living below poverty line through a strategy of creating facilities to provide loans and subsidies for having them productive assets through nationalized banks.

Keeping this in view, a study entitled, "UTILIZATION PATTERN OF THE BENEFICIARIES IN RESPECT OF THE ACTIVITIES ENCOURAGED UNDER INTEGRATED RURAL DEVELOPMENT PROGRAMME" was undertaken with the following specific objectives :

1. To study the selected characteristics of the beneficiaries of the IRDP
2. To assess the beneficiaries' utilization pattern with respect to facilities availed under IRDP
3. To ascertain the association between level of utilization of the beneficiaries and their selected characteristics
4. To examine the change in level of income of the beneficiaries due to IRDP
5. To find out the constraints faced by the beneficiaries in availing and utilization of the benefits offered by the IRDP
6. To seek suggestions from the beneficiaries to overcome the constraints

Result:

Majority (52.00 per cent) of the respondents belonged to middle age group, illiterate (45.00 per cent) had large size of family (55.00 per cent), were participated in social activities (64.00 per cent), had medium employment (75.00 per cent), were above poverty line (57.00 per cent), had medium awareness (73.00 per cent), belonged to nuclear family (68.00 per cent) and small farmer (45.00 per cent).

Majority (73.00 per cent) of the respondents had medium level of utilization pattern.

There was positive and significant association between utilization pattern of the respondents and their age, annual income and awareness.

Majority (79.31 per cent) of the very poor respondents were crossed the poverty line. While 54.00 percent and 33.33 per cent of the very very poor and destitute respondents were crossed the poverty line. On an average 57.00 per cent of the respondents were crossed the poverty line.

Constraints of the IRDP faced by the respondents viz., (1) Loan sanctioning procedure was time consuming (2) Delay in delivery of benefits after identification (3) untimely supply of credit and (4) Credit was not easily available from the banks, were in their order of Importance.

The suggestions expressed by the beneficiaries to overcome the constraints of the IRDP viz., (1) Procedure for getting benefits for the IRDP needs to be streamlined been (2) Arrangement should have made for easy and adequate supply of credit from the bank (3) Cost of the benefit schemes should match the credit worthiness of the IRDP beneficiary and (4) Timely supply of credit were in their order of importance.

55. FACTORS AFFECTING READING BEHAVIOR OF THE FARMER READERS

YEAR : 1991

NAME OF STUDENT

M. K. Vora

MAJOR ADVISOR

Dr. A. O. Kher

Abstract:

Farm literature is indeed very useful media for transferring agricultural know-how to the peasantry. A vast literature for the use of farmers is published and is readily available at nominal rate. Not only that the literacy rate of the farmers is also increased. Despite of these favourable conditions, farmers do not make use of it at the desired level. Reading of farm literature depends on reading behaviour of the farmer readers. A number of factors may be affected to reading behaviour of the farmer readers for reading the farm literature.

Keeping this in view, a study entitled, “FACTORS AFFECTING READING BEHAVIOUR OF THE FARMER READERS” was undertaken with the following specific objectives :

- 1) To study the selected characteristics of the farmer readers.
- 2) To measure the reading behaviour of the farmer readers.
- 3) To ascertain the association between reading behaviour of the farmer readers and their selected characteristics.
- 4) To predict the extent of variation in reading behaviour of farmer readers caused by independent variables.
- 5) To know the direct and indirect effect of independent variables on reading behaviour of the farmer readers.
- 6) To find out the readers' preference of reading the content of farm literature.
- 7) To identify the weaknesses of farm literature as perceived by the farmer readers.
- 8) To seek suggestions from the farmer readers to overcome the weaknesses of farm literature.

Result:

Majority (59.00 per cent) of the respondents belonged to middle age group, educated upto primary level (54.00 per cent), had farming as their occupation (79.00 per cent), were from middle size of land holding (59.00 per cent), had medium irrigation potentiality (75.00 per cent), belonged to nuclear family (68.00 per cent), had large size of family (66.00 per cent), no social participation (52.00 per cent), medium extension participation (75.00 per cent), medium economic motivation (66.00 per cent) and medium innovation proneness (69.00 per cent).

Majority (73.00 per cent) of the respondents had medium level of reading behaviour.

There was positive and significant association between reading behaviour of the respondents and their education, type of family, social participation, extension participation and economic motivation, while there was negative and significant association between reading behaviour of the respondents and their age. They were jointly contributing significantly to 74.89 per cent variation in reading behaviour of the farmer readers. The variables, extension participation (0.363) followed by education (0.350), social participation (0.305) and economic motivation (0.143) were the most important in contributing direct effect. The economic motivation (0.407) was the most important variable in contributing indirect effect on reading behaviour of the respondents.

The most important preferences in reading the content of farm literature as given by the farmer readers were a (1) improved seeds, (2) plant protection measures and (3) recent improved agricultural practices.

The most important weaknesses of farm literature as perceived by the farmer readers were (1) less coverage of aches beneficial to farmers (2) unavailability of some important farm literature at village level (3) lack of timely information and (4) use of more technical words.

The most important suggestions given by the farmer readers to overcome the weaknesses of farm literature were s (1) farm literature should made available at village level (2) articles on schemes beneficial to farmers should be published regularly and (3) timeliness should be observed in farm publications.

56. ADOPTION OF FARM TECHNOLOGY IN WATERSHED MANAGEMENT AREA IN GONDAL SUB DIVISION OF GUJRAT STATE
YEAR: 1993
NAME OF STUDENT

C. D. Pandya

MAJOR ADVISOR

Dr. D. H. Dave

Abstract:Abstarct:

Gujarat State had started soil and water management works on watershed basis since 1976-77. The precipitation received in the State is not only inadequate, but also erratic which results into drought conditions followed by crop failures. Treatment of the rainfed area on watershed basis is, therefore, of permanent importance for optimum use of available rain water harvesting structures like farm ponds, gully plugs, check dams, etc. It increases agricultural production per unit area by adopting scientific crop management and dry farming technology. Several agricultural technologies have been developed by the scientists. The adoption of these technologies is ultimately useful for increasing the agricultural productivity. Therefore, it was felt worthwhile to take up the present study entitled "Adoption of Farm Technology in Watershed Management Area in Gondal Subdivision of Gujarat State" with the following specific objectives.

1. To know the personal and socio-economic characteristics of the farmers of watershed area.
2. To study the extent of adoption of farm technology by the farmers in watershed management area.
3. To ascertain the relationship, if any, between the farmers' extent of adoption of farm technology and selected characteristics of the adopters
4. To predict the extent of variation in the level of adoption of the farm technology in watershed management area.
5. To identify the constraints as perceived by the farmers in adoption of farm technology in watershed management area.
6. To seek suggestions from the farmers to overcome the constraints in adoption of farm technology in watershed management area.

Result:

More than one half (53.15 per cent) of the respondents had medium operational size of farm holding, 39.64 per cent of the respondents had irrigation potentiality between 0 to 25 per cent and more than half (52.25 per cent) of the respondents had groundnut crop intensity between 76 to 100 per cent. As many as 48.65 per cent of them belonged to the middle age group and 52.25 per cent were educated upto primary level, Majority (72.97 per cent) of them had farming as a main occupation, had medium social participation (68.48 per cent) and medium farm mechanization index (72.91 per cent). They had medium risk orientation (65.77 per cent), medium economic motivation (66.67 per cent) and medium extension participation (62.16 per cent) index.

Majority (64.86 per cent) of the respondents were medium adopters of mechanical measures in watershed areas. Respondents' adoption was more with respect to mechanical measures such as: land smoothening/shapping (97.30 per cent), land levelling (96,48 per cent),contour bunding (95.22 per cent) and deep ploughing (68.12 per cent).

As many as 78.38 per cent of the respondents were medium adopters of agronomical

measures in watershed areas. The practices in which agronomical measures was adopted more by the respondents were early maturing and high yielding crop varieties or hybrid varieties (94.92 per cent) proper crop rotation (92.96 per cent), optimum plant population (91.46 per cent), earthing up (91.15 per cent), inter/mix cropping (83.73 per cent), PYM/Compost manuring (83.66 per cent), vegetative bunds (83.45 per cent), interculturing (85.23 per cent) and weeding (79.43 per cent).

As many as 77.48 per cent of the respondents were medium adopters of farm technology i.e. mechanical measures and agronomical measures in watershed areas, when considered together.

There was a positive and significant association between respondents' extent of adoption of farm technology and their characteristics like operational size of farm holding, irrigation potentiality, groundnut crop intensity, education, social participation, farm mechanization index, risk orientation, economic motivation and extension participation index, there was a negative and non significant association between respondents' extent of adoption and their age. There was positive but non significant association between respondents' extent of adoption of farm technology and their occupation. They were jointly contributing significantly to 44.81 per cent of the variation in the extent of adoption of farm technology in watershed areas. Risk orientation was the most important variable directly affecting the adoption of farm technology in watershed areas.

Some of the more important constraints expressed by the respondents in adoption of mechanical measures were: lack of technical guidance about farm ponds, lack of technical guidance about contour bunding, lack of interest in nala plugging, non-conviction of merits of nala plugging, poor economic condition and lack of improved implements.

Some of the more important constraints expressed by the respondents in agronomical measures were lack of awareness awareness about mulching, lack of drought resistant varieties, permanent furrow system for crops, lack of technical guidance about strip cropping, lack of technical guidance about contour cultivation, contour cultivation consuming more time, lack of irrigation facility, high cost of fertilizers, lack of suitable implements and poor financial condition.

Some of the more important suggestions from the respondents to overcome the constraints in adoption of farm technology in watershed areas were: timely guidance about both the major group of practices, exploration of additional irrigation facility, drought resistant varieties to be evolved, ensuring local availability of chemicals, easy and timely availability of credits and need for training to farmers in relation to watershed management. They needed agricultural inputs at subsidized rates.

57. KNOWLEDGE, TECHNOLOGICAL GAP AND CONSTRAINTS OF H-6 COTTON GROWERS
YEAR : 1993
NAME OF STUDENT

B. N. Kalsariya

MAJOR ADVISOR

Dr. M. N. Popat

Abstract:

Though the number of new technologies for hybrid-6 cotton cultivation are being developed, there is a big gap between its innovations and applications on the farmers' fields. Therefore, there is lot of scope for increasing hybrid-6 cotton production per unit. In spite of these new technologies developed, the yield of hybrid-6 cotton is very low due to non adoption of latest agricultural technologies of this crop by cotton growers. There is no doubt that the knowledge about technical know-how of the cotton growers plays a vital role in its adoption. The technological gap between the recommended hybrid-6 cotton cultivation practices and its actual adoption can be minimized by increasing the knowledge of cotton growers about the new technical knowhow of the crop. But at the same time some constraints also come in the way of its application.

Considering this, the present investigation "Knowledge, Technological Gap and Constraints of Hybrid-6 Cotton Growers." Was undertaken with the following objectives:

1. To study the personal, socio-economic, psychological and communication characteristics of the hybrid-6 cotton growers.
2. To assess the extent of knowledge of hybrid-6 cotton growers with respect to improved hybrid-6 cotton cultivation technology.
3. To determine the extent of technological gaps among the hybrid-6 cotton growers under study.
4. To ascertain the relationship if any, between cotton growers' knowledge about improved hybrid-6 cotton cultivation technology and their selected characteristics.
5. To know the direct and indirect effects of the independent variables on the level of knowledge of hybrid-6 cotton growers.
6. To study the constraints experienced by farmers in adoption of hybrid-6 cotton cultivation technology.
7. To seek suggestions from the hybrid-6 cotton growers to overcome the constraints in adoption of improved hybrid-6 cotton cultivation practices.

Methodology :

In order to realize the above mentioned objectives, a sample of 150 hybrid-6 cotton growers representing 16 villages of Mahuva taluka of Bhavnagar district (Gujarat) was drawn by using multistage random sampling techniques. The data were collected with the help of structured schedule by personal interview method. The data were compiled, analysed and interpreted in the light of objectives.

Result:

The salient findings of the study were:

1. Majority of the hybrid-6 cotton growers were belonged to middle age group (52.00 per cent), having primary level of education (57.33 per cent), farming as their main occupation (68.67 per cent), medium social participation (69.33 per cent), medium economic motivation (66.00 per cent), medium mass media exposure (66.67 per cent) and medium localite-cosmopolite value orientation (60.00 per cent), respectively. About three-fourth of them had small and medium size of family (75.34 per cent),

medium technological gap (74.67 per cent) and medium extension participation index (75.34 per cent), respectively. Nearly half of the respondents were belonged to the large size of land holding (47.34 per cent).

2. Majority (69.34 per cent) of the cotton growers had medium level of knowledge with respect to improved hybrid-6 cotton cultivation technology.
3. Nearly three-fourth (74.67 per cent) of the cotton growers had medium technological gap index of improved hybrid-6 cotton cultivation technology. The practicewise technological gap of improved hybrid-6 cotton production technology. The Practice wis technological gap of inprproved hybrid-6 cottan production technology by the cotton growers was preparatory tillage (7.66 per cent), soil treatment (95.16 per cent), method of sowing (0.00 per cent), seed rate (25.16 per cent), seed treatment (36.66 per cent), sowing time (28.83 per cent), distance (5.50 per cent), Organic manure (4.00 per cent), chemical fertilizers (29.66 per cent), plant protection measures (64.33 per cent), irrigation (39.16 per cent), interculture and weeding (2.83 per cent) and harvesting (7.66 per cent).
4. The age and technological gap of the cotton growers had negative and highly significant relationship with their extent of knowledge about improved hybrid-6 cotton cultivation technology. The relationship of extent of knowledge of cotton growers about improved hybrid-6 cotton cultivation technology with their size of family, size of land holding and other occupation were not significant. The extent of knowledge about improved hybrid-6 cotton cultivation technology of the cotton growers had positive and highly significant relationship with their education, social participation, economic motivation, extension participation index, mass media exposure and localite cosmopolite value orientation.
5. The education had maximum direct effect while mass media exposure had maximum total indirect effect on knowledge level of hybrid-6 cotton growers. The most of the variables influenced through education, economic motivation, size of family, age and mass media exposure.
6. Some of the most important constraints in adoption of improved hybrid-6 cotton cultivation technology as perceived by cotton growers were: (i) high cost of insecticides (ii) crop is susceptible to pests and diseases (iii) farmers did not get remunerative price of cotton (iv) high cost of fertilizers (v) lack of technical guidance and (vi) irregular supply of electricity.
7. Some of the most important suggestions to overcome the constraints in adoption of improved hybrid-6 cotton cultivation technology as offered by the cotton growers were: (i) reasonable prices of the product be given (61.33 per cent), (ii) timely and adequate loan be made available and if failure of crop due to natural hazard loan should be considered for remission (56.66 per cent), (iii) Government should provide subsidy in seeds, fertilizers and insecticides (52.00 per cent), (iv) regularly electric power be given (44.00 per cent) and (v) fair price of hybrid cotton seeds, fertilizers and insecticides (38.66 per cent).

58. RADIO LISTENER FARMER'S ATTITUDE TOWARDS FARM RADIO BROADCASTS

YEAR : 1993

NAME OF STUDENT

P. R. Pandya

MAJOR ADVISOR

Dr. V. V. Mayani

Abstarct:

Radio considered as a creadible source of information and takes as trustworthy and prestigious medium of communication. Radio is the modern communication medium

through which agricultural innovations are transmitted to a large number of farmers within the shortest possible time over a wide area. However, the diffusion of latest agricultural technology depends to a great extent on effectiveness of farm radio broadcasts and also on the radio listener farmers' attitude towards it. With sharp focus on this fact a study entitled "Radio Listener Farmers' Attitude Towards Farm Radio Broadcasts" was undertaken with following specific Objectives :

1. To study some of the selected characteristics of members and non-members of radio listener farmers of KCM.
2. To determine the attitude of members and non-members of radio listener farmers of KCM towards FRBs.
3. To ascertain an association, if any exist between the attitude of the members and non-members of radio listener farmers of KCM towards FRBs with some their selected characteristic.
4. To reveal the difficulties faced by the members and non-members of radio listener farmers of KCM.
5. To seek important suggestions from the members and non-members of radio listener farmers of KCM for making FRBs more effective.

Methodology :

Result:

1. There was a significant difference between the characteristics such as; age, social participation index, extension participation index, innovation proneness and attitude index of radio listener farmers.
2. As many as 55.00 per cent of the members of radio listener farmers, 51.66 per cent of non-members of radio listener farmers and 50.84 per cent of the total radio listener farmers had favourable attitude towards FRBS.
3. There was a positive and highly significant association between the members of radio listener farmers' attitude towards FRBs and their characteristics like education, social participation index, size of land holding, socio economic status index, ownership of radio and innovation proneness.
4. There was a positive and significant association between the members of radio listener farmers' attitude towards FRBS and their characteristics like risk preference and regularity in listening.
5. There was a positive and highly significant association between the non-members of radio listener farmers' attitude towards FRBs and their characteristics like education, social participation index, size of land holding, socio-economic status index, ownership of radio and innovation proneness.
6. There was a positive and significant association between the non-members of radio listener farmers' attitude towards FRBs and their characteristics like risk preference and regularity in listening.
7. Majority (52.00 per cent) of the members and non members of radio listener farmers of KCM faced difficulties, while listening to FRBs.

The difficulties faced by the members and non-members of radio listener farmers were more or less same. The Most important difficulties faced by them were:

- i) Difficulty in understanding technical words.
- ii) No sufficient time allotted to FRBs, and
- iii) Difficulty to remember statistical information.

8. The suggestions offered by the members and non-members of radio listener farmers were more or less same. The most important suggestions were:
 - i) Broadcasts session should be at evening,
 - ii) Time allotted to FRBs should be increased
 - iii) Statistical information should be broadcasted twice in a programme.
9. Most of the members and non-members of radio listener farmers preferred 'discussion' and 'question-answer', as the modes of presentation.
10. Most of the members and non-members of radio listener farmers of KCM preferred 'progressive farmer' and 'scientists of agricultural university', as the preference of talkers for FRBs.
11. Most of the members and non-members of radio listener farmers preferred high yielding varieties, 'Plant protection', 'current farm operations', improved farm

59. MANGO GROWERS' KNOWLEDGE AND ADOPTION OF IMPROVED MANGO CULTIVATION PRACTICES

YEAR : 1993

NAME OF STUDENT

P. S. Gorfad

MAJOR ADVISOR

Dr. M. A. Munshi

Abstract:

The gap between the know-how already attained and their application in fields, is still quite large, despite of considerable advancement in mango production technology. There is a wide scope for increasing the mango production per unit area. Among all fruit crops, mango is the most thrived age old major cash crop of the Junagadh district. However, Majority of the mango growers did not know and had not yet adopted the improved mango cultivation practices, due to lack of technical knowledge and several constraints experienced by them in adoption of recommended mango cultivation practices. Keeping the above fact in view, the study entitled "Mango Growers' Knowledge and Adoption of Improved Mango Cultivation Practices" was undertaken with the following specific Objectives :

1. To develop a standardized knowledge test for measuring the knowledge level of mango growers about improved practices of mango cultivation.
2. To measure the extent knowledge of mango growers about improved practices of mango cultivation.
3. To study characteristics of the mango growers.
4. To ascertain the association of mango growers' knowledge about improved mango cultivation practices with their selected characteristics.
5. To determine the extent of adoption of improved mango cultivation practices by mango growers
6. To identify the constraints as perceived by the mango growers in adoption of improved mango cultivation practices
7. To seek the suggestions from the mango growers to overcome the constraints in mango cultivation.

Result:

Majority of the mango growers (71.00 per cent) had large operational size of farm

holding. Whereas, 59.00 per cent of them had medium irrigation potentiality. More than one-half (56.00 per cent) of the mango growers belonged to middle age group and 52.00 per cent of the respondents were educated upto secondary level. There were equal number of respondents (36.00 per cent) had medium and large family size. Majority (70.00 per cent) of the farmers had medium social participation and 76.00 per cent of them had medium mango yield index. As many as 63.00 per cent of the mango growers had medium adoption index, whereas, 64.00 per cent of them had medium knowledge index. Two-third (66.00 per cent) of the mango growers had medium extension contact. Majority (64.00 per cent) of the mango growers had medium level of knowledge of improved mango cultivation practices.

There was non significant association of the extent of knowledge about improved mango cultivation practices with their characteristics such as, operational size of farm holding, irrigation potentiality and mango yield index. The age and family size of the mango growers were negatively and significantly associated with their extent of knowledge. At the same time, education, social participation, adoption index and extension contact of the mango growers were positively and significantly associated with the extent of knowledge about improved mango cultivation practices.

Majority (63.00 per cent) of the mango growers were medium adopters of improved mango cultivation practices. The practice wise adoption of improved mango cultivation practices by the mango growers were : variety (100.00 per cent), planting distance (91.50 per cent), organic manure (81.50 per cent), tillage (79.25 per cent), irrigation (75.75 per cent), chemical fertilizer (75.25 per cent), inter cropping (70.25 per cent), insect_pest control (46.50 per cent), use of hormones (32.75 per cent) and diseases control (28.00 per cent).

Some of the important constraints as perceived by the mango growers were: (1) irregular and insufficient power supply, (2) lack of modern spraying equipments (3) lack of awareness of recommendations about insect/pest control (4) high prices of fertilizers (5) lack of technical know-how about diseases control, (6) high prices of hormones, (7) lack of awareness of recommendation about chemical fertilizers, (8)lack of improved agricultural implements, (9) high prices of insecticides and pesticides and (10) lack of technical know-how about disease control.

Some of the more important suggestions from the mango growers to overcome the constraints in adoption of improved mango cultivation practices were: (1) regular electric power supply should be made available, (2) crop insurance scheme should be introduced, (3) effective control measures for pests and diseases should be evolved, (4) priority should be given to mango growers for getting electric connections and (5) agricultural inputs should be subsidised.

60. A STUDY OF ADOPTION & KNOWLEDGE OF THE WHEAT GROWERS WITH RESPECT TO RECOMMENDED WHEAT PRODUCTION TECHNOLOGY

YEAR: 1993

NAME OF STUDENT

P. B. Khodifad

MAJOR ADVISOR

Dr. M. A. Munshi

Abstract:

Wheat is one of the most important food grain of the India and it is staple food for millions of people. Its increased production leads India towards self-sufficiency, atleast in case of food grains.

Bhavnagar is the third largest wheat growing district of the Gujarat State. It occupies

69,400 hectares under irrigated wheat cultivation with an annual production of 1,35,100 tonnes against 7.47 lakh hectares and 14.43 lakh tonnes production of the State, respectively (Anonymous, 1992).

Despite the considerable advances in improved wheat production technology and enough opportunity to increase production by adoption of the same, there is still a wide gap between average wheat production (1946 kg/ha) of the district and potential yield (4098 kg/ha) reported at wheat research station (Anonymous, 1992). No doubt, extension functionaries are being played their role in dissemination of improved wheat technology, however, all the wheat growers have not adopted and even does not know about the same. Therefore, it is essential to enhance the diffusion of improved wheat production technology through various extension programmes. But, before or during the diffusion process of improved wheat production technology, it is necessary to know the extent of adoption and knowledge level, whatever existed, of the wheat growers for planning and formulating strategies of extension programmes.

Keeping this in view, the study entitled "A Study of Adoption and knowledge of the wheat Growers in Respect of Recommended Wheat Production Technology" was undertaken with the following objectives:

1. To study the selected characteristics of the wheat growers
2. To determine the sources of information utilized by the wheat growers
3. To ascertain the knowledge level of the wheat growers about recommended wheat production technology
4. To study the extent of adoption of recommended wheat production technology by the wheat growers.
5. To study the relationship, if any, between the extent of adoption of the recommended wheat production technology by the wheat growers and their selected characteristics.
6. To study the constraints in adoption of recommended wheat production technology and to seek suggestions to overcome the same.

Result:

1. Majority of the wheat growers were from middle age group (67.50 per cent), had medium extension participation (68.33 per cent), medium farm mechanisation index (69.17 per cent) and medium risk orientation (61.67 per cent). More than half (51.67 per cent) of the wheat growers had possessed medium size of land holding. Nearly equal percentage of wheat growers were from low (31.67 per cent) and medium (29.17 per cent) social participation. Similarly, more or less equal percentage of the wheat growers had low (40.83 per cent) and medium (42.50 per cent) annual income. As many as 41.67 per cent of the wheat growers had education upto primary level only.
2. The most important sources of information utilized by the wheat growers for getting information about recommended wheat production technology were : village level workers (93.33 per cent), neighbours (91.67 per cent), friends (90.00 per cent), relatives (75.00 per cent), progressive farmers (73.33 per cent) and radio (63.33 per cent).
3. Majority (69.17 per cent) of the wheat growers had medium knowledge about recommended wheat production technology.
4. Majority (68.33 per cent) of the wheat growers had medium adoption of recommended wheat production technology.

5. Wheat growers' adoption was more with respect to preparatory tillage, (85.21 per cent), method of sowing (80.21 per cent), seed rate (70.42 per cent), spacing (70.21 per cent), improved variety (68.54 per cent), time of sowing (63.33 per cent) and crop rotation (63.13 per cent). While their adoption was less with respect to irrigation (53.54 per cent), weed control (46.94 per cent), fertilizer application (39.35 per cent) and plant protection (30.41 per cent).
6. Wheat growers' adoption of recommended wheat production technology was significantly related with their characteristics like education, size of land holding, social participation, annual income, farm mechanisation index, extension participation, risk orientation and knowledge level. But it was non significantly related with their age.
7. The most important constraints faced by the wheat growers in adoption of recommended wheat production technology were: low price of wheat in market (ranked first), high cost of inputs (second), lack of knowledge about recommended wheat technology (third), inadequate and irregular electricity supply (fourth) and irregular and inadequate supply of canal irrigation (fifth).
8. The most important suggestions offered by the wheat growers to overcome the constraints in adoption of recommended wheat production technology were : price of the wheat in market should be increased (ranked first), price of the inputs should be reasonable (second), training should be imparted to the wheat growers (third), and proper guidance should be provided regularly by village level workers (fourth).

61. KNOWLEDGE, TECHNOLOGICAL GAP AND CONSTRAINS OF GROUNDNUT GROWERS

YEAR: 1993

NAME OF STUDENT

D.A. Baidiyavadra

MAJOR ADVISOR

Dr. M. A. Munshi

Abstract:

Though the number of new technologies for groundnut cultivation are being developed, there is a big gap between its innovations and applications on the farmers' fields. Therefore, there is lot of scope for increasing groundnut production per unit area. In spite of these new technologies attained, the yield of groundnut is very low due to non adoption of latest agricultural technologies of this crop by groundnut growers. There is no doubt that the knowledge about technical know-how of the groundnut growers plays a vital role in its adoption. The technological gap between the recommended groundnut cultivation practices and its actual adoption can be minimized by increasing the knowledge of groundnut growers about the new technical know-how of the crop. But at the same time some constraints also come in the way of its application.

Considering this, the present investigation entitled "Knowledge, Technological gap and constraints of Groundnut Growers" was undertaken with the following objectives:

1. To study the personal, socio-economic, psychological and communication characteristics of the groundnut growers.
2. To assess the groundnut growers' knowledge about improved groundnut production technology.
3. To determine the extent of technological gaps among the groundnut growers.
4. To ascertain the relationship if any, between groundnut growers' knowledge and their selected characteristics.

5. To know the direct and indirect effects of the independent variables on the knowledge level of groundnut growers.
6. To study the constraints experienced by farmers in adoption of recommended groundnut cultivation practices.
7. To seek suggestions from the groundnut growers to overcome the constraints in adoption of improved groundnut cultivation practices.

In order to realize the above-mentioned objectives, a sample of 120 groundnut growers was selected proportionately by random sampling technique from 6 villages of Bhanvadtaluka of Jamnagar district (Gujarat). The data were collected with the help of structured schedule by personal interview method.

The data collected were processed, tabulated, classified, analysed and given statistical treatments as mean, standard deviation, percentage, indices, coefficient of correlation and path coefficient analysis was carried out in the light objectives.

Result:

The salient findings of the study were:

1. Majority of the groundnut growers were belonged to middle age group (51.67 per cent), having primary level of education (60.00 per cent), large size of land holding (51.67 per cent), medium economic motivation (67.50 per cent), medium level of extension participation (63.34 per cent) and medium localite-cosmopolite value orientation (56.67 per cent). More than two-third of them had small and large size of family (70.17 per cent), medium social participation (69.17 per cent) and medium technological gap (70.84 per cent). Nearly two-third of the respondents were belonged to medium mass media exposure (65.84 per cent).
2. Majority (67.51 per cent) of the groundnut growers had medium level of knowledge with respect to improved groundnut production technology.
3. More than two-third (70.84 per cent) of the groundnut growers had medium technological gap index of improved groundnut production technology. The practice wise technological gap of improved groundnut production technology by the groundnut growers were; Soil treatment (96.17 per cent), Plant protection measures (71.00 per cent), Inter cropping (55.00 per cent), Organic manure (45.25 per cent), Chemical fertilizers (39.00 per cent), Irrigation (32.00 per cent), Variety (22.00 per cent), Sowing time (19.00 per cent), Seed rate (17.00 per cent), Seed treatment (11.04 per cent), Distance (8.53 per cent), Preparatory tillage (6.98 per cent), Harvesting (6.00 per cent), Inter culturing and weeding (3.01 per cent), Method of sowing (0.00 per cent).
4. The age and technological gap of the groundnut growers had negative and highly significant relationship with their extent of knowledge about improved groundnut production technology. The relationship of extent of knowledge of groundnut growers about improved groundnut production technology with their size of family and size of land holding were not significant. The extension participation of groundnut growers had positive and significant relationship with their extent of knowledge about improved groundnut production technology. The extent of knowledge about improved groundnut production technology of the groundnut growers had positive and highly significant relationship with their education, social participation, economic motivation, mass media exposure and localite-cosmopolite value orientation.

5. The education had maximum direct effect, while economic motivation had maximum total indirect effect on knowledge level of groundnut growers. The most of the variables influenced through education, economic motivation and family size.
6. Some of the most important constraints in adoption of improved groundnut production technology as perceived by groundnut growers were:
 - (i) Farmers are not getting remunerative price of groundnut.
 - (ii) Non availability of finance in time.
 - (iii) High cost of seeds.
 - (iv) Fluctuation of groundnut price in the market.
 - (v) Lack of irrigation facility.
7. Some of the most important suggestions to overcome the constraints in adoption of improved groundnut production technology as offered by the groundnut growers were:
 - (i) Farmers should be protected by crop insurance scheme (45.83 per cent).
 - (ii) Remunerative price of produce should be made available (41.66 per cent).
 - (iii) Village level worker should frequently contact the farmers to make them aware about the new farm technology (35.83 per cent).
 - (iv) Inputs should be supplied at subsidized rate (31.66 per cent).
 - (v) Technical guidance regarding new farm technology should be given to the farmers in time (26.66 per cent).

62. A STUDY ON JOB SATISFACTION AND JOB INVOLVEMENT OF VILLAGE LEVEL WORKERS WORKING UNDER T AND V SYSTEM IN JUNAGADH DISTRICT OF GUJARAT STATE

YEAR: 1995

NAME OF STUDENT

S. M. Nandvana

MAJOR ADVISOR

Dr. M. N. Popat

Abstract:

Training and visit system has been introduced in Gujarat State since April, 1978. The T and V system is playing a crucial role in transfer of latest agricultural technology to the farmers' fields. Village Level Extension Worker (VLW) is the pivotal person working under T and V system. He is the grass root worker and the backbone of the T and V system and forms the vital link between the farmers and the Government Machinery. VLWs receive periodical training from the AEOs and SMSs at the interval of each fortnight on current field operations. A well-designed schedule of visit of the farmers by the VLW is suggested under this system. A regular visit of contact farmers during a fortnight is considered a pre condition for the success of this system, because the transfer of farm technology among the farmers depends on efficiency of the VLWs under his jurisdiction. The credibility and effectiveness of T and V system depends to a considerable extent on VLWs job satisfaction and job involvement. In view of this, the study was undertaken to explore the "Job Satisfaction and Job Involvement of VLWs working under Training and Visit system in Junagadh District of Gujarat State" with the following specific objectives:

1. To study the selected personal, psychological and organizational characteristics of the VLWs.
2. To determine the level of job satisfaction and job involvement of the VLWs working under T and V system.

3. To ascertain an association, if any, exists between the level of job satisfaction and job involvement of VLWs and some of their selected personal, psychological and organizational characteristics.
4. To explore the intercorrelation of selected characteristics of VLWs.
5. To study the difficulties faced by VLWs in performing their duties.
6. To seek suggestions from the VLWs to improved their level of job satisfaction and job involvement.

Result:

1. Majority of the VLWS (70.67 per cent) belonged to middle age group, having matric or nonmetric with diploma in Agriculture (93.34 per cent). More than two third (68.00 per cent of them had acquired inservice training and had permanent family obligation (73.33 per cent).
2. Majority of the VLWS had average level of achievement Motivation (69.33 per cent) and attitude towards Extension work (69.33 per cent).
3. Majority of the VLWS had medium level of job stress (70.67 per cent), communication behaviour (66.67 per cent), interpersonal communication (72.00 per cent) and about half of VLWs had average level of facility index (50.67 per cent).
4. Majority of the VLWs (68.00 per cent) had expressed medium level of job involvement and two third of them (66.67 per cent) expressed medium level of job Satisfaction.
5. There was positive and significant association between job satisfaction of VLWs and their attitude towards extension work, communication behaviour, inter personal communication and job involvement.
6. There was positive and significant association between job involvement of VLWs and their attitude towards extension work, job stress, interpersonal communication and job satisfaction.
7. The administrative difficulties faced by VLWs were (i) Travelling allowances was not received in time, (ii) No separate facility of office and (iii) vacant posts were not filledup in time.
8. The technical difficulties faced by VLWs were : (i) useful literature was not provided for performing their duties, (ii) Incomplete technical guidance from higher officers and (iii) solution of reported problems were not received in time from higher authority.
9. The personal difficulties faced by VLWs were: (i) Vehicle facility was not provided for the official duties, (ii) Children's education suffered due to stay in village, (iii) There was very difficult to reach interior villages due to lack of approach roads.
10. Some of the most important suggestions offered by VLWs to overcome the difficulties in performing their duties: (i) loans to purchase of moped or motorcycle should be provided to VLWs for performing their duties smoothly (ii) travelling allowances should be provided in time (iii) separate office facilities should be provided.

63. A STUDY OF KNOWLEDGE, ADOPTION AND CONSTRAINTS OF CHIKU GROWERS' IN JUNAGADH DISTRICT OF GUJARAT STATE

YEAR: 1996

NAME OF STUDENT

M. M. Dangar

MAJOR ADVISOR

Dr. V. B. Sakaria

Abstract:

The gap between the know-how already attained and their application in fields, is still

large despite of considerable advancement in chiku production technology per unit area. Chiku is the important fruit crop of the Junagadh district. However, majority of the chiku growers did not know and had not yet adopted the improved chiku cultivation practices, due to lack of technical knowledge and several constraints. experienced by them in adoption of recommended chiku cultivation practices. Keeping the above fact in view, the study entitled. "A STUDY OF KNOWLEDGE, ADOPTION AND CONSTRAINTS OF CHIKU GROWERS' IN JUNAGADH DISTRICT OF GUJARAT STATE." was undertaken with following specific objectives:

1. To study the characteristics of the chiku growers.
2. To measure the extent of knowledge of chiku growers about improved practices of chiku cultivation.
3. To ascertain the association of chiku grower's knowledge about improved chiku cultivation practices with their selected characteristics.
4. To determine the extent of adoption of improved chiku cultivation practices by chiku growers.
5. To ascertain the association of chiku growers' extent of adoption of improved chiku cultivation practices with their selected characteristics.
6. To identify the constraints as perceived by the chiku growers in adoption of improved chiku cultivation practices.
7. To seek the suggestion from the chiku growers to overcome the constraints faced by them in adoption of improved chiku cultivation practices.

In order to realize the above objectives, a sample of 100 chiku growers, representing 6 villages of two talukas (Vanthali and Mangrol) of Junagadh district was drawn by using multistage random sampling technique. To measure the chiku growers' knowledge about improved cultivation practices, a teacher's made knowledge test was used. The chiku growers' extent of adoption of improved chiku cultivation practices, the adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were compiled, analysed and interpreted in the light of specific objectives.

Result:

Majority of the chiku growers (65.00 per cent) had large operational size of farm holding. Whereas, 56.00 per cent of them had medium irrigation potentiality. More than one-half (58.00 per cent) of the chiku growers belonged to middle age group and 55.00 per cent of the respondents were educated up to secondary level. There were (38.00 per cent) of respondents belonged to medium size of family. Majority (62.00 per cent) of the farmers had medium social participation and 60.00 per cent of them had medium chiku yield index. As many as 55.00 per cent of the chiku growers had medium adoption index. whereas, 66.00 per cent of them had medium knowledge index. Two third (70.00 per cent) of the chiku growers had medium extension contact.

There was non significant association of the extent of knowledge about improved chiku cultivation practices with their characteristics such as, operational size of farm holding, irrigation potentiality and chiku yield index.

The age and family size of the chiku growers were negatively and significantly associated with their extent of knowledge. At the same time, education, social participation, adoption index and extension contact of the chiku growers were positively and significantly associated with the extent of knowledge about improved chiku cultivation practices.

There was non significant association of the extent of adoption of improved chiku cultivation practices with their characteristics such as, operational size of farm holding, irrigation potentialy, and chiku yield index. The age and family size of the chiku growers were negatively and significantly associated with their extent of adoption. At the same time, education, social participation, and extension contact of the chiku growers were positively and significantly associated with the extent of adoption of improved chiku cultivation practices.

Majority (55.00 per cent) of the chiku growers were medium adopters of improved chiku cultivation practices. The practicewise adption of improved chiku cultivation practices by the chiku growers were:

- (A) Cultural Practices (1) Variety 100.00 per cent (2) Planting distance: 90.00 per cent (3) Tillage: 89.66 per cent
- (B) Manurial Practices: (1) Organic manure :79.25 per cent (2) Chemical Fertilizer: 75.25 per cent
- (C) Plant protection measures practices (1) Insect/pest control: 44.25 per cent (2) Disease control: 20.00 per cent
- (D) Irrigation practices: (1) Irrigation 77.00 per cent
- (E) Other practices (1) Inter cropping: 65.00 per cent (2) Micronutrients: 00.00 percent (3) Use of hormones: 15.00 per cent

Some of the important constraints as perceived by the chiku growrs were:

- (1) Irregular and insufficient electric power supply
- (2) Lack of modern spraying equipment
- (3) Fertilized crop more susceptible to disease
- (4) A. High prices of fertilizers
B. Lack of recognition of deficiency
- (5) Lack of awarness of reco. About insect/pest control
- (6) High prices of fungicides
- (7) High price of growth regulators
- (8) Lack of improved agricultural impliments
- (9) High prices of insecticides and pesticides.
- (10) High price of organic manure.

Some of the more improtant suggestion from the chiku growers to overcome the constraints in adoption of improved chiku cultivation practices were:

- (1) Regular electric power supply should be made available
- (2) Exploration of additional irrigation facility
- (3) Effective control measures for pests and diseases should be evolved
- (4) Crop insurance scheme should be introduced
- (4) Priority should be given to chiku growers for getting electric connections
- (6) Agricultural inputs should be subsidised
- (7) Training should be given to the fruit growers in relation to the best orchard management

64. A STUDY ON TRAINING NEEDS OF HYBRID COTTON GROWERS**YEAR: 1996****NAME OF STUDENT**

H. M. Kansagara

MAJOR ADVISOR

Dr. M. N. Papat

Abstract:

Cotton is the most thrived age-old major fibre crop as well as the cash crop of the Gujarat State. The cultivation technology of hybrid varieties of cotton is complex and sophisticated. There is a wide gap between its innovations and applications on the farmers field. Hence there is a lot of scope for increasing hybrid cotton production per unit area. In spite of these new technologies developed, the yield of hybrid cotton is low due to non adoption of latest agricultural technology by hybrid cotton growers. It requires a thorough understanding and repeated practice of different skills on the part of the hybrid cotton growers to reap rich harvests. Therefore, the hybrid cotton growers should be trained in specific operational and technical know-how and skills embracing all phases of production for maximizing their economic returns. Keeping this fact in mind, the present investigation "A Study on Training Needs of Hybrid Cotton Growers" was undertaken with the following specific objectives:

1. To study some of the personal, socio-economic and extension communication characteristics of the hybrid cotton growers.
2. To determine the training needs of hybrid cotton growers in relation to hybrid cotton cultivation.
3. To study the association, if any, exists between the selected characteristics of the hybrid cotton growers with their training needs.
4. To know the direct and indirect effects of the independent variables on the training needs of hybrid cotton growers.
5. To ascertain the relative suitability of venue, season, duration, size of training group and extension methods for the hybrid cotton growers in relation to hybrid cotton.

In order to realize the above-mentioned objectives, a sample of 100 hybrid cotton growers representing 10 villages of Halvad taluka of Surendranagar district (Gujarat) was drawn by using multistage random sampling techniques. The data were collected with the help of structured interview schedule by personal interview method. The data were compiled, analysed and interpreted in the light of objectives.

Result:

The salient findings of the study were:

1. Majority of the respondents belonged to middle age group (58 per cent), medium experience in hybrid cotton cultivation (58 per cent), their village far away from taluka place (60 per cent), medium area under hybrid cotton (60 per cent), higher total annual income (88 per cent), medium extension participation (55 per cent), medium extension contact (52 per cent) and medium media exposure (56 per cent). Nearly one-third of the respondents were having priming level of education (31 per cent), nearly half of the respondents belonged to the medium size of land holding (47 per cent) and more than two-fifth of the respondents belonged to medium social participation (44 per cent).
2. Majority (62 per cent) of the hybrid cotton growers needs medium training in relation to hybrid cotton cultivation.

3. The age, size of land holding and area under hybrid cotton had positive and highly significant association with training needs of hybrid cotton growers. The association of training needs of hybrid cotton growers with their distance of village from taluka place and total annual income were not significant. The training needs of hybrid cotton growers had negative and highly significant association with their education, experience in hybrid cotton cultivation, social participation, extension participation, and extension contact and media exposure.
4. The experience in hybrid cotton cultivation had maximum direct effect while extension participation had maximum total indirect effect on training needs of hybrid cotton growers. The most of the variables influenced through education, experience in hybrid cotton cultivation, size of land holding, social participation and age.
5. For effective training programmes, the respondents suggested the following:
 Venue.....At the village level
 Season.....before onset of hybrid cotton monsoon
 Duration.....3 to 4 size of training group up to 25 farmers
 Extension methods.....Demonstration with discussion.

65. DEVELOPMENT AND APPLICATION OF A STANDARDISE KNOWLEDGE TEST FOR SUMMER GROUNDNUT PRODUCTION TECHNOLOGY

YEAR: 1996

NAME OF STUDENT

M. I. Amir

MAJOR ADVISOR

Dr. M. A. Munshi

Abstract:

The gap between the know-how already attained and their application in fields, is still quite large, despite of considerable advancement in summer groundnut production technology. There is wide scope for increasing the summer groundnut production per unit area. In spite of the numbers of new technologies for summer groundnut, the yield of summer groundnut is very low due to non adoption of latest agricultural technologies of this crop by summer groundnut growers. There is no doubt that the knowledge about technical know-how of the summer groundnut growers plays a vital role in its adoption. However, majority of the summer groundnut growers did not know and had not yet adopted the improved summer groundnut production technology, due to lack of technical knowledge and several constraints experienced by them in adoption of recommended summer groundnut production technology. Keeping the above fact in view, the study entitled "Development and application of a standardize knowledge test for summer groundnut production technology" was undertaken with the following specific objectives:

1. To develop a standardise knowledge test for measuring the knowledge level of summer groundnut growers about summer groundnut production technology.
2. To measure the extent of knowledge of summer groundnut growers about improved practices of summer groundnut production technology by using the standardised knowledge test.
3. To study the characteristics of the summer groundnut growers.
4. To ascertain the association of summer groundnut grower's knowledge about improved summer groundnut production technology with their selected characteristics.
5. To identify the constraints as faced by the summer groundnut growers in adoption of improved summer groundnut production technology.

6. To seek the suggestions from the summer groundnut growers to overcome the constraints in summer groundnut production technology.

In order to realize the above-mentioned objectives, a sample of 120 summer groundnut growers were selected by proportionate random sampling technique from 6 villages of Veraval, Una and Talala taluka of Junagadh district (Gujarat). The data were collected with the help of structured schedule by personal interview method.

The data collected were processed, tabulated, classified, analysed and given statistical treatments as mean, standard deviation, percentage, indices, coefficient of correlation and regression analysis were carried out in the light of objectives.

Result:

Slightly less than one-half (47.50 per cent) of the respondents had small operational size of land holding. Whereas, 85.83 per cent of them had medium irrigation potentiality. More than one half (59.16 per cent) of the summer groundnut growers belonged to middle age group and 50.00 per cent of the respondents were educated upto primary level. Majority (70.17 per cent) of the respondents had large and medium size of family. Majority (71.67 per cent) of the summer groundnut growers had medium social participation. Majority (67.50 per cent) of the respondents had medium groundnut yield index. Majority (73.33 per cent) of the summer groundnut growers had medium economic motivation. More than half (54.17 per cent) of the summer groundnut growers has medium extension participation. Majority (70.83 per cent) of the summer groundnut growers had medium level of knowledge about improved summer groundnut production technology.

The negative and non-significant association was observed among the extent of knowledge of summer groundnut production technology and their characteristics viz., operational size of land holding, age and family size. While the positive and non significant association was observed with irrigation potentiality. At the same time, education, social participation, groundnut yield index, economic motivation, adoption index and extension participation was positively and significantly associated with the extent of knowledge about improved summer groundnut production technology.

The total contribution of these six variables viz., education, social participation, groundnut yield index, economic motivation, adoption index and extension participation was 69.37 per cent. The contribution of groundnut yield index, social participation, education, economic motivation and adoption index was in descending order and these five variables were important in affecting the knowledge level of summer groundnut growers with respect to summer groundnut production technology.

Majority (72.50 per cent) of the summer groundnut growers were medium adopters of improved summer groundnut production technology. The practice wise adoption of improved summer groundnut production technology by the summer groundnut growers were; Primary tillage and land leveling (98.33 per cent), use of improved varieties of summer groundnut (90.28 per cent) seed treatment (90.00 per cent), sowing distance (83.33 per cent), weed control (82.08 per cent), plant protection (81.66 per cent), use of Fym /compost (79.17 per cent), use of chemical fertilizers (68.75 per cent), seed rate (60.83 per cent) irrigation (41.04 per cent), time of sowing (40.00 per cent), soil testing (8.33 per cent) and mulching (zero per cent).

Some of the important constraints as perceived by the majority of the summer groundnut growers were:

1. Irregular electricity supply
2. High cost of seed

3. Farmers did not get remunerative price of groundnut
4. Non availability of finance in time and as per requirement
5. Uncertainty of available ground water
6. Fluctuation of groundnut price in the market
7. High wages of labours
8. High cost of fertilizers
9. Non availability of labours at the time of harvesting
10. Difficult to get soil analysis report in time.

Some of the more important suggestion from majority of the summer groundnut growers to overcome the constraint in adoption of improved summer groundnut production technology were:

1. Regular supply of electricity must be available for irrigation purpose
2. Remunerative price of produce should be made available
3. Sufficient and timely credit facility should be made available
4. Price of fertilizers/ weedicides/ fungicide should be reduced
5. Improved implements should be available at subsidized rate
6. Technical guidance regarding new farm technology should be given to the farmers
7. Training should be given to the farmers in relation to new farm technology.

66. GRAM GROWERS' KNOWLEDGE ABOUT GRAM PRODUCTION TECHNOLOGY

YEAR: 1996

NAME OF STUDENT

B. S. Dokal

MAJOR ADVISOR

Dr. A. O. Kher

Abstract:

The gap between the know-how already attained and their application in the fields, is still quite large, despite of considerable advances in gram production technology. There is a wide scope for increasing the gram production per unit area. Gram is the most important pulse crop of ghed area of Gujarat state. However, majority of the gram growers did not know and adopt the improved gram production technology. Knowledge of the farmers plays an important role in adoption of improved agricultural technology, but at the same time, various constraints also come in the way of its application. Keeping the above fact in view, the study entitled, "Gram Growers' Knowledge about Gram Production Technology" was undertaken with the following specific objectives

1. To develop a standardised knowledge test for measuring the knowledge level of gram growers about improved gram production technology.
2. To measure the extent of knowledge of gram growers about improved gram production technology.
3. To study the selected character is ties of gram growess.
4. To ascertain the association of gram growers' knowledge about improved gram production technology with their selected characteristics.
5. To study the extent of variation in gram growers' knowledge about improved gram production technology caused selected characteristics.
6. To identify the constraints as perceived by gram growers in adoption of gram production technology.

7. To seek suggestions from the gram growers to overcome the constraints in adoption of gram production technology.

In order to realize the above-mentioned objectives, a sample of 120-gram growers representing 8 villages of ghed area of Junagadh district was drawn by using purposive and proportionate multistage random sampling techniques. The data were collected with the help of structured schedule by personal interview method. The data were compiled, analysed and interpreted in the light of objectives.

Result:

The salient finding of the study were:

1. A standardized knowleged test consisted of 30 items was developed to measure the gram growers' extent of knowledge about gram production technology.
2. Majority of the gram growers (74.17 per cent) had medium level of knowleged with respect to gram production technology.
3. Majority of the gram growers were belonged to young and middle age groups (80.00 per cent), having primary level of education (72.50 per cent), low social participation (85.00 per cent), medium risk orientation (62-50 per cent), low to medium annual income (76.67 per cent), medium yield index (60.83 per cent), medium extent to adoption (68.33 per cent), medium extension participation (86.67 per cent) and medium localite cosmopolite value orientation (66.67 per cent). Nearly half of the respondents (49.17 per cent) were belonged to the medium size of land holding.
4. The education, social participation, gram yield index, extent of adoption of improved practices and extension participation were significantly and positively associated with knowledge level of gram growers. The age and land holding were non-significantly and negatively associated with knowledge level of gram growers. The associations between risk orientation, annual income and localite cosmopolite value orientation with knowledge level of gram growers were positive and non-significant.
5. Five significantly correlated variable (education, social participation, yield index, adoption of improved practices and extension participation contributed towards 67.03 per cent of variation in the level of gram growers' knowledge. The calculated 't' values for partial regression coefficient were significant in case of adotion index and extension participation index. The order of contribution of these five variables in descending order was: adoption index, social participation index, extension participation index, education and yield index.
6. Some of the most important constaints in adoption of improved gram production technology as perceived by gram growers were: (i) severe incidence of pest, (ii) unawareness about fertilizer recommendations, (iii) lack of igation facilities, (iv) ineffectiveness/ less effectiveness of pesticides, (v) lack of post and disease resistant varieties, (vi)unavailablcty of improved and certified seeds at local place and (vii) non arrangement of aerial spraying for pest control.
7. Some of the most important suggestions to overcome the constraints in adoption of improved gram production technology as offered by the gram growers were : (i) effective control measures of insect, pest and diseases should be developed, (ii) irrigation facilities should be created, (iii) resistant varieties against insect/pest and diseases should be evolved, (iv) improved and certified seed should be provided by Government at local place and (v) price of seeds, fertilizers and pesticides should be controlled.

67. A STUDY ON KNOWLEDGE AND ADOPTION OF INTEGRATED PEST MANAGEMENT IN CASTER CULTIVATION
YEAR : 1996
NAME OF STUDENT

M. B. Dhorajia

MAJOR ADVISOR

Dr. M. N. Popat

Abstract:

Castor is the most thrived age old non edible oilseed cash crop of Saurashtra region of Gujarat State. It is very essential to increase the yield of castor crop. The yield of castor is affected to a great extent by attack of pests and diseases. Integrated Pest Management (IPM) which is the product of modern science and technology is proved successful in the control of pests & diseases.

The adoption of IPM practices is differed from individual to individual according to their characteristics, familiarity with the technique and the availability of resources. Though the IPM practices are recommended by the field fuctionarites to obtain maximum benefit but all the farmers are not adopting all the practices uniformly. They need to be brought under the scientific fold so as to increase the knowledge and adoption level of the IPM to reap better yield. Hence, it was proposed to study the knowledge and adoption of IPM in castor cultivation. The specific objectives of the study were :

1. To study some of the selected personal, social, psychological and economical characteristics of the castor growers.
2. To assess the castor growers' knowledge of integrated pest management in castor crop.
3. To ascertain the relationship between characteristics of castor growers and their level of knowledge
4. To study the extent of adoption of integrated pest management in castor crop.
5. To ascertain the relationship between characteristics of castor growers and their extent of adoption.
6. To identify the constraints as perceived by the castor growers in adoption of IPM
7. To seek suggestions from castor growers to overcome their problems in adoption of IPM in castor cultivation.

Result:

1. Majority of the castor growers (55 per cent) belonged to middle age group and had primarily level of education (56 per cent).
2. Majority of the castor growrs had joint type of family (55 per cent) and had medium size of family (68.33 per cent).most of them (78.64 per cent) had poor social participation.
3. Majority of the castor growrs had medium extension contact (70 per cent), medium mass media exposure (69.10 per cent) and medium extension paeticipation (64.16 per cent).
4. Majority of the castor growers (69.2 per cent) were having medium to large size of land holding and medium level of (1360 to 2443 kg/ha) castor seed productivity (75.83 per cent).
5. Majority of the castor growers (55 per cent) had medium level of risk preference, while 61.76 per cent of them had medium economic motivation.

6. Majority (60.83 per cent) of the castor growers had medium level of knowledge of IPM in castor cultivation.
7. The level of knowledge of IPM had positive and highly significant relationship with their education, social participation, extension contact, extension participation, mass media exposure, productivity of castor seed, risk preference, economic motivation and adoption of IPM of castor growers. The age of castor growers had negative and significant relationship with their level of knowledge of IPM in castor cultivation.
8. Majority (55 per cent) of the castor growers had medium level adoption of IPM in castor cultivation.
9. The castor growers' level of adoption of IPM with respect to castor crop had positive and highly significant relationship with their characteristics viz, education, social participation, extension contact, extension participation, mass media exposure, productivity of castor seed, risk preference, economic motivation and knowledge level of IPM.
10. Some of the important constraints in adoption of IPM in castor cultivation as perceived by castor growers were (I) modern farming is more expensive and less remunerative, (II) unavailability of bio means for plant protection measures, (III) sex reversal problems in castor plant, (IV) high cost of insecticides and pesticides, (V) high cost of labour, (VI) lack of sufficient irrigation facility (VII) lack of awareness of different practices of IPM.
11. Some of most important suggestions to overcome the constraints in adoption of IPM in castor cultivation as offered by the castor growers were : reasonable price of product should be given; crop should be covered under insurance scheme; inputs should be supplied in required quantity in time through local co-operative societies ; restriction should be put on over use of synthetic pyrethroid pesticides; night training programme should be arranged every month to impart the knowledge of castor cultivation; biological laboratory should be established and bio agent

68. IMPACT OF WATERSHED DEVELOPMENT PROGRAMME

YEAR : 1996

NAME OF STUDENT

P. M. Rakholia

MAJOR ADVISOR

Dr. M. N. Popat

Abstract:

Conservation of biotic resources on watershed basis has been proved as best approach for increasing the productivity of such areas by many resources and is getting immense popularity today. A most common problem of dryland and rainfed areas is soil erosion. This problem is severely found in the state of Gujarat. Most of the districts of the state has been delineated as drought prone for many years. Considering the problems, Government of India has started National Watershed Development Programme in 1987-88. But, merely formulating the policies and introduction of programmes will not serve the purpose unless the technical know-how research to its ultimate users in an effective way. At present, there is a big gap between what is achieved at research station and agricultural Universities and what a farmer get in his field. The technological gap is a major problem in the effort of increasing agricultural production in the country. The technological gap itself affected by knowledge and attitude of the farmers. It is therefore worthwhile to investigate the level of knowledge, extent of technological gap and level of attitude towards watershed

development programme. Keeping these points in view, the study entitled “Impact of watershed Development Programme” was undertaken with the following specific objectives.

1. To study the personal, socio-economic, extension communication and psychological characteristics of the respondents.
2. To assess the level of knowledge of beneficiaries and non beneficiaries of WDP with respect to soil and water conservation measures.
3. To determine the extent of technological gap of beneficiaries and non beneficiaries of WDP with respect to soil and water conservation practices.
4. To determine the attitude of beneficiaries and non beneficiaries towards WDP.
5. To ascertain the association between the level of knowledge and selected independent variables of beneficiaries and non beneficiaries of WDP with respect to soil and water conservation measures.
6. To ascertain the association between extent of technological gap and selected independent variables of beneficiaries and non beneficiaries of WDP with respect to soil and water conservation practices.
7. To ascertain the association between the level of attitude and selected independent variables of beneficiaries and non beneficiaries towards WDP.
8. To predict the extent of variation in dependent variables caused by independent variables.
9. To seek the suggestions from beneficiaries and non beneficiaries for making the WDP more effective.

In order to achieve the above objectives, a sample of 60 beneficiary farmers and 60 non beneficiary farmers representing six watershed projects of Junagadh districts of Gujarat State were drawn by using multistage random sampling technique. The study was undertaken during October – November 1996. The level of knowledge and level of attitude of the respondents towards WDP were measured by administering standardized knowledge test and attitude scale, respectively. To measure the farmers' technological gap with respect to soil and water conservation practices, a scale developed for the purpose was used. Based on past researches and discussion with extension experts, the independent variables were selected. The responses were collected with the help of structured interview schedule by personal interview. The data were analysed in the light of specific objectives. The various statistical measures like percentages, arithmetic mean, standard deviation, z-test, correlation coefficient (r), and multiple regression were used.

Result:

1. The BFs and NBFs differed significantly in their characteristics like : education, size of land holding ,training received, social participation, employment status, cropping intensity, opinion leadership , extension participation, extension contact, localite–cosmopolite value orientation, overall modernity, knowledge index, technological gap index and attitude.
2. Majority of the BFs (71.67 per cent) and NBFs (60.00 per cent) belonged to medium level of knowledge category with 75.82 and 52.41 mean knowledge index, respectively.
3. Majority of the BFs (65.00 per cent) and NBFs (71.66 per cent) belonged to medium extent of technological gap category with 37.27 and 61.84 mean technological gap index, respectively.

A high technological gap was observed in percolation tank cum farm pond, strip cropping and mulching in case of BFs. In case of NBFs, the high technological gap was observed in the practices like: percolation tank cum farm pond, strip cropping, contour cultivation across the slope, contour bunding area vegetative barriers, afforestation, recharging well and tube well, deep ploughing, mulching and graded bunding. The overall technological gap of NBFs was found significantly higher than BFs.

4. Majority of the BFs (66.77 per cent) and NBFs (68.34 per cent) had favourable attitude towards WDP with 69.52 and 39.75 mean score of attitude , respectively.
5. There was a positive and significant association between knowledge level of BFs about SWC measures and their education, social participation, employment status, cropping intensity, opinion leadership, extension participation, extension contact, localite-cosmopolite value orientation overall modernity and attitude, whereas technological gap had negative and significant association with level of knowledge of Bfs. they were jointly contributing significantly to 62.98 per cent ($R^2 = 0.6298$) of the variation in the level of knowledge of BFs. The order of contribution of these eleven variables from highest to lowest was : localite- cosmopolite value orientation, extension participation, extension contact, social participation, education, attitude, cropping intensity, opinion leadership overall modernity, technological gap index and employment status.
6. There was positive and significant association between NBFs level of knowledge about SWC measures and their employment status, opinion leadership, extension participation, extension contact, localite-cosmopolite value orientation, overall modernity and attitude, whereas negative and significant association was observed with technological gap. They were jointly contributing significantly to 48.36 per cent ($R^2 = 0.4836$) of variation in the level of knowledge of NBFs. The order of contribution of these eight variables from highest to lowest was: opinion leadership, extension participation, attitude, overall modernity, technology gap index, extension contact, localite-cosmopolite value orientation and employment status.
7. There was negative and significant association between extent of technological gap of BFs with respect to SWC practices and their size of land holding, social participation, employment status, opinion leadership, extension participation, localite- cosmopolite value orientation, knowledge index and attitude. They were jointly contributing significantly to 56.68 per cent ($R^2=0.5668$) of variation in the extent of technological gap of BFs. The order of contribution of these eight variable from highest to lowest was opinion leadership, localite-cosmopolite value orientation, extension participation, size of land holding, attitude, social participation, employment status and knowledge index.
8. There was negative and significant association between extent of technological gap of NBFs with respect to SWC practices and their social participation, employment status, cropping intensity, opinion leadership, extension participation, extension contact, localite-cosmopolite value orientation, overall modernity, knowledge index and attitude. They were jointly contributed significantly to 54.52 per cent ($R^2=0.5452$) of variation in the extent of technological gap of NBFs. The order of contribution of these ten variables from highest to lowest attitude, localite-cosmopolite value orientation, opinion leadership, cropping intensity, employment status, knowledge index, social participation, extension participation, contact and overall modernity.

9. There was positive and significant association between level of attitude of BFs towards WDP and their education, occupation, social participation, employment status, cropping intensity, opinion leadership, extension participation, extension contact, localite-cosmopolite value orientation, overall modernity and knowledge index, whereas technological gap index had negative and significant association with their level of attitude towards WDP. They were jointly contributed significantly to 65.71 per cent ($R^2 = 0.6571$) of variation in the level of attitude of BFs. The order of contribution of these twelve variables from highest to lowest was localite – cosmopolite value orientation. Opinion leadership, knowledge index, extension contact, employment status, cropping intensity, technological gap index, extension participation, education, overall modernity, occupation and social participation.
10. There was a positive and significant association between level of attitude of NBFs towards WDP and their social participation, localite-cosmopolite value orientation & knowledge index, whereas negative and significant association was observed with age and technological gap. They were jointly contributed significantly to 50.76 per cent ($R^2=0.5076$) of variation in level of attitude towards WDP of NBFs. The order of contribution of these five variables from highest to lowest was technological gap index, age, social participation, knowledge index and localite-cosmopolite value orientation.
11. The most important suggestions expressed by the BFs for making WDP more effective were: loan facilities should be made available for land leveling and digging out the farm pond in the watershed management area, government should give incentives to adopters of major practices of WDT and training should be imparted well in advance for WDP. The NBEs expressed the suggestions for making WDP more effective were: Government should extend the tenure of WDP and cover moe farmers, activities of WDP may be started on priority basis on remaining part of watershed management area and terracing work on common land may be carried out.

69. IMPACT AND USEFULNESS OF INSTITUTIONAL TRAINING PROGRAMME FOR FARM WOMEN UNDER TWA PROJECT AT FTC, JUNAGADH

YEAR : 1997

NAME OF STUDENT

H. V. Gosai

MAJOR ADVISOR

Dr. M. A. Munshi

Abstract:

Women are indeed pivot around whom the family, society rather the whole humanity moves. From ancient day women have played a pivotal role in agriculture production in India. In modern agriculture too, women continue to share a number of farm operations with men. Thus, the women are the main architect of change in the rural farming. Majority of the farm operations contributing to 70 per cent of the total work are done by women. These women need to be trained to improve their skill, knowledge and production through scientific orientation and modern agricultural technology. Realizing the importance of such training, the Government of India, requested, the Royal Netherland Government, to assist the Government of Gujarat to organise such training. This special TWA project was implemented at FTC, Junagadh since, 1990.

A considerable time of seven years has been passed to its implementation, hence it was felt necessary to know the impact and usefulness of this project.

Considering the above situation the study entitled “Impact and usefulness of institutional training programme for farm women under TWA project at FTC, Junagadh” was undertaken with the following specific objectives :

1. To study the characteristics of trained and untrained farm women
2. To know the opinion of trained farm women regarding usefulness of training programme in agriculture, animal husbandry, post harvest technology and energy utilization.
3. To assess the knowledge level of the respondents regarding improved groundnut production technology
4. To measure the adoption level of the respondents regarding improved groundnut production technology
5. To locate differences in knowledge, adoption and yield of groundnut production technology between trained and untrained farm women
6. To study the relationship between the characteristics of the respondents and their knowledge and adoption of improved G.P.T.
7. To determine the appropriateness of methods and techniques used for training
8. To elucidate suggestions for making training more effective

The theoretical orientation was developed for the study, on the basis of reviewed literature, having direct and indirect bearings on the present problem. Based on the assumptions, the tentative paradigm was laid down. Taking the help of theoretical orientation, the null hypothesis was also formulated.

Result:

A Great majority respondents both trained and untrained farm women belonged to young age group, educated up to primary, followed by secondary level of education. Majority respondents had medium size of land holding, large size of family, medium reading habit, medium social participation and medium extension participation. Less than half of the trained 42.22 per cent and untrained 44.45 per cent farm women fall in the category of Rs. 10 to 20 thousand and up to 10 thousand annual income group, respectively. More than half of the trained 56.67 per cent and untrained 56.67 per cent farm women fall in the yield category of to 751 to 1500 kgs/ha and up to 750 kgs/ha, respectively.

About three fourth trained and untrained farm women 72.22 per cent possessed medium level of knowledge. The majority trained 75.56 per level cent and untrained 73.33 per cent respondents had medium level of adoption of improved groundnut production technology.

The age, education, annual income, reading habit, extension participation and yield were found association with knowledge and adoption of improved groundnut production technology at 0.05 level of probability.

According to opinion of the respondents, the most appropriate methods secured first three ranks were lecture with discussion and demonstration, lecture with discussion and A.V. aids and lecture with A.V. aids.

The trained farm women were found significantly superior to untrained farm women in terms of knowledge, adoption and yield of improved production technology.

The overall utility score of different practices was 66.36 per cent. The utility score of animal husbandry practices was 70.35 per cent, followed by energy utilization 68.06 per cent, post harvest technology 65.37 per cent and agriculture 61.66 per cent.

The most important suggestions to make training more effective were : Venue should be training centres 72.22 per cent, duration of training should be of 5 days 71.11 per cent, time should be during slack season 50 per cent and training group should be of 25 members 54.47 per cent,

stipened should be increased 86.67 per cent and preferred female teacher trainer 76.69 per cent.

The study clearly indicates that the training played a significant role in transferring improved agricultural technology among farm women. It also proved a very useful; however, there is a good scope of improvements and strengthening of facilities available.

70. AN ANALYSIS OF INSTITUTIONAL TRAINING IMPARTED TO THE FARMERS AT SARDAR SMRUTI KENDRA, JUNAGADH

YEAR : 1998

NAME OF STUDENT

J. N. Parmar

MAJOR ADVISOR

Dr. M. A. Munshi

Abstract:

The farmer is the central figure in agricultural production and primarily connected with actual raising of crops. The prosperity and growth of a nation depends on the status and development of its farmers. It is widely recognized fact that the rate of production per unit area in India is low. Thus, it is obvious that if agricultural production is to be increased, the most important step that needs to be taken is the training of farmers in improved method of farming. Realising the importance of farmers' training and education, Government has done many efforts to establish farmer training centre under various developmental programmes. Government of Gujarat has established an institute named "SardarSmruti Kendra" with assistance of Gujarat Agricultural University and peoples' contribution in july, 1977. The basic function of SSK is to impart training and education to farmers and farm women in improved farming. A considerable time of twenty one years has been passed to its inception. Hence, it was felt worthwhile to analyse this training.

Considering the above situation, the study entitled, "An analysis of institutional training imparted to the farmers at SardarSmruti Kendra, Junagadh" was undertaken with the following specific objectives:

1. To study the selected characteristics of the respondent farmers.
2. To determine the impact of training on the respondent farmers in terms of knowledge and adoption of improved groundnut production technology
3. To ascertain the association between the selected characteristics of the respondent farmers and their knowledge and adoption of improved groundnut production technology
4. To study the appropriateness of methods and techniques used for training
5. To know the opinions of the trained farmers regarding usefulness of training
6. To identify the problems of the trained farmers regarding training and facilities provided to them
7. To seek the suggestions to overcome the problems of the trained farmers and to make training programme more effective

The theoretical orientation was developed for the study on the basis of reviewed literature, having direct and indirect bearing on the present problem. Based on the assumptions, the tentative paradigm was laid down. Taking the help of theoretical orientation, the null hypothese were formulated.

Results:

A great majority of respondents of both trained and untrained farmers belonged to young and middle age group, educated up to primary level followed by secondary level of

education. Majority of the respondents had large size of family, medium to large size of land holding, medium reading habit, medium social participation and medium extension participation. Less than half of the trained (42.22 per cent) and untrained (47.78 per cent) farmers fall in the category of above Rs. 40,000 and Rs. 20,001 to Rs 30,000 annual income group, respectively. More than half of the trained (58.89 per cent) and majority of untrained (67.78 per cent) farmers fall the yield category of 1500 to 2250 Kg./ha and 750 to 1500 Kg./ha, respectively.

The majority of the trained (65.56 per cent) and untrained (62.22 per cent) farmers possessed medium level of knowledge about improved G.P.T. The majority of trained (70.00 per cent) and untrained (67.78 per cent) farmers had medium level of adoption of improved G.P.T.

The trained farmers were found significantly superior to untrained farmers in terms of the knowledge and adoption of improved groundnut production technology.

The education, annual income, reading habit, social participation, extension participation and yield were found associated with knowledge and adoption of improved groundnut production technology.

According to opinion of the trained farmers, the most appropriate methods secured first three ranks were lecture with discussion and method / result demonstration, lecture with audio visual aid and field trip and lecture with discussion and audio visual aids.

The overall usefulness score of different improved agricultural practices of G.P.T. was 53.89. Considering the usefulness of training of individual improved agril practices of G.P.T., the first five ranked practices were : intercropping in groundnut, plant protection knowledge about improved seed, information about improved and new implements and irrigation management.

The most important problems of the trained farmers regarding training and facilities were training was not given at suitable time, trainees group was not appropriate and less provision for learning by doing.

The most important suggestions to overcome the problems of the trained farmers and to make training programme more effective were venue should be training centre (82.22 per cent), duration of training should be of five days (57.78 per cent), time should be during crop season (52.25 per cent), trainees groups should be of 25 farmers (65 55 per cent), training should be given through lecture with discussion and method / result demonstration (84.44 per cent), stipend should be raised (80.00 per cent) and travelling allowance should be given to them (48.89 per cent).

The study clearly indicates that the training played a significant role in transferring improved agricultural technology among farmers. It also proved very useful, however, there is a great scope of improvement and strengthening of facilities available.

71. ADOPTION OF GROUNDNUT BASED INTER/ RELAY CROPPING SYSTEM BY THE GROUNDNUT BASED INTER / RELAY CROP GROWERS OF JUNAGADH DISTRICT

YEAR : 1998

NAME OF STUDENT

V. N. Chavda

MAJOR ADVISOR

Dr. A. O. Kher

Abstract:

The gap between the know-how already attained and their applications in fields, is still quite large, despite of considerable advancement in groundnut based inter/relay crop

production technology. There is wide scope for increasing the production of groundnut based inter/relay crop. The yield of groundnut based inter/relay crop is very low due to non-adoption of latest agricultural technologies of this crop by the groundnut based inter/relay crop growers.

However, groundnut based inter/relay cropping system is generally not adopted perhaps because the farmers are reluctant to risk reducing the yield of groundnut which is a high value crop. Keeping the above fact in view, the study entitled "Adoption of groundnut based inter/relay cropping system by the groundnut based inter/relay crop growers of Junagadh district" was undertaken with the following specific objectives:

1. To study some selected characteristics of the groundnut based inter/relay crop growers.
2. To determine the extent of adoption of the recommended groundnut based inter/relay crop production technology by the groundnut based inter/relay crop growers.
3. To ascertain an association between the groundnut based inter/relay crop growers' extent of adoption of groundnut based inter/relay cropping system and their selected characteristics.
4. To identify the rationale behind not adopting the groundnut based inter/relay cropping system by the groundnut growers.
5. To study the constraints, if any experienced by groundnut based inter/relay crop growers in adoption of the recommended groundnut based inter/relay crop production technology.
6. To seek the suggestions from the groundnut based inter/relay crop growers to overcome the constraints in adoption of groundnut based inter/relay cropping system.

In order to realize the above mentioned objectives, a sample of 120 groundnut growers were selected by proportionate random sampling technique from 8 villages of Vanthali, Junagadh, Visavadar and Mendarda talukas of Junagadh district (Gujarat). Out of them 35, 43 and 42 were sole groundnut growers, groundnut based inter crop growers and groundnut based relay crop growers, respectively. The data were collected with the help of structured schedule by personal interview method.

Result:

Out of 120 groundnut growers 35 were sole groundnut growers, whereas 43 and 42 were groundnut based inter and relay crop growers, respectively.

As many as 39.53 per cent of the groundnut based inter crop growers and 40.98 per cent of the groundnut crop growers were belonged to middle age group. While, slightly less than half (48.54 %) of the groundnut based inter crop growers and half (50.00%) of the groundnut based relay crop growers were educated up to primary level.

More than half (58.14 %) of the groundnut based inter crop growers and majority (61.90 %) of the groundnut based relay crop growers had medium annual income.

Majority (87.44 %) of the groundnut based inter crop growers and slightly less than half (47.62 %) of the groundnut based relay crop growers had medium social participation.

Majority of the groundnut based inter crop growers (62.79 %) and relay crop growers (61.90 %) had medium extension participation, whereas, more than half (51.16%) of the groundnut based inter crop growers and majority (57.14%) of the groundnut based relay crop growers having medium size of land holding.

Majority of the groundnut based inter crop growers (65.12 %) and relay crop growers (69.04 %) had medium irrigation potentiality.

Majority of the groundnut based inter crop growers (62.79 %) and relay crop growers (71.43 %) had medium risk preference.

Majority of the groundnut based inter crop (groundnut + castor) growers (74.42 %) and relay crop (groundnut+ pigeonpea) based and growers (76.20 %) were medium adopters of the improved crop production technology.

There was positive and significant association observed among the extent of adoption of groundnut based inter crop production technology and their characteristics viz. education and extension participation. The negative and non significant association was observed among the extent of adoption of groundnut based inter crop production technology and their characteristics viz...age and size of land holding.

The positive and non significant association was observed among the extent of adoption of groundnut based inter crop production technology and their characteristics viz., annual income, social participation, risk preference and irrigation potentiality.

The positive and significant association was observed among the extent of adoption of groundnut based relay crop growers about improved groundnut based relay crop production technology and their characteristics viz.. education, extension participation and irrigation potentiality.

The positive and non significant association was observed among the extent of adoption of groundnut based relay crop growers about improved groundnut based relay crop production technology and their characteristics viz., age, annual income and size of land holding. While risk preference and social participation were negatively and non significantly associated with the extent of adoption about improved groundnut based relay crop production technology.

Some of the important rationale behind not adopting the groundnut based inter/relay cropping system by the groundnut growers were:

- (1) Groundnut based inter/relay crop production is less as compared to sole groundnut.
- (2) Rabi crops are not taken because in later stage groundnut based inter/relay crop required 2-3 irrigations.
- (3) Those farmers having sufficient irrigation facility for next rabi crop were go for sole rabi crop and did not take groundnut based inter/relay cropping system.
- (4) Disease problems are more in groundnut based inter/relay cropping system as compared to sole groundnut.
- (5) Interculturing is difficult in groundnut based inter/relay cropping system.

Some of the important constraints as perceived by the majority of the groundnut based inter/relay crop growers were:

- (1) Yield of the groundnut based inter/relay crops are less as compared to sole groundnut.
- (2) High price of improved seeds.
- (3) High price of chemical fertilizers.
- (4) High price of fungicides/pesticides.
- (5) Labour requirement is more in groundnut based inter/relay cropping system.
- (6) Extension workers are not available in the villages.
- (7) High price of weedicides.
- (8) Weedicides are not effective as hand weeding.

Some of the important suggestions from majority of the groundnut based inter/relay crop growers to overcome the constraints in adoption of improved crop production technology were :

- (1) Remunerative price of the product should be made available.
- (2) Farmers should be protected by the crop insurance, if crop fails.
- (3) Inputs should be supplied in required quantity in time.

72. TRAINING NEEDS OF MANGO ORCHARD GROWERS OF JUNAGADH DISTRICT, GUJARAT STATE
YEAR : 1999
NAME OF STUDENT

S. G. Chothani

MAJOR ADVISOR

Dr. M. A. Munshi

Abstract:

Mango is the most thrived age old major crop as well as the cash crop of the Junagadh district. The cultivation technology of mango orchard is complex and sophisticated. A wide gap exists between its innovations and applications on the farmers' field. Hence, there is a lot of scope for increasing mango production per unit area. However, majority of the mango growers did not know and had not yet adopted the improved mango cultivation practices, due to lack of technical knowledge. Therefore, mango orchard growers should be trained in specific operational and technical know-how and skills embracing all phases of production for maximizing their economic returns. Keeping this fact in mind, the present investigation "Training needs of mango orchard growers of Junagadh district, Gujarat State" was undertaken with the following specific objectives :

1. To study the selected characteristics of mango orchard growers.
2. To determine the training needs of mango orchard growers in relation to improved mango cultivation technology.
3. To find out association, if any exists between the selected characteristics of mango orchard growers with their training needs.
4. To know the direct and indirect effect of the independent variables on the training needs of mango growers.
5. To ascertain the relative suitability of venue, season, duration, size of training group and extension methods in training programmes of mango orchard growers in relation to mango cultivation technology.

In order to realize the above mentioned objectives, a sample of 100 mango orchard growers representing 6 villages of Talala and Vanthali talukas of Junagadh district (Gujarat) was drawn by using multistage random sampling techniques. The data were collected with the help of structural interview schedule by personal interview method. The data were compiled, analyzed and interpreted in the light of objectives.

Result:

The salient findings of the study were:

1. Majority of the respondents belonged to middle age group (58.00 %), medium area under mango orchard (56.00 %), higher total annual income (53.00 %), low social participation (75.00 %), medium mango yield index (70.00 %), medium knowledge index (70.00%) and medium adoption index (59.00 %). Nearly one third of the respondents were having secondary level of education (30.00 %). Good reading habits (49.00 %) and two fifth of the respondents belonged to medium size of land holding (43.00%).
2. Majority (91.00 %) of the mango orchard growers were in medium training needs category in relation to mango orchard cultivation.
3. The area under mango orchard and yield index had positive and highly significant association with training needs of mango growers. The association of training needs of mango orchard growers with their age, size of land holding, total annual income

and social participation were not significant. The training needs of mango orchard growers had negative and highly significant association with their education, reading habits, extension participation, adoption index and knowledge index.

4. The adoption index in improved mango cultivation practices had maximum direct effect while education had maximum total indirect effect on training needs of mango orchard growers. Most of the variables were influenced through knowledge index, extension participation, reading habits.
5. For effective training programmes, the respondents suggested the following:

Venue	:	At the site of demonstration plot
Season	:	Before mango season
Duration	:	5 Days
Size of training group	:	up to 25 farmers
Extension methods	:	Lecture + Audio-visual aids + Visit to demonstration plot/tour

73. DEVELOPMENT AND APPLICATION OF A STANDARDIZE KNOWLEDGE TEST FOR CASTOR PRODUCTION TECHNOLOGY

YEAR : 2000

NAME OF STUDENT

P. S. Kumbhare

MAJOR ADVISOR

Dr. V. B. Sakaria

Abstract:

The gap between the know-how already attained and their application in fields, is still quite large, despite of considerable advancement in castor production technology. There is wide scope for increasing the castor production per unit area. In spite of the number of new technologies of castor production per unit area. In spite of the number of new technologies of castor production, the yield of castor is very low due to non-adoption of latest agricultural technologies of this crop by castor growers. There is no doubt that the knowledge about technical know-how of the castor growers plays a vital role in its adoption. However, majority of the castor growers did not know and had not yet adopted the improved castor production technology, due to lack of technical knowledge and several constraints experienced by them in adoption of recommended castor production technology. Keeping the above fact in view, the study entitled "Development and Application of Standardise Knowledge test for Castor Production Technology" was undertaken with the following specific objectives:

1. To develop a standardise knowledge test for measuring the knowledge level of castor growers about castor production technology.
2. To measure the extent of knowledge of castor growers about improved practices of castor production technology by using the standardized knowledge test.
3. To study the characteristics of the castor growers.
4. To ascertain the association of castor growers knowledge about improved castor production technology with their selected characteristics.
5. To identify the constraints as faced by the castor growers in adoption of improved castor production technology.
6. To seek the suggestions from the castor growers to overcome the constraints in castor production technology.

In order to realize the above mentioned objectives, a sample of 120 castor growers was selected by proportionate random sampling technique from 6 villages of Junagadh, Vanthali and Maliataluka of Junagadh district (Gujarat). The data were collected with the help of structured schedule by personal interview method.

The data collected were processed, tabulated, classified, analysed and given statistical treatments as mean, standard deviation, percentage, indices, coefficient of correlation and regression analysis were carried out in the light of objectives.

The salient findings of the study were:

1. A standardised knowledge test consisted of 30 items were developed to measure the castor growers extent of knowledge about castor production technology.
2. Majority of the castor growers (60.84 %) had medium level of knowledge with respect to castor production technology.
3. More than one half (54.17 %) of the respondents had small operational size of land holding. Whereas 71.67 per cent of them had medium irrigation potentiality. As many as slightly less than one half (47.50 %) of the castor growers belonged to middle age group and 50.83 per cent of the respondents were educated upto primary level. More than half (52.50 %) of the castor growers had large size of family. Majority (65.83 %) of the castor growers had medium social participation. Majority (70.00 %) of the respondents had medium castor yield index. Majority (63.33 %) of the castor growers had medium economic motivation. Majority (71.67 %) of the castor growers had medium extension participation.
4. The irrigation potentiality, castor yield index, economic motivation, adoption index and extension participation were significantly and positively associated with knowledge level of castor growers. The association between land holding, education, family size and social participation with knowledge level of castor growers was positive and non-significant, while the negative and significant association was observed with age and knowledge level of castor growers about castor production technology.
5. Six significantly correlated variables adoption index, yield index, economic motivation, irrigation potentiality, age and extension participation contributed towards 85.72 per cent of variation in the level of castor grower's knowledge. The calculated t values for partial regression coefficient were significantly in case of adoption index and yield index. The order of contribution of these six variables in descending order was: adoption index, yield index, economic motivation, irrigation potentiality, and age and extension participation.
6. Majority (66.67 %) of the castor growers had medium adoption of improved castor production technology. The practice wise adoption of improved castor production technology by the castor growers were : preparatory tillage, (90.41 %), weed control and interculturing (86.66 %), harvesting (85.00 %), use of hybrid varieties of castor (83.33 %), seed treatment (79.19 %), time of sowing (71.67 %), irrigation (63.33 %), spacing (60.83 %), plant protection (57.65 %), seed rate (57.50 %), chemical fertilizer (56.67 %) and soil testing (11.67 %).
7. Some of the important constraints as perceived by the majority of the castor growers were: (1) High cost of seeds. (2) Farmers did not get remunerative price of castor. (3) High cost of threshing. (4) Lack of knowledge about critical stages. (5) Irregular supply of electricity. (6) High cost of fertilizer. (7) High charges of electricity. (8) Fluctuation of castor price in the market. (9) High cost of labour. (10) Lack of sufficient irrigation facility. (11) High cost of pesticides. (12) Lack of

knowledge about pest and disease and its control measures. (13) High cost of weedicides. (14) Difficult to get soil analysis report in time.

8. Some of the important suggestions from majority of the castor growers to overcome the constraints in adoption of improved castor production technology were: (1) Price of seeds, fertilizers, pesticides and fungicides should be reduced. (2) Cost of threshing should be reduced. (3) Remunerative price of produce should be made available to the castor growers for their products. (4) Regular supply of electricity for irrigation purpose should be ensured. (5) Sufficient and timely credit facility should be made available. (6) Irrigation facilities should be provided from Government tube wells.

74. GIRL STUDENTS' ATTITUDE TOWARDS AGRICULTURAL EDUCATION IN GUJARAT AGRICULTURAL UNIVERSITY

YEAR : 2001

NAME OF STUDENT

Ms. D. G. Kotadia

MAJOR ADVISOR

Dr. A. O. Kher

Abstract:

The agriculture and education serves the basic human need for any nation to prosper an adequate supply of wholesome food and must be available to maintain a healthy population. It is true that education at present does not fully prepare the Indian youth for any specific occupation except professional or technical ones. Agricultural education is also a professional education. It is also an instrument for bringing out desirable changes in rural structures, the economy and standard of living. The main objective of giving college education in the field of agriculture is to produce the better educated and technically sound youth for maximizing agricultural and allied production. Our country constitutes about 50 per cent of women population and they perform the majority of agricultural work. But it is true that most farm women being uneducated, they were exploited. So there is need to strengthen the links between agricultural education and farmwomen by enrolling more girls in agricultural courses. Now a day, girl students also joining the agricultural colleges in different agricultural universities and outreach the boys in the study. In Gujarat State, all the colleges of agriculture constitute a sizeable folk of girl students. They seek admission in agricultural colleges with different purposes and aspirations and have a favourable or unfavourable attitude towards agricultural education. So it was worthwhile to conduct a systematic study on girl students attitude towards agricultural education in Gujarat Agricultural university. The study was undertaken with the following specific objectives :

- (1) To develop a standardized attitude scale for assessing the attitude of girl students towards agricultural education.
- (2) To study the personal and socio-economic background of the girl students of agricultural colleges.
- (3) To determine the level of attitude of the girl students of agricultural colleges towards agricultural education.
- (4) To ascertain the association of girl students attitude towards agricultural education with their personal characteristics.
- (5) To ascertain the purpose of the girl students for seeking admission in the agricultural colleges.
- (6) To know the motivational sources of the girl students for joining the agricultural colleges.
- (7) To study the future aspirations and plans of the girl students of agricultural colleges after graduation.

- (8) To identify the various problems faced by the girl students in agricultural education.
- (9) To collect the suggestions of the girl students for solution of their problems.

In order to realize the above objectives a sample of 70 respondents representing 4 agricultural colleges of Gujarat Agricultural University was drawn by the purposive selection method. To measure the girl students attitude towards agricultural education, the attitude scale was standardized by using the method of summated ratings. The responses were collected with the help of structured interview schedule by personal interview. The data were analyzed and interpreted in the light of specific objectives.

The salient findings were:

1. A standardized attitude scale consisted of 16 items was developed to measure the girl students' attitude towards agricultural education in Gujarat Agricultural University.
2. Majority (74.28 per cent) of the girl students of agricultural colleges was found to be of general caste.
3. Nearly half (47.14 per cent) of the girl students of agricultural colleges have obtained second class and about one-third (35.71 per cent) has obtained first class in 12 std. examinations.
4. Majority (65.73 per cent) of parents of the girl students of agricultural colleges had service as their occupation.
5. About one-half (47.15 per cent) of the girl students of agricultural colleges were from the families having high annual income (above Rs. 80,000).
6. About three-fifth (60.00 per cent) of the girl students of agricultural colleges came from the medium sized family (5 to 8 members).
7. Majority (80.00 per cent) of parents of the girl students of agricultural colleges was having education from higher secondary to college level.
8. About three-fourth (77.14 per cent) of the parents of the girl students of agricultural colleges had low level of social participation.
9. Majority (64.29 per cent) of the girl students of agricultural colleges was having favourable attitude towards agricultural education.
10. There was a positive and non-significant association between level of attitude of the girl students of agricultural colleges towards agricultural education and their personal characteristics such as caste and educational performance.
11. Majority of the girl students had given first preference to service as their purpose for seeking admission in agricultural colleges followed by acquiring more knowledge.
12. All most all the girl students (95.72 per cent) were inspired and motivated by their parents or guardians for joining the agricultural colleges.
13. Majority of the girl students of the agricultural colleges aspired for further study after graduation followed by service.
14. The most important problems faced by the girl students in agricultural education were: Lack of time for co-curricular activities; shortage of time for going to the library; lack of actual practical work during practical classes; inadequate facilities of sports instruments for girls; no N.C.C. for girls; lack of coach for extra curricular activities; library timings are not adequate; less number of passes for issuing the book from the library and biased attitude of teachers for co-curricular activities.
15. The suggestions offered by the girl students to overcome their problems were: importance should be given to the actual practical work during the practical classes; examination should be arranged according to the students' convenience; test

examinations should be arranged in regular college time; library timings should be increased; girls should be allowed for co-curricular activities; latest teaching methods should be adopted and number of passes should be increased for issuing the books from the library.

75. KNOWLEDGE, ADOPTION & CONSTRAINTS OF ONION GROWERS WITH RESPECT TO RECOMMENDED ONION PRODUCTION TECHNOLOGY

YEAR : 2001

NAME OF STUDENT

N. B. Jadav

MAJOR ADVISOR

Dr. M. A. Munshi

Abstract:

The gap between the know-how already attained and their application in field is still large despite of considerable advancement in onion production technology. Onion is the important vegetable crop of the Bhavnagar district. However, majority of the onion growers did not know and had not yet adopted recommended onion production technology, due to lack of technical knowledge and several constraints experienced by them in adoption of recommended onion production technology. Keeping the above fact in view, the study entitled "Knowledge, adoption and constraints of onion growers with respect to recommended onion production technology" was undertaken with following specific objectives :

- o To study the selected characteristics of the onion growers.
- o To determine the extent of knowledge of onion growers with respect to recommended onion production technology.
- o To measure the extent of adoption of recommended onion production technology by the onion growers.
- o To ascertain the relationship, if any, between knowledge and adoption (dependent variables) of recommended onion production technology with selected characteristics of the onion growers (independent variables).
- o To predict the extent of variation in dependent variables caused by selected independent variables.
- o To identify the constraints faced by the onion growers in adoption of recommended onion production technology.
- o To seek the suggestions from the onion growers to overcome the constraints in adoption of recommended onion production technology.

In order to realize the above objectives, a sample of 120 onion growers, representing 12 villages of two talukas (Mahuva and Talaja) of Bhavnagar district was drawn by using purposive and random sampling techniques. To measure the onion growers knowledge about recommended onion production technology a teacher made knowledge test was developed and used. To identify the onion growers extent of adoption of recommended onion production technology the adoption index was developed and used. The adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The data were collected with help of structured schedule by personal interview method. The data were compiled analyzed and interpreted in the light of specific objectives.

The salient findings were:

The practice wise adoption of recommended onion production technology by the onion growers were (1) Soil testing 6.66 per cent (2) Preparatory tillage : 67.50 per cent (3) Compost : 80.71 per cent (4) Improved variety 49.80 per cent (5) Sowing time : 71.30 per

cent (6) Seed rate : 51.15 per cent (7) Seed treatment : 90.00 per cent (8) Preparation of seed bed : 49.83 per cent (9) Sowing distance : 79.00 per cent (10) Sowing/ Seed bed/ Kanzi : 56.40 per cent (11) Fertilizer : 49.50 per cent (12) Irrigation : 57.22 per cent (13) Weed control : 56.83 per cent (14) Disease : 64.66 per cent (15) Pest : 61.50 per cent (16) Harvesting : 81.50 per cent (17) Storage : 64.66 per cent.

There was non significant association of the knowledge of onion growers about recommended onion production technology with their size of land holding.

The age and size of family of the onion growers were negatively and significantly associated with the knowledge of recommended onion production technology.

Remaining all the characteristics like Education, Social participation, Extension contact, Annual income, Irrigation potentiality, Farm mechanization index, Onion crop intensity and Risk orientation were positively and significantly associated with the knowledge of the onion growers.

There was non significant association of the adoption of recommended onion production technology with the size of land holding.

The age and size of family of the onion growers were negatively and significantly associated with their extent of adoption. At the same time the remaining characteristics were positively and significantly associated with the adoption of recommended onion production technology.

Age, education, size of family, social participation, extension contact, annual income, irrigation potentiality, farm mechanization index, onion crop intensity and risk orientation were jointly contributing 55.24 per cent of the variation in the level of knowledge of the onion growers. The order of contribution of these ten variables from highest to lowest were onion crop intensity, irrigation potentiality, social participation, annual income, risk orientation, extension contact, farm mechanization index, age, size of family and education.

Age, education, size of family, social participation, extension contact, annual income, irrigation potentiality, farm mechanization index, onion crop intensity and risk orientation were jointly contributing 53.04 per cent of the variation in the level of adoption of onion growers. The order of contribution of these variable from highest to lowest were extension contact, irrigation potentiality, farm mechanization index, annual income, risk orientation, social participation, onion crop intensity, age, size of family and education.

The Important constraints as perceived by more than 60.00 per cent Onion growers were:

- 1) Shortage of irrigation water
- 2) Problem in storage
- 3) Low price of onion in market
- 4) High price of fertilizer
- 5) Inadequate and irregular power supply
- 6) High cost of pesticides
- 7) Poor economic condition

Some of important suggestions expressed by more than 60.00 per cent of the respondents to overcome the constraints in adoption of recommended onion production technology were:

- 1) Provision of irrigation water
- 2) Remunerative price should be given to onion growers
- 3) Sufficient and regular electricity should be supplied
- 4) Provision of storage facility e.g. Govt. godown

76. IMPACT OF FRONTLINE DEMONSTRATION OF GROUNDNUT, PIGEON PEA RELAY CROPPING SYSTEM IN SAURASHTRA REGION OF GUJARAT STATE

YEAR : 2001

NAME OF STUDENT

H. C. Chhodavadia

MAJOR ADVISOR

Dr. M. A. Munshi

Abstract:

Agriculture is the backbone of Indian economy. Our population increases day by day and reaches up to one billion plus population. Severe droughts, earthquakes and other natural calamities occurring every year in India has need to increase production and area for crops to sufficient food for country. There is a wide gap between the know-how already attained and their applications in field. So it is most important to increase the production and area under agriculture. Relay cropping is most useful now a days because it insulate farmer's investment of land, labour and capital against adversities of nature in order to sustain their living.

Saurashtra region of Gujarat State has low and erratic rainfall so the crop production potential is also low. Under such condition groundnut-pigeon pea relay cropping system is best suited to this region. For increasing area under this system it is necessary to disseminate this technology through highly perfect communication media. The aim of frontline demonstration is to demonstrate under real farmer's field situation, the superior production potentials and benefits of the latest improved technologies in agriculture. It is also important for direct communications between agricultural experts and farmers. With reference to this view in mind the topic "Impact of frontline demonstration of groundnut –pigeon pea relay cropping system in Saurashtra region of Gujarat State" was undertaken with the following objectives :

1. To study some selected characteristics of the respondents.
2. To compare the selected characteristics between demonstrator and non-demonstrator respondents.
3. To measure the knowledge level of the respondents regarding groundnut-pigeon pea relay cropping system.
4. To know the extent of adoption of the respondents regarding groundnut-pigeon pea relay cropping system.
5. To know the yield level of the respondents regarding groundnut pigeon per relay cropping system.
6. To ascertain the relationship between dependent and independent variables.
7. To examine the influence (extent of variation) of independent variables on dependent variables.
8. To identify the constraints faced by the respondents in adoption of groundnut-pigeon pea relay cropping system.
9. To seek out suggestions of respondents to overcome the constraints faced by them.

The theoretical orientation was developed for the study on the basis of review of literature on the present problem. The various concepts utilized in the study were operationalized suitably. Based on the assumptions, the tentative paradigm was laid down and finally the null hypotheses were also formulated.

The salient findings were:

Majority of the demonstrator (69.23%) and non-demonstrator (63.46%) respondents were middle age group and had low to medium education of demonstrator (76.93%) and

non-demonstrator (86.53%). About 44.23 per cent and 38.46 per cent demonstrator respondents belonged to medium and high annual income respectively, While slightly more than half non-demonstrator (57.70%) respondents belonged to low and medium annual income. Majority demonstrator (73.08%) and non-demonstrator (67.31%) respondents found medium social participation while demonstrator (84.62%) and non-demonstrator (71.15%) respondents had medium extension participation. About half of the demonstrator (48.08%) and non-demonstrator (51.92%) respondents having small size of land holding. Majority of the demonstrator (65.39%) and non-demonstrator (69.34%) respondents belonged to medium risk preference. Same trend was observed in case of irrigation potentiality.

There was no significant difference between demonstrator and non-demonstrator respondents in case of age, education, annual income and size of land holding while in case of social participation. Extension participation, Risk preference, irrigation potentiality, knowledge level, extent of adoption and yield level of demonstrator and non-demonstrator respondents differed significantly. It can be revealed that demonstrator respondents were found superior than non-demonstrator respondents.

Exact half of the demonstrator respondents had high knowledge level while, majority of the non-demonstrator (65.39%) respondents fall in medium knowledge level about the groundnut-pigeon pea relay cropping system. Majority of the demonstrator (73.08%) and non-demonstrator (59.625/) respondents were medium adopters of groundnut-pigeon pea relay cropping system. Majority of the demonstration (57.89%) respondents big in yield level Category while the non-demonstration (57.69%) respondents belong to medium yield about the groundnut pigeon relay cropping system.

The non-significant relationship was observed between age and knowledge level, extent of adoption and yield level of respondents. The positive and highly significant relationship were observed between education, annual income, size of land holding, social participation, extension participation, risk preference, irrigation potentiality, extent of adoption and yield level of the respondents with knowledge level Same trend observed in case of extent of adoption and yield level of respondents.

In case of demonstrator respondents the non-significant effect was observed on knowledge level through different independent variables like age, annual income, extension participation, size of land holdings, risk preference. Irrigation potentiality, extent of adoption and yield level, while positive and highly significant effect was observed in case of education and social participation the contribution of these variables was 86.11 per cent. While in case of non-demonstrator respondents, the non-significant effect was observed on knowledge level through different independent variables like age, education, annual income, social participation, extension participation, size of land holding, risk preference, irrigation potentiality and yield level where as positive and highly significant effect was observed, in case of extent of adoption. The contribution of these variables was 73.43 per cent.

In case of demonstrator respondents the non-significant effect was observed on extent of adoption through different independent variables like age, education, social participation, extension participation, size of land holding, risk preference, irrigation potentiality, knowledge level and yield level_ While positive and highly significant effect was observed in case of annual income. The contribution of these variables was 56.15 per cent. While in case of non-demonstrator respondents, the non-significant effect was observed on extent of adoption through different independent variables like age, education, annual income, social participation, extension participation, size of land holding, risk preference, irrigation potentiality and yield level. Whereas positive and highly significant

effect was observed in case of knowledge level. The contribution of these variables was 70.90 per cent.

In case of demonstrator respondents the non-significant effect was observed on yield level through different independent variables like age, education, social participation, size of land holding, risk preference, irrigation potentiality, knowledge level and extent of adoption, while positive and highly significant effect was observed in case of extension participation and significant effect was observed in case of annual income. The contribution of these variables was 53.50 per cent. In case of non-demonstrator respondents the non-significant effect was observed on yield level through different independent variables like, age, education, annual income, and social participation extension participation, size of land holding, risk preference, knowledge level and extent of adoption. While positive and significant effect was observed in case of irrigation potentiality. The contribution of these variables was 66.24 per cent.

Some important constraints behind not adopting the groundnut-pigeon pea relay cropping system by the respondents were:

- 1) Farmers are not getting remunerative price of crops
- 2) High price of improved seeds
- 3) Lack of irrigation facility
- 4) High price of chemical fertilizers
- 5) Non-availability of enough finance in time
- 6) High price of weedicides/ pesticides and fungicides
- 7) Labour requirement was more in groundnut-pigeon pea relay cropping system
- 8) Non-availability of Extension workers in the villages as per time schedule
- 9) Due to the adoption of recommended sowing distance, there is difficulty in inter culturing
- 10) Unawareness about the recommendation of pesticides/ fungicides

Some important suggestions from the majority of the respondents were made to overcome the constraints faced by them they were

1. Remunerative price of the product should be made available
2. Farmers should be protected by crop insurance, if crop fails

77. IMPACT OF INSTITUTIONAL TRAINING ON FARM WOMEN'S KNOWLEDGE AND ADOPTION OF WHEAT PRODUCTION TECHNOLOGY

YEAR : 2002

NAME OF STUDENT

Ms. Hetal P. Bhatt

MAJOR ADVISOR

Dr. B. R. Karkar

Abstract:

The women folk is a back bone of the nation and better half of the men in almost all phrase for community development. Women and agriculture in India seem to synonymous terms. From time immemorial women have played an important and significant role not only in maintaining their home but also managing their farms and animals. In modern agriculture too, there is hardly any activity in agriculture except ploughing where women are not involved. In some of the activities she is relatively rather more efficient than men. Once she is on the move, the family moves, the village moves and ultimately the nation moves. She is main architect of change in the farming. About 70 per cent of agricultural

operations are performed by farm women besides 50 per cent of all animal husbandry and 100 per cent of the food processing. With a view to implement the new agricultural strategy successfully and increase production. skill, attitude and knowledge of women, it is essential to provide production oriented training and education to women. Realizing the importance of such training, Sardar Smruti Kendra have been set up in Gujarat Agricultural University. Sardar Smruti Kendra, Junagadh has been working since July, 1975 with sole objectives of imparting training to the farmers, farm women and rural youth with a view to increase their crop production.

A considerable time of 26 years has been passed to its implementation, hence it was important to study, whether this training has made any impact on participating farm women's knowledge and adoption.

Wheat is one of the most important food grain of the India and it is staple food for millions of people. Its increase production leads India towards self sufficiency, at least in case of food grains. Therefore, this crop was selected for measuring to impact of training.

Keeping this in view, the study entitled "Impact of institutional training on farm women's knowledge and adoption of wheat production technology" was undertaken with the following specific objectives :

1. To study the selected characteristics of trained and untrained farm women.
2. To assess the knowledge level of the trained and untrained farm women regarding improved wheat production technology.
3. To determine the extent of adoption of the trained and untrained farm women regarding improved wheat production technology.
4. To ascertain the association between the characteristics of the trained and untrained farm women and their level of knowledge of improved wheat production technology.
5. To assess the association between the characteristics of the trained and untrained farm women and their extent of adoption of improved wheat production technology.
6. To determine the appropriateness of methods and techniques used for training.
7. To know the opinion of the trained farm women regarding training facilities provided to them.
8. To seek suggestions to make training programme more effective.

The theoretical orientation was developed for the study on the basis of reviewed literature, having direct and indirect bearing on the present problem. Based on the assumptions, the tentative paradigm was laid down. Taking the help of theoretical orientation, the null hypothesis was formulated.

In order to achieve the objectives of study, a sample of 90 trained and 90 untrained farm women representing nine villages of Una, Kodinar and Malia of Junagadh district were drawn by using multi stage proportionate random sampling technique. In order to measure the level of knowledge and extent of adoption of wheat production technology by the trained and untrained farm women, the standardized knowledge test developed by Trivedi and Patel (1997) was used while, adoption index was developed and adoption quotient developed by Chattopadhyay (1974) was used. Based on past researches and discussion with extension expert, the independent variables were selected. For measuring appropriateness of methods and techniques used for training, an inventory was developed and responses were recorded on four-point continuum. The data were analysed in the light of specific objectives. The various statistical measures like percentage, arithmetic mean, S. D., 'Z' test rank correlation and correlation co-efficient 'r' were used.

The salient findings were:

1. The trained and untrained farm women differed significantly in their characteristics like: education, annual income, reading habit, social participation, extension participation, yield, knowledge index and adoption index.
2. Majority of the trained (70 %) and untrained (65.55 %) farm women belonged to medium level of knowledge with 77.28 and 62.24 mean knowledge index, respectively.
3. Majority of the trained (74.44 %) and untrained (68.88 %) farm women had medium extent of adoption of improved wheat production technology with mean Index 73.53 and 55.89 mean adoption index. respectively.

The practices the improved varieties, tillage, harvesting, irrigation, sowing Lime, weed management chemically, plant protection, seed treatment and sowing method were more adopted by the trained farm women. In case of the untrained farm women, the practices like: tillage, harvesting, sowing time, improved varieties, seed rate, irrigation and plant protection were more adopted. The trained and untrained farm women were found similar in their rank order correlation for adoption of improved wheat production technology. However, they differed significantly in their aggregate extent of adoption.

4. There was a positive and significant association between the knowledge level of trained farm women about wheat production technology and their characteristics like: education, annual income, reading habit, social participation, extension participation, yield and adoption index, whereas age had negative and significant association with level of knowledge of trained farm women.
5. There was appositive and significant association between untrained farm women's level of knowledge about improved wheat production technology and their characteristics like: education, annual income, reading habit, extension participation, yield and adoption index, whereas negative and significant association was observed with age.
6. The education, annual income, reading habit, social participation, extension participation, yield and 'knowledge index of trained respondents were found positively and significantly associated with adoption of improved wheat production technology, whereas age had negative and significant association with extent of adoption of trained farm women.
7. The education, annual income, reading habit, yield and adoption index of untrained farm women had positive and significant association with extent of adoption of improved wheat production teelmology, whereas negative and significant association was observed with age.
8. According to opinion of the trained farm women, the most appropriate method secured first three ranks were: Lecture with discussion and demonstration, lecture with discussion and A. V. aids and lecture with A. V. aids.
9. The most important problems of the trained farm women with respect to training and facilities were: training was not given at suitable time, training method was not proper and trainees group was not appropriate.
10. The most important suggestions expressed by the trained farm women to make training programme more effective were: venue should be training center 66.66 per cent, duration of training should be of three days 57.77 per cent, time should be during slack season 55.55 per cent, trainees group should be of 25 members 61.11 per cent, stipend should be increased 75.55 per cent and preferred female teacher trainer 82.22 per cent.

78. KNOWLEDGE AND ADOPTION OF ECO- FRIENDLY PRACTICES FOLLOWED BY THE GROUNDNUT GROWERS OF SOUTH SAURASHTRA ZONE OF GUJARAT STATE

YEAR : 2004

NAME OF STUDENT

M. K. Sahoo

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

The growing concern about environmental degradation, dwindling natural resources and urgency to meet the food needs of the burgeoning population are compelling farm scientists and policy makers to seriously examine alternatives to chemical agriculture. A sustainable agriculture backed up by green technologies in an integrated farming system has been considered as a promising and potential pathway. The twin problems confronting agricultural production are all pervasive erosion of natural resources such as land, water and bio diversity, fast declining soil fertility and use efficiency of inputs such as water, fertilizer and energy. Demographic pressure accelerate the first and agronomic deficiencies the second.

The adverse effect of pesticides on the environment has been well documented and their residues in the food chain have endangered the whole life sustaining systems in many regions. Chemical fertilizers have also jeopardized the environment through nitrate poisoning and exterminating the beneficial soil microflora and microfauna by adversely altering the chemical and physical structure of the soil.

Eco-friendly practices are environmentally benign, ecologically protective, technically sound, economically viable and socially acceptable practices. Eco-friendly practices generally avoid or largely exclude the use of inorganic fertilizers, pesticides, growth regulators and live stock feed additives. To maximum extent feasible these practices rely on crop rotations, crop residues, animal manures, legumes, green manures, off farm organic wastes and aspects of biological pest control to maintain soil productivity and tilth to supply plant nutrients and to control insects, weeds and other pests.

With all the above points in view this research was undertaken with the following objectives.

- o To identify and document various eco-friendly practices followed by the groundnut growers.
- o To assess the knowledge of farmers towards eco-friendly practices.
- o To determine the extent of adoption of groundnut growers about eco-friendly practices.
- o To ascertain the association between the level of knowledge about eco-friendly practices and selected independent variables of groundnut growers.
- o To ascertain the association between the extent of adoption of eco-friendly practices and selected independent variables of groundnut growers.
- o To predict the extent of variation in the dependent variables caused by selected independent variables.
- o To identify the constraints faced by groundnut growers in the adoption of eco-friendly practices of groundnut.

In order to realize the above objectives, a sample of 120 groundnut growers, representing 6 villages of two talukas (Mendrada and Mangrol) of South Saurashtra agro climatic zone was drawn by using proportionate random sampling technique. To measure the groundnut growers' knowledge about eco-friendly practices a teacher made knowledge

test was developed and used. The adoption quotient developed by Manju (1996) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were analysed and interpreted in the light of the specific objectives.

The salient findings were:

More than half (52.50 per cent) of the groundnut growers belonged to middle age group, while 55.00 per cent of the groundnut growers fell in medium education group. There were 83.33 per cent of respondents who belonged to high income group. About 72.50 per cent of the respondents had medium extension participation, whereas 62.50 per cent of the respondents fell under medium risk orientation group. 59.17 per cent of the groundnut grower had groundnut yield index of more than 50 per cent. As many as less than one half (46.66 per cent) respondents had large land holding size. A considerable (57.50 per cent) percentage of the respondents belonged to medium innovative group, whereas 45.00 per cent of the groundnut growers fell under medium progressive group. A conspicuous percentage (71.66 per cent) of the respondents had medium exposure to information sources.

A majority (73.33 per cent) of the groundnut growers had medium knowledge about eco-friendly practices followed by 18.34 and 8.33 per cent with high and low level of knowledge, respectively. Besides 71.66 per cent of the groundnut grower had medium adoption index followed by 15.84 and 12.50 per cent with high and low level of adoption of the eco-friendly practices, respectively.

There was non significant association of the knowledge of groundnut growers about eco-friendly practices with their age, annual income and size of land holding.

Groundnut yield index, risk orientation and progressiveness were negatively and significantly associated with the knowledge of eco-friendly practices.

The remaining characters like education, extension participation, innovativeness and exposure to information sources were positively and significantly associated with the knowledge of groundnut growers.

There was non significant association of the adoption of eco-friendly practices with the age, annual income, risk orientation, size of land holding, progressiveness and exposure to information sources.

Yield index was negatively and significantly associated with their extent of adoption. Education, extension participation and innovativeness had positive and significant association with the adoption of eco-friendly practices.

Five independent variables namely education, extension participation, size of land holding, innovativeness and progressiveness contributed towards 77.67 per cent ($R^2 = 0.7767$) of variation in the level of groundnut growers' knowledge about eco-friendly practices. The order of contribution of these five variables in descending order was extension participation, progressiveness, innovativeness, size of land holding and education.

Four independent variables viz. education, annual income, extension participation and groundnut yield index contributed towards 33.10 per cent ($R^2 = 0.3310$) of variation in the level of groundnut growers' extent of adoption eco-friendly practices. The order of contribution of these four variables in descending order was extension participation, education, yield index and annual income.

Majority of the farmers (70.83 per cent) fell in the medium perception category of simplicity. Majority (56.66 per cent) of the farmers came under medium category on the profitability dimension of perception. 54.17 per cent of the respondents fell in the medium category of perception of efficiency. Majority (59.17 per cent) of the respondents were of the opinion that the eco-friendly practices were highly sustainable. Input availability was perceived as medium by 62.50 per cent of the respondents. Flexibility was perceived as

medium by majority (75.00 per cent) of the farmers.

The most important constraints in the adoption of eco-friendly practices were:

1. Lack of sound research and development on ecological farming.
2. Mediocre education of the respondents.
3. Lack of special incentives or awards for adopters of eco-friendly practices.
4. Poor return as compared to modern technologies.
5. Lack of awareness about eco-friendly practices.
6. Farmers are not willing to take risk.
7. Lack of market facility for organically produced commodities.

79. INDIGENOUS VETERINARY PRACTICES FOLLOWED BY THE CATTLE OWNERS OF JUNAGDHA DISTRICT IN GUJARAT STATE

YEAR : 2004

NAME OF STUDENT

B. A. Savaliya

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

Developing country like India depends on growth of agriculture and animal husbandry. Both these enterprises play a significant role in Indian economy. More and more concentrated research is carried out in the field of veterinary science to combat most of ailments of cattle and to improve its production. Yet the poor cattle owners who are living in the remote areas are not getting satisfactory service of veterinary doctors due to various reasons. They have developed their own knowledge system based on their traditional wisdom. This is built upon their day-to-day observations transferred from the old generations to the younger one by words of mouth. Although these indigenous practices are more effective in its locality yet it is believed to be unscientific and unreliable because of its unrecorded features. This is recorded only in the mind of people. The creators of traditional knowledge may be unaware about scientific fact or rationale behind these practices. Hence, there is an urgent need to document and verify various indigenous veterinary practices, which are getting eroded due to changes in our environment, culture and habits.

With all the above points in view this research was undertaken with the following objectives.

1. To identify and document various indigenous veterinary practices followed by the cattle owners with their rationale as perceived by cattle owners as well as veterinary officers.
2. To study the selected characteristics of the cattle owners.
3. To examine the level of knowledge of the respondents about indigenous veterinary practices.
4. To assess the degree of attitude of respondents towards indigenous veterinary practices.
5. To ascertain the relationship between the selected independent variables of the cattle owners and their level of knowledge about indigenous veterinary practices.
6. To ascertain the relationship between the selected independent variables of cattle owners and their attitude towards indigenous veterinary practices.
7. To measure the evaluative perception of respondents towards indigenous veterinary practices.

In order to realize the above objectives, a sample of 120 cattle owners, representing 6

villages of two talukas (Visavadar and Mendarada) of Junagadh was drawn by using proportionate random sampling technique. To measure the cattle owners' knowledge about indigenous veterinary practices a teacher made knowledge test was developed and used. In order to measure cattle owners' attitude towards indigenous veterinary practices, an attitude scale was developed following the methodology suggested by Likert (1932) and Edward (1957), called the method of summated rating was used in this study for scale construction. The data were collected with the help of structured schedule by personal interview method. The data were analysed and interpreted in the light of the specific objectives.

The salient findings were:

More than half (51.66 per cent) of the cattle owners belonged to middle age group, while 53.33 per cent of the cattle owners fell in medium education group. About 59.15 per cent of the respondents had large family size. There were 67.50 per cent of respondents who had animal husbandry and farming as occupation and 77.5 per cent of the respondents belonged to middle income group. About 60.00 per cent of the respondents possessed medium herd size and 65.83 per cent of cattle owners had medium land holding. Majority (66.67 per cent of the respondents belonged to the category of medium social participation, whereas a conspicuous percentage (75.00 per cent) of the respondents fell under medium extension contact group, 53.33 per cent of the cattle owners had middle risk orientation.

A considerable percentage (53.34 per cent) of the cattle owners had medium knowledge about indigenous veterinary practices followed by 23.33 and 23.33 per cent with high and low level of knowledge, respectively. Practices like juice of leaves of *panafad* helps in healing of wound of cattle, *Ghughry* made from *bajra* grain is given to mulch animal, *Datura* fruits induce heat in cattle, *mamejvo* leaves cures diarrhoea in cattle and flatulence is cured, if cattle is given groundnut oil to drink were known by majority of the cattle owners.

Besides 61.67 per cent of the cattle owners had favourable attitude followed by 20.83 and 17.50 per cent with less and highly favourable attitude towards indigenous veterinary practices, respectively.

There was non significant association of the knowledge of cattle owners about indigenous veterinary practices with their occupation, size of land holding, social participation, extension contact and risk orientation.

Education was negatively and significantly associated with the knowledge of indigenous veterinary practices.

The remaining characters like age, size of family, annual income and herd size were positively and significantly associated with the knowledge of cattle owners.

There was non significant association of the attitude towards indigenous veterinary practices with the occupation, herd size, size of land holding, social participation, extension contact and risk orientation.

Education was negatively and significantly associated with their level of attitude. Whereas, age, size of family and annual income had positive and significant association with the attitude towards indigenous veterinary practices.

About half (50.83 per cent) of the respondents fell in the medium perception category of simplicity. As many as less than one half (45.83 per cent) of the cattle owners came under medium category on the profitability dimension of perception. As many as 49.17 per cent of the respondents fell in the high category of perception of efficiency. Majority (64.17 per cent) of the respondents were of the opinion that the indigenous veterinary practices were medium sustainable. Input availability was perceived as medium by 46.67 per cent of the respondents. Flexibility was perceived as medium by half (50.00 per cent) of the respondents.

80. TECHNOLOGICAL GAP IN GROUNDNUT PIGEON PEA INTER/RELAY CROPPING SYSTEM IN SOUTH SAURASHTRA ZONE OF GUJARAT STATE

YEAR : 2004

NAME OF STUDENT

Gohil G. R.

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

Agriculture is the backbone of Indian economy. Our population increases day by day and crossed one billion population. Severe droughts and other natural calamities are the feature which are the implements of the development. India has needed to increase production and area of important crops to secure the food grain production as well as food security for the people. Despite, technological advancement, there is a wide gap exists between the know-how already attained and their application of them in the farmers' field. It is well known fact that the gross cultivated area under agriculture can not be increased or it is very difficult task. In this situation the adoption of different cropping system may serve a suitable and viable option to encounter the present challenges.

Inter relay cropping is one of the most suitable cropping system now a days because it insulate farmers' investment of land, labour and capital against adversities of nature in order to sustain their livelihood. South Saurashtra zone of Gujarat state has low and erratic rainfall habit, so the crop production potential is also low. This instability in crop production is further amplified by high evaporation condition, low soil water holding capacity and unavailability of irrigation water. Also studies conducted by the Indian meteorology department revealed that rainfall pattern at and around Junagadh permit successful rising of 14-16 weeks long duration crop in 50-60 per cent of the years. Under such condition groundnut-pigeon pea inter-relay cropping system is best suited to this region. Hence the study entitled "TECHNOLOGICAL GAP IN GROUNDNUT-PIGEONPEA INTER-RELAY CROPPING SYSTEM IN SOUTH SAURASHTRA ZONE OF GUJARAT STATE" was undertaken with the following objectives

1. To study the selected characteristics of the respondents.
2. To study the practice wise and over all extent of technological gap in groundnut-pigeon pea inter-relay cropping system.
3. To ascertain the association between dependent variable (technological gap) and selected independent variables.
4. To predict the extent of variation in dependent variables caused by independent variables.
5. To examine the direct and indirect effect of independent variables on dependent variable.
6. To study the constraints experienced by the farmers in groundnut-pigeon pea inter-relay cropping cultivation.
7. To seek suggestions from the growers to overcome the constraints in groundnut-pigeon pea inter-relay cultivation.

The theoretical orientation was developed for the study on the basis of review of literature. The various concepts utilized in the study were operationalized suitably. Based on the assumptions, the tentative paradigm was laid down and finally the null hypotheses were also formulated. The methodological procedure consisted of dependent (technological gap) and independent (selected characteristics of respondents) variables,

selection of respondents, analysis of data and various statistical measurers, such percentage, standered deviation, coefficient of correlation, multiple regression and path analysis were used.

A well-developed schedule translated into Gujarati language and used for collecting the data from the respondents after the pre-testing. In order to realize the above mentioned objectives, a sample of 120 groundnut Pegion pea growers were selected by purposive sampling technique from four villages of two talukas (Mendarada and Dhoraji). The data were collected by way of a personal interview. The collected data were processed; tabulated, classified, analyzed and statistical treatments were carried out in the light of objectives.

The salient findings were:

1. Majority of the respondents (85.93 per cent) were middle and old age group and had primary to secondary education 64.17 per cent and (49.17 per cent) and 37.50 per cent respondents had medium and small size of land holding. While majority (69.17 per cent) respondents belong to medium irrigation index, 60 per cent respondents had medium annual income, 70.00 per cent respondents belonged to farming as their main occupation, about 70.00 per cent respondents had medium social and extension participation, 85.00 per cent respondents had medium to low risk preference and 94.16 per cent respondents had medium to low knowledge. Majority of the (71.67 per cent) respondents had medium yield level.
2. Majority of respondents (65.00 per cent) possessed medium level of technological gap in groundnut pigeon-pea crop production technology followed by high (18.33 per cent) and low (16.67 per cent), technological gap in groundnut pigeon-pea crop production technology.
3. The technological gap was found very high in case of the practices like weed management (42.86 per cent), seed rate (47.73 per cent) and plant protection (63.35 per cent). The moderate to medium level of technological gap was found in the practices like harvesting/threshing (3.75 per cent), showing time (19.04 per cent), FYM (21.11 per cent), seed treatment (21.34 per cent), improved varieties (23.33 per cent) gap filling and thinning and (24.86 per cent), chemical fertilizers (32.50 per cent), sowing distance (35.38 per cent), and irrigation (42.12 per cent).
4. The age, size of land holding, irrigation index, cropping intensity, income, occupation, extension participation and risk preference had their non-significant relationship with technological gap. However, variables viz, education, social participation, knowledge and yield index showed their negative significant relationship with technological gap.
5. The knowledge and yield index were significantly contributed to the technological gap. The 48.00 per cent of variation in technological gap was exerted by all the selected independent variables. The order of contribution of these variables were knowledge index was the highest (0.5668) followed by equivalent yield level (0.1742), size of land holding (0.1741), risk preference (0.1720), occupation (0.1627), education (0.0895).
6. The highest direct negative influence on technological gap of groundnut pigeon pea inter relay rowers exerted by knowledge (-0.5964) with dependent variable followed by groundnut pigeon pea yield level (0.1917). While education (-0.1111) had trivial negative effect on technological gap of groundnut pigeon pea inter relay growers. The variables like education, age, risk .social participation, and occupation contributed maximum to total indirect effect to the technological gap.

81. A STUDY ON READING BEHAVIOR READERSHIP PATTERN AND EXTENT OF UTILIZATION OF FARM LITERATURE BY FARM WOMEN OF JUNAGADH DISTRICT

YEAR : 2004

NAME OF STUDENT

Ms. M. C. Dhaduk

MAJOR ADVISOR

Dr. B. R. Karkar

Abstract:

Farm women are the unsung heroines, born to die in the backyard of human civilization on the burden of humanity. They work shoulder to shoulder with men folk in the fields in scorching sun and under torrentlet rain. in modern agriculture. too there is hardly and activity in agriculture except ploughing where women are not involved. In some of the activities she is relatively rather more efficient than men. Once she moves. the family moves, the village moves and ultimately the nation moves. She is main architect of change in the farming. About 70 per cent of agriculture operations are performs by farm women. Farm women need to inform about new agricultural technology tools and modern implements. which can increase productivity and reduce physical strain. Women are great communicators of appropriate technologies in agriculture. This unique ability of women need to be utilized in dissemination.

Today mass media play a significant role in communicating farm messages. Among the mass media, printed farm literature plays an eually important role in the agricultural development. The written word has power. If written well, it convinces and motivates farm women to action. The printed materials have unique advantage of permanency.

Farm women vary in their purpose of reading, period of reading their attitude towards farm literature etc. Many factors are influcing the reading behaviour and utilization of the farm literature. Farm literature i.e. 'Pak Sanrakshan' and 'Pragatishil Kheti' published by Sardar Smruti Kendra, Junagadh and circulated to trainee farm women, were selected to study the reading behaviour, readership pattern and the extent of utilization of agricultural information published in farm literature by the farm women readers with the following objectives :

1. To study the selected personal and socio-economic characteristics of the farm women readers of the farm literature
2. To study the reading behaviour of the farm women readers
3. To find out the readers' perferences regarding the content of the farm literature
4. To assess the extent of utilization of agricultural information by the farm women readers
5. To know the readership pattern of the farm literature
6. To ascertain the association between reading behaviour of the farm women readers and their personal and socio-economic characteristics
7. To ascertain the association between the extent of utilization of agricultural information by the farm women readers and their personal and socio-economic characteristics.
8. To seek suggestions from the farm women readers to make the farm literature more effective and popular

The theoretical orientation was developed for the study on the basis of reviewed literature. having direct and indirect bearing on the present problem. Based on the assumptions, the tentative paradigm was laid down. Taking the help of theoretical orientation, the new hypothesis was formulated.

In order to achieve the objectives of the study, a sample of 100 farm women of nine villages from 7 talukas of Junagadh district were drawn by the purposive sampling technique. In order to measure reading behaviour teacher made scale was used. For measuring readership pattern and extent of utilization suitable scales and procedure adopted by other researchers were used.

Based on past researches and discussion with extension expert, the independent variables were selected. The responses were collected with the help of structural interview schedule by personal interview. The data were analyzed and interpreted in the light of specific objectives. The various statistical measures like percentage, arithmetic mean, standard deviation, 't' test, correlation co-efficient 'r' were used.

The salient findings were:

(1) More than one third (44.00 per cent) of the farm women readers were from young age group. (2) Less than one half (42.00 per cent) of the farm women readers were educated up to secondary level of education. (3) Majority (75.00 per cent) of the farm women readers had farming as their main occupation. (4) Less than one half (42.00 per cent) of the farm women readers had small size of land holding. (5) Nearly three fourth (74.00 per cent) of the farm women reader had utilized well as source of irrigation. (6) Majority (78.00 per cent) of the farm women readers belonged to joint family. (7) Majority (80.00 per cent) of the farm women readers came from large size of family. (8) Nearly three fifth (57.00 per cent) of the farm women reader had one pair of bullock. (9) Nearly one half (49.00 per cent) of the farm women readers were found in medium income level group. (10) More than one half (53.00 per cent) of the farm women readers had medium level of social participation.

(11) About two third (65.00 per cent) of the farm women readers had medium level participation in various extension activities. (12) Nearly three fifth (57.00 per cent) of the farm women reader had used radio as their high tech communication. (13) Majority of decisions were taken by male member followed by joint decisions and female member.

(14) More than one half (56.00 per cent) of elder members of the farm women readers educate up to secondary level of education. (15) A great majority (94.00 per cent) of the farm women readers read farm literature to gain knowledge. (16) Majority (90.00 per cent) of the farm women readers had habit of discussing agricultural information with other persons. (17) Nearly half (49.00 per cent) of the farm women readers spend weekly one hour or less time for reading the farm literature. (18) About three fourth (78.00 per cent) of the farm women readers read the farm literature according to their convenience of time. (19) A great majority (96.00 per cent) of the farm women readers had no habit of noting the useful agricultural information.

(20) More than half (58.00 per cent) of the farm women readers were in the category of medium level of reading behaviour. (21) Readers preferred to read more about value addition process (ranked I). Preservation of fruits and vegetables (ranked II) identification of crop pest and damaging stage (ranked III), care of milch animals (ranked IV), seed production technology (ranked V), feeding management of cattle (ranked VI), identification of beneficial insects (ranked VII), integrated pest and disease management (ranked VI), pest control (ranked IX), identification of crop diseases and damaging stage (ranked X), beneficial schemes of horticulture (ranked XI) beneficial schemes of agriculture (ranked XII). effective use of pesticides in crop protection (ranked XIII), green house technology (ranked XIV), improved agricultural practices (ranked XV), disease control (ranked XVI). integrated nutrient management in soil (ranked XVII), water harvesting and its conservation (ranked XVIII), improved crop variety (ranked XIX), and available sources of farm literature Cranked XX).

(22) Agricultural information published in the farm literature helps in providing

information in plant protection measures (ranked I), care of milch animals (ranked II), preservation of fruits and vegetables (ranked III), developing scientific attitude towards agriculture or adopting new farm implement (ranked IV), identification of beneficial insects (ranked V), it helps in solving farm problems (ranked VI), beneficial schemes of horticulture (ranked VII), beneficial schemes of agriculture (ranked VIII), enriching knowledge about new agricultural information (ranked IX), water harvesting and its conservation (ranked X), developing commercial outlook towards agriculture (ranked XI) and creating interest in our profession (ranked XII). (23) Majority (75.00 per cent) of the farm women readers had medium level of utilization of agricultural information.

(24) In readership pattern lookout to the photographs and picture (ranked I), read articles with important points in them (ranked-I), read interesting articles first (ranked III) read contents (ranked IV), read editorial column (ranked V).

(25) More than half (57.00 per cent) of the farm women readers read some part of literature. (26) There was a positive and significant association between reading behaviour of farm women readers and their selected characteristics viz; education, social participation and extension participation.

(27) Age had negative and significant association with reading behaviour while land holding, irrigation facility and size of family had negative and non significant association with reading behaviour.

(28) In case of occupation type of family, farm power, annual income, high tech communication, decision making and elders' education positive non significant association was observed with reading behaviour. (29) Education had positive while age has negative and significant association with extent of utilization of agricultural information.

(30) There was a positive and non-significant association between extent of utilization of agricultural information by farm women readers and their selected characteristics viz; occupation, irrigation facility, type of family, farm power, annual income, social participation, extension participation, high tech communication, decision making and elders' education but land holding and size of family had negative non-significant association with extent of utilization of agricultural information.

(31) Important suggestion made by the farm women readers to make farm literature - more effective and popular, were more illustrations and photographs relevant to the topic should be given, simple and local language should be used, due coverage should be given to literature on home science, big size letters should be used and simplified information about doses of different chemicals should be given.

82. ENTREPRENEURIAL BEHAVIOR OF THE GROUNDNUT GROWERS OF JUNAGADH DISTRICT IN GUJARAT STATE

YEAR : 2004

NAME OF STUDENT

R. P. Javiya

MAJOR ADVISOR

Dr. D. M. Thakrar

Abstract:

Entrepreneurship can be defined as a creative and innovative response to the environment made by an organizer of business enterprise. Doing new thing or doing things that are already being done in a new way is a part of entrepreneurial behaviour. The entrepreneur is an economic man, who strives to maximize his profit by adopting innovations and man with a will to act, to assume risk, and to bring about a change through organization of human efforts. Groundnut is the most important oilseed crop, which is grown intensively in Gujarat and Junagadh district particularly. Groundnut cultivation requires risk, rational decisions, managing skills and resourcefulness for profitable and

successful farming. Groundnut growers should progressive farmers, forward looking, conscious and alert farm businessmen. Entrepreneurial behaviour of the farmer plays an important role in adoption of new agricultural technologies which results in successful farm enterprise. A very little efforts have been made to study the farmers' characteristics which influence entrepreneurial behaviour. Keeping this in view, the study was planned with the following specific objectives:

1. To study the personal, socio-economic, situational and communication characteristics of the Groundnut growers.
2. To ascertain the level of knowledge of the Groundnut growers regarding recommended Groundnut production technology.
3. To assess the extent of adoption of Groundnut production technology by the Groundnut growers.
4. To study the entrepreneurial behaviour of the Groundnut growers.
5. To study the relationship between selected characteristics of the groundnut growers and their entrepreneurial behaviour.
6. To study the constraints faced by the Groundnut growers in adoption of recommended Groundnut production technology and seek suggestions to overcome these constraints.

The present study was conducted in two Talukas of Junagadh district namely Keshod and Mendarada. Out of total village of Keshod and Mendarada taluka, 10 groundnut growing villages were selected on the basis of maximum area under cultivation. Thus, random samples of 100 groundnut growers were selected. The data were collected with the help of personal interview. The data collected were analyzed in the light of objectives for meaningful interpretation. The important findings of the study are summarized as under.

1. Majority of the groundnut growers were middle aged (61.00 per cent) and literate (84.00 per cent).
2. Majority of the groundnut growers had medium social participation (68.00 per cent), 61.00 per cent of the groundnut growers had medium to large size of land holding, more than three-fourth (72.00 per cent) of the groundnut growers had medium to high level credit orientation and medium level of (62.00 per cent) market orientation.
3. Majority of the groundnut growers were having medium level of (58.00 per cent) cropping intensity.
4. Majority of groundnut growers had medium level of extension participation (69.00 per cent).
5. Knowledge (64.00 per cent) and 61.00 per cent of the respondents had medium level of adoption of recommended groundnut production technology.
6. The groundnut growers had medium level of (65.00 per cent) entrepreneurial behaviour with medium innovativeness, decision making ability, risk taking ability, information seeking, knowledge of farm enterprise, cosmopolitaness, assistant to co-ordinate farm activities, assistance of management services, leadership ability and achievement motivation.
7. Among the independent variables, viz., education, social participation, annual income, credit orientation, market orientation, cropping intensity, extension participation, knowledge and adoption were found statistically significant and positively correlated with entrepreneurial behaviour whereas, age was the negatively significant. Land holding failed to establish any relationship with entrepreneurial behaviour of the groundnut growers.
8. Farmers are not getting remunerative price of crops, high price of improved seeds,

lack of irrigation facility, non availability of finance in time, high price of chemical fertilizers, lack of disease and pest resistance variety non availability of extension workers in villages as per time schedule, non availability of improved seeds in required quantity in time and irregular supply of electricity were the major constraints faced by the groundnut growers.

9. The major suggestions endorsed by majority of groundnut growers were, remunerative price of the product should be made available, inputs should be made available at affordable rate, multiple resistance varieties should be developed and sufficient and timely credit facility should be made available.

83. KNOWLEDGE, ADOPTION AND CONSTRAINTS OF GARLIC GROWERS WITH RESPECT TO RECOMMENDED GARLIC PRODUCTION TECHNOLOGY

YEAR : 2004

NAME OF STUDENT

V. G. Barad

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

The gap between know how already attained and their application in field is still large despite of considerable advancement in garlic production technology. Garlic is the important vegetable crop of the Junagadh district. However, majority of the garlic growers did not know and had not yet adopted recommended garlic production technology, due to lack of technical knowledge and several constraints experienced by them in adoption of recommended garlic production technology. Keeping the above fact in view, the study entitled “Knowledge, adoption and constraints of garlic growers with respect to recommended garlic production technology” was undertaken with following specific objectives.

1. To study the selected characteristics of the garlic growers.
2. To determine the extent of knowledge of garlic growers with respect to recommended garlic production technology.
3. To measure the extent of adoption of recommended garlic production technology by the garlic growers.
4. To ascertain the relationship, if any, between knowledge and adoption (dependent variables) of recommended garlic production technology with selected characteristics of the garlic growers (independent variables).
5. To predict the extent of variation in dependent variables caused by selected independent variables.
6. To identify the constraints faced by the garlic growers in adoption of recommended garlic production technology.
7. To seek the suggestions from the garlic growers to overcome the constraints in adoption of recommended garlic production technology.

In order to realize the above objectives, a sample of 120 garlic growers, representing 10 villages of two talukas (Visavadar and Mendarda) of Junagadh district was drawn by using purposive random sampling techniques. To measure the garlic growers' knowledge about recommended garlic production technology a teacher made knowledge test was developed and used. To identify the garlic growers' extent of adoption of recommended garlic production technology the adoption index was developed and used. The adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were compiled analyzed and interpreted in the light of specific objectives.

About one half (42.50 per cent) of the garlic growers belonged to middle age group, while more than one half (65.00 per cent) of the garlic growers were from medium education group, (55.00 per cent) medium size of family (55.00 per cent) and medium size of land holding (54.17 per cent).

Whereas, 61.67 per cent and 64.17 per cent respondents had medium social participation and extension contact respectively. 60.00 per cent, 58.33 per cent and 65.83 per cent respondents had medium irrigation potentiality, garlic cropping intensity and risk orientation respectively.

A majority (65.00 per cent) of the respondents had medium knowledge level about the recommended garlic production technology, followed by 20.00 per cent and 15.00 per cent with high and low level of knowledge about recommended garlic production technology, respectively. As well as, majority (63.33 per cent) of the garlic growers had medium adoption index followed by 20.00 per cent and 16.67 per cent with high and low level of adoption of the recommended garlic production technology, respectively.

The practice wise adoption of recommended garlic production technology by the garlic growers were maximum adoption was noticed in the practices method of sowing 92.26 per cent next in order harvesting : 80.35 per cent preparatory tillage : 75.37 per cent, seed rate : 71.31 per cent, irrigation : 70.57 per cent, sowing time : 68.81 per cent and sowing distance : 64.04 per cent.

There was no significant association of the knowledge of garlic growers about recommended garlic production technology with their size of family and size of land holding.

Remaining all the characteristics like education, social participation, Extension contact, Annual income, Irrigation potentiality, Garlic crop intensity and Risk orientation were positively and significantly associated with the knowledge of the garlic growers While, age was negative and significantly associated with the knowledge of the garlic growers.

There was no significant association of the adoption of recommended garlic production technology with the size of family, size of land holding.

At the same time the remaining characteristics were positively and significantly associated with the adoption of recommended garlic production technology except age which was negative significant associated with adoption of recommended garlic production technology.

Age, Education, social participation, Extension contact, annual income, irrigation potentiality garlic crop intensity and risk orientation were jointly contributing to 47.20 per cent of the variation in the level of knowledge of garlic growers. The order of contribution of these eight variables from highest to lowest were education, garlic cropping intensity, extension contact, age, risk orientation social participation, annual income and irrigation potentiality.

Age, Education, social participation, Extension contact, annual income, irrigation potentiality garlic crop intensity and risk orientation were jointly explaining to 34.45 per cent of the variation in the level of adoption of garlic growers. The order of contribution of these variables from highest to lowest was education, risk orientation, irrigation potentiality, age, extension contact, garlic crop intensity, social participation and annual income.

The important constraints perceived by garlic growers were:

1. Weight and quality loss during storage and transportation
2. Inadequate and irregular power supply
3. High charges of electricity
4. Inadequate storage facilities
5. Lack of marketing infrastructure facilities
6. Lack of post harvest management facilities

7. Fluctuation of garlic price in the market

Some of important suggestions expressed by more than 60.00 per cent of the respondents to overcome the constraints in adoption of recommended garlic production technology were:

1. Irrigation sources should be increased
2. Remunerative price should be given to garlic growers
3. Market facilities should be strengthened
4. Regular supply of electricity for irrigation purpose should ensured
5. Inputs should be made available at subsidized rate

84. TECHNOLOGICAL GAP AND CONSTRAINTS IN ADOPTION OF IMPROVED MANGO PRODUCTION TECHNOLOGY

YEAR : 2004

NAME OF STUDENT

M. M. Solanki

MAJOR ADVISOR

Dr. V. B. Sakariya

Abstract:

The gap between the know-how already attained and their application in field is still large despite of considerable advancement in mango production technology. Mango is the important fruit crop of the Junagadh district. However, majority of the mango growers did not know and had not yet adopted improved mango production technology, due to lack of technical knowledge and several constraints experienced by them in adoption of improved mango production technology. Therefore, there is great scope for increasing the mango production

Hence, the present investigation entitled "TECHNOLOGICAL GAP AND CONSTRAINTS IN ADOPTION OF IMPROVED MANGO PRODUCTION TECHNOLOGY" was undertaken with the following specific objectives.

1. To study the selected characteristics of the mango orchard growers.
2. To assess the extent of technological gap of mango orchard growers with respect to improved mango production technology.
3. To ascertain the association and relationship between dependent variable (extent of technological gap) and independent variables (selected characteristics of mango orchard growers).
4. To know the direct and indirect effects of the independent variables on the extent of technological gap of mango orchard growers.
5. To study the constraints experienced by the farmers in adoption of recommended mango production technology.
6. To seek suggestions from the mango orchard growers to overcome the constraints in adoption of improved mango production technology.

In order to realize the above objectives, a sample of 120 mango growers, representing 10 villages of two taluka (Vanthali and Talala) of Junagadh district was drawn by using purposive random sampling techniques. To measure the technological gap of mango growers' teacher made test was used by slight modification. The data were collected with the help of structured schedule by personal interview method. The data were compiled analyzed and interpreted in the light of specific objective.

More than one half (58.33 %) mango growers belonged to middle age, while considerable percentages (40.00 %) of mango growers fall in primary education group and 41.67 per cent of respondents who belonged to medium size of family. About one half

(48.33 %) and more than one half (62.50 %) respondents belonged to medium social participation and extension contact category, respectively. As many as less than one half (28.33 %) mango growers' fall in medium annual income category and one half (51.67 %) mango growers had medium size of land holding. Majority 59.17 per cent mango belonged to middle irrigation potentiality. Exact 50.00 per cent mango growers had medium area (ha) under mango orchard and 40.00 per cent mango orchard growers belonged to medium risk orientation group.

Majority (61.66 %) of the mango orchard growers had medium extent of technological gap in adoption of improved mango production technology. Whereas, 14.16 per had low and 38.33 per cent had high extent of technological gap in adoption of improved mango production technology.

The practice wise adoption of improved mango production technology by the mango orchard growers were:

(1) Tillage : 17.83 per cent (2) Variety : 6.16 per cent (3) Planting distance : 9.72 per cent (4) Organic manure : 14.08 per cent (5) Chemical fertilizer : 25.38 per cent (6) Irrigation : 10.73 per cent (7) Insect / pest control : 46.24 per cent (8) Disease control: 72.09 per cent (9) Inter-cropping: 28.34 per cent (10) Use of hormones: 67.74 per cent.

There was no significant association with the extent of technological gap in adoption of improved mango production technology and their size of family. Education, social participation, extension contact, annual income, size of land holding, irrigation potentiality, area under mango orchard and risk orientation were negatively and significantly associated with the extent of technological gap in adoption of improved mango production technology of mango orchard growers.

Whereas age was positively and significantly associated with the extent of technological gap of mango orchard growers.

The risk orientation had maximum direct and negative effect followed by education and extension contact had negative direct effect. Whereas, education had maximum total indirect effect and risk orientation in descending order on technological gap of mango orchard growers

The important constraints faced by more than 60.00 per cent of mango orchard growers were:

1. Irregular and insufficient electric power supply
2. Lack of modern spraying equipment
3. Lack of awareness about recommendations
4. High price of fertilizers
5. High price and ineffectiveness of fungicides
6. Lack of improved agricultural implements
7. Irregular rainfall
8. High price of insecticides and pesticides

Some of important suggestions expressed by more than 60.00 per cent of the respondents to overcome the constraints in adoption of improved mango production technology were:

1. Regular electric power supply should be made available.
2. Crop insurance scheme should be introduced in mango crop.
3. Effective control measures of pests and diseases should be evolved.
4. Price of pesticides and fertilizers should be reduced.
5. Cooperative society for mango should be started.
6. Training should be given to the fruit growers in relation to the best orchard management
7. Remunerative minimum prices should be fixed by the Government.
8. Agricultural inputs should be subsidized

85. KNOWLEDGE AND ATTITUDE OF FARMERS TOWARDS ORGANIC FARMING PRACTICES IN SOUTH SAURASHTRA ZONE OF GUJART STATE
YEAR : 2005
NAME OF STUDENT

C. D. Patel

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

Agriculture and environment are of late, threatened irreversibly by the indiscriminate use of modern technologies. Indiscriminate use of high doses of chemicals in agriculture alters the ecosystem due to their hazardous nature. Due to consumption of food with the help of such chemicals cause severe damage to human being. Indigenous knowledge or traditional knowledge of rural people can be taken into consideration to solve these problems. Rural people are living in the close vicinity of nature. They have developed their own organic practices; these organic practices are location specific and this knowledge prone to lost if not properly documented. Keeping the above fact in view, the study entitled "Knowledge and Attitude of Farmers towards Organic Farming Practices in South Saurashtra Zone of Gujarat state" was undertaken with following specific objectives.

1. To identify and document the various organic farming practices of different crops like pulse, vegetable, cereal, oil seeds etc, with their rationale as perceived by farmers as well as subject matter specialists.
2. To study the selected characteristics of the respondents.
3. To examine the level of knowledge of farmers towards organic farming practices.
4. To construct the attitude scale and assess the degree of attitude of farmers toward organic farming practices.
5. To ascertain the association between the selected independents variables of the respondents and their level of knowledge towards organic farming practices.
6. To ascertain the association between the selected independents variables of the respondents and their level of attitude towards organic farming practices.
7. To study the evaluative perception about organic farming practices by respondents.
8. To observe the time trend and time line towards the organic farming since last three decade.
9. To find the constraints in the adoption of organic farming practices.

In order to realize the above objectives, a sample of 100 farmers, representing 4 villages of two talukas (*Dhoraji* and *Mangrol*) of South Saurashtra Zone was drawn by using random sampling technique. To measure the farmers' knowledge about organic farming practices a teacher made knowledge test was developed and used. In order to measure farmers' attitude towards organic farming practices, an attitude scale was developed following the methodology suggested by Likert (1932) and Edward (1957), called the method of summated rating was used in this study for scale construction. The data were collected with the help of structured schedule by personal interview method. The data were analysed and interpreted in the light of the specific objectives.

More than half (55.00 per cent) of the farmers' belonged to middle age group, while 38.00 per cent of the farmers' fell in illiterate group. About 67.00 per cent of the respondents had small family size. There were 85.00 per cent of respondents who had agriculture and animal husbandry as occupation and 33.00 per cent of the respondents belonged to middle income group. About 89.00 per cent of the respondents possessed nuclear family type and 52.00 per cent of farmers' had medium land holding.

Majority (56.00 per cent) of the respondents belonged to the category of medium social participation, whereas a conspicuous percentage (76.00.00 per cent) of the respondents fell under medium extension contact group. 70.00 per cent of the farmers' had middle risk orientation. About 34.00 per cent of the farmers' fell under medium innovativeness, while 78.00 per cent of the respondents fell under medium localite-cosmopolite value orientation.

More than half (81.00 per cent) of the respondents fell under spent his young age under supervision of senior members of the family. Majority (79.00 per cent) of the respondents belonged to the category of medium economic motivation, whereas 50.00 per cent of the farmers fell under medium irrigation index group.

A considerable percentage (71.00 per cent) of the farmers' had medium knowledge about organic farming practices followed by 19.00 and 10.00 per cent with low and high level of knowledge, respectively. Besides 61.00 per cent of the farmers' had favourable attitude followed by 22.00 and 17.00 per cent with less and highly favourable attitude towards organic farming practices, respectively.

There was non significant association of the knowledge of farmers about organic farming practices with their occupation, annual income, risk orientation and farming experience.

Age, occupation, size of family and family type were negatively and significantly associated with the knowledge of organic farming practices.

The remaining characters like education, size of land holding, , extension participation, social participation, economic motivation, innovativeness, irrigation index and localite-cosmopolite value orientation were positively and significantly associated with the knowledge of farmers.

There was non significant association of the attitude towards organic farming practices with the occupation, annual income, risk orientation and farming experience.

Age and size of family was negatively and significantly associated with their level of attitude. Whereas, education, size of land holding, extension participation, social participation, economic motivation, innovativeness, family type, irrigation index and localite-cosmopolite value orientation positive and significant association with the attitude towards organic farming practices.

Eleven independent variables namely age, education, type of family, size of family, size of land holding, extension participation, social participation, irrigation index, economic motivation, innovativeness and localite cosmopolite orientation value contributed 70.44 per cent ($R^2 = 0.7044$) of variation in the level of respondents' knowledge about organic farming practices. The order of contribution of these eleven variables in descending order was extension participation, social participation, education, innovativeness, age, economic motivation, irrigation index, size of land holding ,size of family, family type and localite cosmopolite orientation value.

Eleven independent variables namely age, education, type of family, size of family, size of land holding, extension participation, social participation, irrigation index, economic motivation, innovativeness and localite cosmopolite orientation value contributed towards 72.49 per cent ($R^2 = 0.7249$) of variation in the degree of respondents' attitude about organic farming practices. The order of contribution of these eleven variables in descending order was extension participation, social participation, age, innovativeness, localite cosmopolite orientation value, education, economic motivation, irrigation index, size of land holding, size of family and X_3 family type.

About half (50.00 per cent) of the respondents fell in the medium perception category of simplicity. Majority (74.00 per cent) of the farmers came under high category on the profitability dimension of perception. As many as 71.00 per cent of the respondents fell in

the medium category of perception of efficiency. Majority (65.00 per cent) of the respondents were of the opinion that the organic farming practices were highly sustainable. Input availability was perceived as high by 80.00 per cent of the respondents. Flexibility was perceived as medium by half (60.00 per cent) of the respondents. Majority (66.00 per cent) of the respondents fell in the medium category of perception of cost effectiveness.

The major constraints in adoption of organic farming practices of farmers were:

1. Appearance of periodic drought spells during cultivation.
2. Insect-pest and diseases are not easily control by organic farming.
3. Mediocre education of the respondents.
4. Lack of awareness about organic farming.
5. Poor economic status of the farmers.
6. Lack of information and experience regarding organic farming.
7. Poor return as compare to modern technologies.
8. Lack of sound research and development of organic farming.
9. Lack of market facility for organically produced commodity.
10. Lack of special administrative setup to promote organic farming.
11. Lack of consumer understanding about organic food.
12. Lack of price and availability of organic feed.

86. KNOWLEDGE OF BT. COTTON GROWERS ABOUT DISTINCTIVE FEATURES OF BT. COTTON

YEAR : 2005

NAME OF STUDENT

Chavda D. A.

MAJOR ADVISOR

Dr. D. M. Thakrar

Abstract:

Bt. (*Bacillus thuringiensis*) cotton is the most extensively studied cotton variety today. Rigorous scientific studies have been conducted in India and abroad. The use of Bt. to control insect pest is not new, but now Bt. is that a modified version of the bacterial organs has been incorporated into the plant's own Deoxyribo Nucleic Acid, so that the plants cellular machinery produces the delta endotoxin as part of the plant normal development.

Cotton is one of the important cash crops of India. India grows Bt. cotton for the first time in 2002. Mahyco Monsanto is pioneer in seed industry producing Bt. cotton. Gujarat is one of the main cotton producing state in which Amreli district has comparatively larger area under Bt. cotton.

Bt. cotton is newly introduced cotton variety today. It is therefore, worthwhile to measure the farmers knowledge about distinctive features of Bt. Cotton. Keeping these points in view the present study entitled "Knowledge of Bt. cotton growers about distinctive features of Bt. Cotton" was undertaken with the objectives given hereafter.

1. To study selected personal, socio-economic, psychological and communication characteristics of the Bt. cotton growers.
2. To know the Bt. cotton growers knowledge about distinctive features of Bt. cotton,
3. To know the relationship between some selected characteristics of Bt. cotton growers and their knowledge about distinctive feature of Bt. cotton.
4. To identify the constraints faced by Bt. cotton growers.
5. To seek suggestions from the Bt. cotton growers to overcome the constraints.

The study was conducted in Amreli district of Gujarat state. Out of 11 talukas, 3 talukas of

Amreli district were purposively selected. 2 Bt. cotton growing villages were randomly selected from each selected talukas and 25 Bt. cotton growers were selected randomly making a total sample of 150 respondents. Their responses were collected through structured questionnaire by personal contact. The knowledge level about distinctive features of Bt. cotton was measured through a teacher made test. To analyze the data statistical tools like mean, percentage, standard deviation, and coefficient of correlation were used.

MAJOR FINDING

1. Majority of the Bt. cotton growers (65.34 %) belonged to middle age group.
2. In education level of 42.00% of the respondents had primary education, 30.67 % had secondary education, 14.67% had the higher secondary education. 8.66 % illiterate and 4.00 % had college level education.
3. Majority (66.66%) of the respondent had medium social participation, while 24% had low social participation and 9.34% had high social participation.
4. Majority of the Bt. cotton growers (61.33%) had large size of land holding above 4.00 hectare. while 25.34% had medium land holding.
5. Majority of the Bt. cotton growers (81.34%) had medium irrigation potentiality.
6. A great majority of the Bt. cotton growers (92.00 %) had medium level of economic motivation.
7. A great majority of the Bt. cotton growers (91.33%) had medium credit orientation.
8. Majority if the Bt. cotton growers (65.33%) had medium market orientation.
9. Majority of the Bt. cotton growers (72.00 %) had medium cropping intensity.
10. Majority of the Bt. cotton growers (73.33%) had medium Bt. cotton, production, while 58.00 % non-Bt. cotton growers had medium non-Bt. cotton production.
11. Majority of the Bt. cottons growers (68.66%) had medium level of scientific orientation.
12. A great majority of the Bt. cotton growers (84.66%) had medium innovativeness.
13. A majority of the Bt. cotton growers (69.33%) had medium risk orientation.
14. A majority of the Bt. cotton growers (76.66%) had medium overall modernity.
15. A great majority of the Bt. cotton -growers (86.00 %) had medium mass media exposure.
16. A great majority of the Bt. cotton growers (84.00 %) had medium level of extension participation.
17. Majority of the Bt. cotton growers (81.33%) had medium level of knowledge about distinctive features of Bt. cotton.
18. Selected characteristics like education, social participation, size of holding, irrigation potentiality, cropping intensity, production of Bt. cotton and non-Bt. cotton, scientific orientation, overall modernity, mass media exposure and extension participation were significantly correlated with knowledge of Bt. cotton growers about distinctive features of Bt. Cotton.
19. Major conditions faced by the Bt. cotton growers were high price of seed, heavy infestation of sucking pest, problem of wilt. improper vegetative growth and difficulty in weed control.
20. Suggestions given by the Bt. cotton growers to overcome the constraints were sucking pest resistant variety should he developed, seed should available in time and on low cost, wilt resistant variety should be developed, Bt gene should be incorporated in desi variety and Govt. should provide training to farmers for Bt. cotton cultivation.

87. CUMIN GROWERS' KNOWLEDGE AND ADOPTION ABOUT CUMIN PRODUCTION TECHNOLOGY
YEAR : 2006
NAME OF STUDENT

B. H. Tavethiya

MAJOR ADVISOR

Dr. D. M. Thakrar

Abstract:

The gap between know how already attained and their application in field is still large despite of considerable advancement in cumin production technology. Cumin is the important spices crop of the Junagadh district. However, majority of the cumin growers did not know and had not yet adopted recommended cumin production technology, due to lack of technical knowledge and several constraints experienced by them in adoption of recommended cumin production technology. Keeping the above fact in view, the study entitled "Cumin growers' knowledge and adoption about cumin production technology" was undertaken with following specific objectives.

1. To study some selected characteristics of cumin growers.
2. To study the level of knowledge of cumin growers' about cumin production technology.
3. To study the extent of adoption of cumin production technology by the cumin growers.
4. To study the relationship, if any, between dependent variables (knowledge and adoption of cumin production technology) and independent variables (characteristics of the cumin growers).
5. To identify the constraints faced by the cumin growers in adoption of recommended cumin production technology.
6. To seek the suggestions from the cumin growers to overcome the constraints in adoption of recommended cumin production technology.

In order to realize the above objectives, a sample of 100 cumin growers, representing 4 villages of two talukas (Manavadar and Keshod) of Junagadh district was drawn by using purposive random sampling techniques. To measure the cumin growers' knowledge about recommended cumin production technology a teacher made knowledge test was developed and used. To identify the cumin growers' extent of adoption of recommended cumin production technology the adoption index was developed and used. The adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were compiled analyzed and interpreted in the light of specific objectives.

About one half (49.00 per cent) of the cumin growers belonged to middle age group, while more than one half (66.00 per cent) of the cumin growers were from medium education group, medium size of family (60.00 per cent), medium irrigation potentiality (68.00 per cent), joint family (76.00 per cent) and medium size of land holding (66.00 per cent).

Whereas, (54.00 per cent) and (71.00 per cent) respondents had medium social participation and extension contact respectively. Medium cumin crop intensity (68.00 per cent), medium extension participation (69.00 per cent), medium exposure to information source (60.00 per cent), medium economic motivation (58.00 per cent), medium risk orientation (56.00 per cent), medium innovativeness (37.00 per cent) and medium annual income (17.00 per cent).

A majority (60.00 per cent) of the respondents had medium knowledge level about the recommended cumin production technology, followed by 20.00 per cent high and 20.00 per cent low level of knowledge about recommended cumin production technology. As well as, majority (58.00 per cent) of the cumin growers had medium adoption index followed by 22.00 per cent and 20.00 per cent with high and low level of adoption of the recommended cumin production technology, respectively.

There was no significant association of the knowledge of cumin growers about recommended cumin production technology with their size of family, annual income, size of land holding and type of family.

Remaining all the characteristics like education, social participation, extension contact, irrigation potentiality, cumin crop intensity, risk orientation, extension participation, innovativeness, economic motivation and exposure to information source were positively and significantly associated with the knowledge of the cumin growers While, age was negative and significantly associated with the knowledge of the cumin growers.

There was no significant association of the adoption of cumin growers about recommended cumin production technology with their size of family, annual income, size of land holding and type of family.

All other characteristics like education, social participation, extension contact, irrigation potentiality, cumin crop intensity, risk orientation, extension participation, innovativeness, economic motivation and exposure to information source were positively and significantly associated with the adoption of the cumin growers While, age was negative and significantly associated with the adoption of the cumin growers.

The important constraints perceived by cumin growers were :

1. Weight and quality loss during storage and transportation
2. Inadequate and irregular power supply
3. High charges of electricity
4. Inadequate storage facilities
5. Lack of marketing infra structure facilities
6. Lack of post harvest management facilities
7. Fluctuation of cumin price in the market

Some of important suggestions expressed by more than 60.00 per cent of the respondents to overcome the constraints in adoption of recommended cumin production technology were:

1. Irrigation sources should be increased
2. Remunerative price should be given to cumin growers
3. Market facilities should be strengthened
4. Regular supply of electricity for irrigation purpose should ensured
5. Inputs should be made available at subsidized rate

88. KNOWLEDGE AND ADOPTION OF IMPROVED ANIMAL HUSBANDRY PRACTICES FOLLOWED BY GIR MALDHARIES IN GIR AREA OF GUJARAT STATE

YEAR : 2007

NAME OF STUDENT

B. A. Makwana

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

Developing country like India, most predominantly agricultural, the economic status of the people is directly related to the production they get from land and livestock. India

depends on growth of agriculture and animal husbandry. Both these enterprises play a significant role in Indian economy. More and more concentrated research is carried out in the field of animal husbandry to combat most of ailments of cattle and to improve its production. Gir *maldharis* who are living in the remote areas are not getting satisfactory service of veterinary doctors due to various reasons. They have developed their own knowledge system based on their traditional wisdom. It is worthwhile to know the rate of knowledge and adoption of improved animal husbandry practices followed by Gir *maldharis* to streamline the latest innovations in the animal husbandry management.

With all the above points in view this research was undertaken with the following objectives.

Objectives:

1. To study the characteristics of Gir *maldharis*.
2. To measure the extent of knowledge of Gir *maldharis* with respect to improved animal husbandry practices.
3. To ascertain the association of knowledge about improved animal husbandry practices with their selected characteristics.
4. To determine the extent of adoption of improved animal husbandry practices of Gir *maldharis*.
5. To ascertain association of adoption about improved animal husbandry practices and their selected characteristics.
6. To predict the extent of variation in the level of knowledge of Gir *maldharis* about improved animal husbandry practices.
7. To measure the evaluative perception of respondents towards improved animal husbandry practices.
8. To identify constraints faced by the Gir *maldharis* in adoption of animal husbandry practices.
9. To seek suggestions from the Gir *maldharis* to over come the constraints in adoption of improved animal husbandry practices.

In order to realize the above objectives, a sample of 120 Gir maldhairs representing 7 Nesses of Gir area (*Vaniavaa, Gadakia, Sanbheda, Alvania, Kabra, Kansia, Dadhiya*) of Junagadh district was drawn by using proportionate random sampling technique. To measure the Gir *maldharis'* knowledge about improved animal husbandry practices a teacher made knowledge test was developed and used. To identify the Gir *maldhairs'* extent of adoption of improved animal husbandry practices the adoption index was developed and used. The adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were compiled analyzed and interpreted in the light of specific objectives.

More than half; 55.00 per cent, 54.16 per cent, 74.33 per cent and Gir *maldharis* belonged to middle age, medium education, large family size category, respectively. About 90.00 per cent and 42.50 per cent of the respondents had animal husbandry alone as their occupation and middle annual income, respectively. About 61.66 per cent of the Gir *maldharis* possessed large herd size. Majority; 66.67 per cent and 65.00 per cent and 66.66 percent of the Gir *maldharis* fell into category of low social participation, low localite cosmopolite value orientation and, whole saler marketing of milk respectively. Majority

50.00 percent and 53.33 per cent of the Gir *maldharis* possessed low exposure to information sources and medium extension contact respectively.

A considerable percentage (53.33 per cent) of the Gir *maldharis* had medium level of knowledge about improved animal husbandry practices. Whereas, 25.00 per cent had low and 20.83 per cent had high extent of knowledge about improved animal husbandry practices.

Besides 50.83 per cent of the Gir *maldharis* had medium level of adoption about improved animal husbandry practices. Whereas, 30.00 per cent and 19.66 per cent had low and high level of adoption about improved animal husbandry practices, respectively.

There was non significant association of the knowledge of Gir *maldharis* about improved animal husbandry practices with their occupation, exposure to information sources, social participation, extension contact, marketing of milk and localite cosmopolite value orientation.

Education of the Gir *maldharis* was positively and significantly associated with their knowledge of improved animal husbandry practices.

The remaining characteristics like age, size of family, annual income and herd size were positively and significantly associated with the knowledge of Gir *maldharis*.

There was non significant association of the Adoption about improved animal husbandry practices with the occupation, herd size, social participation, extension contact, exposure to information sources and localite cosmopolite value orientation.

The remaining characteristics like age, size of family, annual income and education were positively and significantly associated with the adoption of improved animal husbandry practices of Gir *maldharis*.

Four independent variables namely age, education, size of family, annual income contributed towards 47.20 per cent ($R^2 = 0.4720$) of variation in the level of Gir *maldharis*' knowledge about improved animal husbandry practices. The order of contribution of these four variables in descending order was age, size of family, education and annual income.

Majority of the Gir *maldharis* (50.00 per cent) were in the medium perception category of simplicity. As many as less than one half (45.83 cent) of the Gir *maldharis* came under medium category on the profitability dimension of perception. As many as 42.50 per cent of the respondents were in the medium category of perception of efficiency. Majority (63.33 per cent) of the respondents were of the opinion that the improved animal husbandry practices were medium sustainable. Input availability was perceived as medium by 46.66 per cent of the respondents. Flexibility was perceived as medium by half (50.00 per cent) of the respondents.

The most important Constraints in the adoption of improved animal husbandry practices were in case of Watering (1) Unavailability of water basin at home, (2) Unavailability of water; in case of Feeding (1) Lack of awareness about feeding of animal, (2) High cost of balanced concentrates; in case of Housing (1) High cost of construction of good housing, (2) Economic difficulties; in case of Animal Health Care (1) Lack of awareness about contagious disease, (2) Lack of vaccine in time; in case of Breeding (1) Lack of awareness about breeding; (2) Lack of facility of testing pregnancy diagnosis; in case of Clean milk production (1) Lack of information about availability of anti-infective material for washing udder, (2) Lack of time to bath the animal before milking.

89. KNOWLEDGE AND ADOPTION PATTEN OF FARMERS WITH RESPECT TO MASS MEDIA COMMUNICATION
YEAR : 2007
NAME OF STUDENT

U. B. Barvaliya

MAJOR ADVISOR

Dr. D. M. Thakrar

Abstract:

In India it is very difficult to contact with each and every farmers in limited time. The individual contact method can not disseminate agricultural information speedily to the smallest person residing in the corner of the country. Farm people as human being are anxious and become more anxious with the advancement in science and technology to know what is happening in the field of research in the science of agriculture. They desire to obtain knowledge particularly in the field of agriculture to improve their socio-economic conditions and their standard of living in community through the improvement in farming.

Knowledge is a power in the 21st century and it could be possible through various mass communication methods such as radio, television, audio-cassettes, video-cassettes, printed materials etc. which offer good prospects for its effective utilization in disseminating agricultural information. It reaches the majority in time efficient and cost effective way through in terms of effective utilization of the information assimilated from mass communication methods remains in an item of debate. So that it is necessary to measure the level of knowledge of the farmers about different mass media and also measure their utilization pattern of different mass media to obtain agricultural information.

Keeping these points in view the present study entitled "knowledge and utilization pattern of farmers with respect to mass media communication" was undertaken with the following objectives :

1. To study the selected personal, psychological, extension communication and socio-economic characteristics of the farmers.
2. To examine the level of knowledge of farmers about different mass media.
3. To know the utilization pattern of farmers with respect to different mass media.
4. To ascertain the association between the selected independent variables of the respondents and their level of knowledge about mass media.
5. To find out the association between the selected independent variables of the respondents and their utilization patterns of mass media.
6. To identify the constraints faced by the farmers in utilization of mass media.
7. To seek the suggestions from the farmers to make the mass media communication more effective.

The theoretical orientation was developed for the study on the basis of reviewed literature having direct and indirect bearing on the present problem. Based on assumptions, the tentative paradigm was laid down. Taking the help of theoretical orientation the new hypothesis was formulated.

In order to achieve the objectives of the study, a sample of 120 farmers of 12 villages from 6 talukas of Junagadh district of Saurashtra region of Gujarat state were drawn by random sampling technique. In order to measure knowledge and utilization pattern of farmers with respect to mass media teacher made scale was used.

Based on past researches and discussion with extension expert, independent variables were selected. The responses were collected with the help of structure interview schedule by personal interview. The data were analyzed and interpreted in the light of specific

objectives. The various statistical measures like percentage, arithmetic mean, standard deviation, correlation co-efficient 'r' were used.

Major Findings

1. More than one half (59.17 per cent) of the farmers were from middle age group.
2. About two-fifth (40.83 per cent) of the farmers were educated up to primary level of education.
3. Majority (76.66 per cent) of the farmers had farming as their main occupation.
4. More than one half (51.67 per cent) of the farmers had small size of land holding.
5. More than one half (58.33 per cent) of the farmers came from medium size of family.
6. Half (50.00 per cent) of the farmers were found in medium level income group.
7. Majority (65.83 per cent) of the farmers had utilized well as source of irrigation.
8. More than one half (53.33 per cent) of the farmers had medium level of social participation.
9. About three-fifth (60.00 per cent) of the farmers had medium level participation in various extension activities.
10. Less than one half (45.83 per cent) of the farmers motivated by progressive farmers.
11. Majority (63.33 per cent) of the farmers had medium reading habit.
12. About three-fifth (60.00 per cent) of the farmers had medium communication behaviour.
13. Majority (62.50 per cent) of the farmers had medium localite-cosmopolite value orientation.
14. Majority (64.17 per cent) of the farmers had medium level of knowledge followed by low (27.50 per cent) and high (8.33 per cent) level of knowledge about mass media.
15. More than one half (56.67 per cent) of the farmers were partial utilized mass media while 38.33 per cent of the farmers had not utilized mass media. Only 5.00 per cent of the farmers had fully utilized mass media to obtain agricultural information.
16. There was a positive and significant association between knowledge of the farmers about mass media and their selected characteristics viz., education, social participation and extension participation.
17. There was a positive and highly significant association between knowledge of the farmers about mass media and their selected characteristics viz., motivation, reading habit and communication behaviour.
18. Age had negative and significant association with knowledge of the farmers about mass media.
19. In case of occupation, size of and holding, annual income and localite-cosmopolite value orientation had positively non-significant association with knowledge of the farmers about mass media.
20. In case of size of family and irrigation facility had negative and non-significant association with knowledge of the farmers about mass media.
21. There was a positive and significant association between utilization pattern of mass media by the farmers and their selected characteristics viz., education, extension participation, motivation, reading habit and communication behaviour.
22. Age, occupation, size of family, annual income, irrigation facility, social participation and localite-cosmopolite value orientation had positive and non-significant association with utilization pattern of mass media.
23. In case of size of land holding had negative and non-significant association with their utilization pattern of mass media.

24. Major constraints faced by the farmers were irregular supply of electricity in the villages, extension persons at grass root level are less in number, demonstration of new technologies not organized at every village, untimely information communicated by extension functionaries, lack of awareness about Krushi-mahotsav and newspaper not provide sufficient space for agricultural information.
25. Suggestions given by the farmers to make the mass media communication more effective were regular electricity should be provided in the villages, vacancy for extension personal should be fill up at grass root level, to bring the awareness in the farmers about Krushi-Mahotsav, demonstration of new technology should be organized at every village so that farmers can take more advantage from new technology.

90. A QUINTESSENTIAL PARADIGM OF ORGANIC FARMING IN RELATION TO ADOPTION OF ORGANIC FARMERS IN SAURASHTRA

YEAR : 2007

NAME OF STUDENT

A. B. Kamani

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

During the last decade organic farming has gained international recognition as a viable option to conventional farming. In many parts of the country farmers practice organic farming by default or in absence of resources. The organic farming movement is spreading gradually in almost all states of the country. Indian organic products is steadily making inroads into world organic food market. India having variety of geographical and climatic regions has great potentiality to export various agricultural commodities in world market.

Agriculture and environment are of late, threatened irreversibly by the indiscriminate use of modern technologies. Indiscriminate use of high doses of chemicals in agriculture alters the ecosystem due to their hazardous nature. Due to consumption of food with such chemicals cause severe damage to human being. Indigenous knowledge or traditional knowledge of rural people can be taken into consideration to solve these problems. Rural people are living in the close vicinity of nature. They have developed their own organic practices; these organic practices are location specific and this knowledge prone to lost if not properly documented.

In spite of these growing opportunities in this field there has been little efforts in research front to reorient the research agenda to create database on various aspects of organic farming. The present investigation is a comprehensive attempt to identify important characteristics of the farmers, motivational factors behind shift towards organic farming and to explore the determinants of extent of adoption among organic farmers.

Keeping this in view, the present study was undertaken with following specific objectives:

Objectives:

1. To study the selected characteristics of the organic farmers.
2. To examine motivational factors behind shift towards organic farming.
3. To ascertain the extent of adoption of organic farming.
4. To ascertain the relationship between selected characteristics of organic farmers and their extent of adoption of organic farming.
5. To find out extent of variation caused by dependent variables on extent of adoption of organic farming.

6. To measure the impediment faced /perceived by organic farmers.
7. To seek the suggestions made by the organic farmers to overcome the constraints in adoption of organic farming practices
8. To measure evaluative perception of farmers about organic farming

Methodology:

The present study was undertaken in seven districts viz., Rajkot, Porbandar, Junagadh, Amreli, Surendranagar, Bhavnagar and Jamnagar of Saurashtra region of Gujarat state. These districts were purposively selected for the study based on more number of organic farmers. For selection of taluka, villages and respondents, simple random sampling (SRS) technique was employed. Twenty organic farmers were selected from each Districts. A total of 140 organic farmers were selected from seven districts. Thus final sample constituted 140 farmers.

For collection of the data field survey by personal interview method with the help of structured schedule was used. The data were collected, coded, classified, tabulated and analyzed in order to get meaningful findings. The major findings are as follows:

Major Finding:

Characteristics of the respondents.

More than half (77.00 per cent) of the respondents belonged to middle age group, while 30.00 per cent and 28.57 per cent of the respondents were in college education group and secondary school level respectively. There were 61.43 per cent of respondents who belonged to medium income group while less than half (32.14 per cent) of the respondents were medium farmers with 7.01 to 10.0 ha of land holding. About 74.28 per cent of the respondents had medium extension participation, whereas 72.15 per cent of the respondents were from medium social participation. More than half 54.28 per cent of the respondents had low experience of organic farming and only 9.29 per cent farmers had high experience of organic farming. A conspicuous percentage (77.85) of the respondents had medium localite cosmopolite value orientation. A considerable (45.71 per cent) percentage of the respondents belonged to high innovativeness group while (43.57 per cent) have bore well irrigation facility. 61.43 per cent of the respondents were medium cropping intensity. 67.15 per cent of the respondents had consisted medium risk orientation while 50.00 per cent of respondents were low marketing orientation.

Motivational factors behind shift towards organic farming

Results related to environmental and health concern motivational factors indicated that more than 50.00 per cent of the farmers reported the factors like, maintaining soil fertility (86.42 per cent), improving soil health (75.71 per cent), personal motives and eco friendly organic practices (66.42 per cent), reducing residue in food and feed (57.85 per cent) and improving human health (50.00 per cent) as general motives behind their shift towards organic farming.

With respect to economic motives, majority of organic farmers attracted towards organic farming due to high cost of conventional inputs (72.14 per cent), more return in organic farming (61.42 per cent) and low credit requirement (55.71 per cent). It is surprising that export opportunities and premium prices had not considered as motives by the organic farmers.

Among quality concern motive, majority of organic farmers reported that free from toxic chemicals (80.00 per cent), having good taste (56.42 per cent) and good storage quality (32.14 per cent) were the important quality concern motives, which inspired them to shift towards organic farming.

Majority organic farmers possessed antipathy to chemicals (74.28 per cent), dissatisfaction in conventional farming (66.42 per cent), less dependency for inputs and

nature (60.00 per cent) and eco-friendly (52.14 per cent) as the important personal value oriented motives behind the shift towards organic farming.

As regards the motives related to media, majority (63.57 per cent) of organic farmers were motivated through farm literature only. Television got second position (27.85 per cent). Radio got third position (14.28 per cent) and books got fourth position (8.57 per cent) to motivate the farmers towards organic farming. The data further revealed that only three organic farmers (2.14 per cent) were motivated by internet information.

As regards the motives to personal and institutional concern that NGOs (80.00 per cent) was the important source of motivation for shift towards organic farming and was ranked first followed by organic farmers' meet (74.28 per cent), other organic farmers (50.00 per cent) and were ranked second and third as motivational source, respectively. Extension workers (41.42 per cent), neighbours and relatives (28.57 per cent) were the other sources, which motivated the considerable number of farmers. While, motivational tours (16.42 per cent), exhibition and fairs (13.57 per cent), family members and friends' success stories (11.42 per cent) and learned personality (10.00 per cent) were the motivational sources as reported by less number of organic farmers.

Adoption of organic farming practices

The results indicated that the extent of adoption of organic farming practices was found medium to high among 80.00 per cent of the organic farmers.

It was found that among crop management practices, intercropping (2.32 mean score) was adopted by maximum number of farmers followed by crop rotation (2.08) and weed management (1.65) were adopted by maximum farmers and were ranked first, second and third respectively.

Among the nutrient management practices, all the farmers used FYM (2.95 mean score) and ranked first followed by use of bio-fertilizers (2.51 mean score), use of vermi-compost (2.32 mean score), and all oil cakes (1.54 mean score) as per the order of rank. Use of compost, green manuring and use of concentrated manures were adopted by less members of farmers.

In case of plant protection practices, use of pheromone trap (2.05 mean score) was ranked first followed by use of cow dung & urine (1.31 mean score) and growing trap crops were the important practices adopted by maximum farmers and very lowest practices use by farmers, hand picking of insects (0.27 mean score) and preparing live hedge (0.17 mean score).

Relationship between selected characteristics of organic farmers and their extent of adoption of organic farming.

There was non significant association between adoption of organic farming practices with the annual income, social participation, cropping intensity and marketing orientation.

Age, size of land holding was negatively and significantly associated with their extent of adoption, whereas education, extension participation, organic farming experience, localite cosmopolite value orientation, innovativeness, irrigation potentiality and risk orientation had positive and significant association with the adoption of organic farming practices.

Extent of variation caused by dependent variables on extent of adoption of Organic farming.

Nine out of thirteen independent variables had shown significant association with the extent of adoption regarding organic farming practices in zero order correlation. The multiple regression analysis indicated the contribution of nine variables namely age, education, income, extension participation, social participation organic farming experience, localite cosmopolite value orientation, irrigation potentiality and cropping

intensity contributed towards 69.83 per cent ($R^2 = 0.6983$) of variation in the extent of respondents' adoption about organic farming practices.

The calculated 't' values of the partial regression coefficient were significant at 0.01 levels in case of age (2.753), extension participation (3.592), social participation (3.313) and localite cosmopolite orientation value (2.689).

The calculated 't' values of the partial regression coefficient were significant at 0.05 level in case of education (2.356), annual income (1.996), organic farming experience (2.217), irrigation potentiality (2.206) and cropping intensity (2.434).

Impediment faced / perceived by organic farmers.

1. Technical constraints

The results regarding technical constraints revealed that lack of marketing information (72.14 per cent) was the main constraint and ranked first followed by lack of crop specific scientific recommendations (68.57 per cent), lack of knowledge about certification (66.43 per cent) and difficult to control disease, pest and weeds (53.57 per cent) were ranked second, third and fourth respectively as reported more than 50.00 per cent organic farmers. The other constraints were; long transition period (40.00 per cent), lack of information regarding organic farming (32.14 per cent), difficulty in maintaining cattle (24.29 per cent) and inadequate availability of organic inputs (22.14 per cent) were ranked fifth, sixth, seventh and eighth respectively.

2. Institutional constraints

Regarding institutional constraints among organic farmers, lack of assured marketing network (87.86 per cent), lack of consumer awareness (81.42 per per cent), lack of Govt. support for training (66.43 per cent) and difficult to maintain farm records (51.42 per cent) were important constraints and ranked first, second, third and Fourth respectively. Other constraints recorded were; inadequate certification agencies (46.43 per cent), certification process is cumbersome and time consuming (33.57 per cent), no government subsidy (27.85 per cent) 'Or organic liming and difficult to convince family members (22.14 per cent) in order of their importance.

3. Economic constraints

With respect to economic constraints, no premium price available in local market (72.14 per cent) was ranked first followed by high certification charges (68.57 per cent) and less yield in initial years (60.00 per cent), which were ranked second and third respectively. Other constraints reported by organic farmers were, need frequent training (51.42 per cent) high labour requirement (43.57 per cent), required more investment during conversion period (36.43. per cent), time consuming organic practices (30.00 per cent), and costly organic inputs (20.00 per cent) as their order of importance.

4. Situational constraints

Among the situational constraints, difficult to meet organic standards (61.11 per cent) lack of faith of consumer in organic products (50.00 per cent) and fragmented holding (51.11 per cent) were found as the major common constraints and were ranked first, second and third by the organic farmers respectively. Other constraints reported were; inadequate transport facility (23.33 per cent), small holding (20.00 per cent), and negative attitude of neighbouring farmers (10.00 per cent) which were ranked as fourth, fifth and sixth order respectively in their order of importance.

Suggestions made by the beneficiary farmers to overcome the constraints in adoption of Organic farming practices

The important suggestions offered by more than half of the farmers to overcome the

constraints were; there is need to launch organic farming campaign for creating public awareness (73.57 per cent), Govt. support is must for promotion of organic farming (66.42 per cent), separate market places be notified (60.00 per cent), sound marketing network should be established (56.42 per cent), consumer awareness programmes (54.28 per cent) should be organized by NGOs,/farmer group and documentation of methods & collection of seed of traditional varieties should be encouraged.

Evaluative perception of farmers about organic farming

More than half (55.72 per cent) of the farmers were from medium perception category of simplicity. 60.72 per cent of the farmers were from high category on the profitability dimension of perception. 74.28 per cent of the respondents were from the medium category of perception of efficiency. Majority (62.86 per cent) of the respondents were of the opinion that the organic farming practices were highly sustainable. Input availability was perceived as high by 75.00 per cent of the respondents. Flexibility was perceived as medium by majority (59.28 per cent) of the respondents. 62.15 per cent of the respondents were from the medium category of perception of cost effectiveness.

The tentative diagram developed in the beginning of the thesis while arriving at the conceptual framework of this study (Fig. 8 to 9). Now final form of paradigm based on findings of this study is presented in the Fig 12 to 18 showing only those independent variables that had statistically significant association with farmers' adoption of organic farming practices.

91. ONION GROWERS' KNOWLEDGE AND ADOPTION ABOUT POST HARVEST TECHNIQUES OF ONION

YEAR : 2008

AME OF STUDENT

V. K. Poshiya

MAJOR ADVISOR

Dr. D.M.Thakrar

Abstract:

Onion is one of the basic vegetable crop in Bhavnagar district in Gujarat state. The wide gap exists between its innovation and application of farmers' field. Hence there is a lot of scope for bumper onion production per unit area but, onion growers' not fetching remunerative price of their produce. However, majority of the onion growers did not know and had not yet adopted the improved post harvest techniques of onion, due to lack of technical knowledge and several constrains experienced by them in adoption about post harvest techniques of onion. Keeping the above fact in view, the study entitled "Onion growers' knowledge and adoption about post harvest techniques of onion" was undertaken with following specific objectives.

1. To study some selected characteristics of onion growers
2. To know the level of knowledge of onion growers about post harvest techniques of onion.
3. To find-out the extent of adoption of onion growers about post harvest techniques of onion.
4. To study the relationship, if any, between dependent variable (knowledge and adoption of post harvest techniques of onion) and independent variable (selected characteristics of the onion growers).
5. To identify the constraints faced by the onion growers in adoption of post harvest techniques of onion.
6. To seek the suggestion from the onion growers to overcome the constraints in

adoption of post harvest techniques of onion.

In order to realize the above objectives a sample of 100 onion growers' have a more experience about post harvest techniques, representing 4 villages of Mahuva and Talaja Talukas of Bhavnagar district was drawn by using purposive random sampling techniques. To measure the onion growers' knowledge about recommended post harvest techniques of onion a teacher made knowledge test was developed and used. To identify the onion growers' extent of adoption about recommended post harvest techniques of onion the adoption index was developed and used. The determined by adopting adoption quotient developed by Sengupta (1967). The data were collected with the help of structured scheduled by personal interview method. The data were compiled analyzed and interpreted in the light of specific objectives.

About one half (47.00 per cent) of the onion growers' belonged to middle age group, while more than one half (69.00 per cent) of the onion growers' were from medium education group, medium size of family (61.00 per cent), medium irrigation potentiality (64.00 per cent), and medium size of land holding (57.00 per cent).

Whereas, (60.00 per cent) and (68.00 per cent) respondents had medium social participation and extension contact respectively. Medium onion crop intensity (65.00 per cent), medium extension participation (71.00 per cent), medium exposure to information source (68.00 per cent), medium economic motivation (68.00 per cent), medium risk orientation (58.00 per cent), medium innovativeness (45.00 per cent) and medium annual income (32.00 per cent).

A majority (61.00 per cent) of the respondents had medium knowledge level about the recommended post harvest techniques of onion, followed by 20.00 per cent high and 19.00 per cent low level of knowledge about recommended post harvest techniques of onion. As well as, majority (55.00 per cent) of the onion growers' had medium adoption index followed by 25.00 per cent and 20.00 per cent with high and low level of adoption about recommended post harvest techniques of onion, respectively.

There was no significant association with the knowledge about post harvest techniques of onion and their size of family, annual income, size of land holding.

While remaining all characteristics of the respondents like education, social participation, extension contact, irrigation potentiality, onion crop intensity, risk orientation, extension participation, economic motivation, innovativeness and exposure to information sources were positive significant associated with the knowledge of post harvest techniques of onion. While, Age was negative and significantly associated with the knowledge of post harvest techniques of onion. There was no significant association with the adoption of post harvest techniques of onion and their size of family, annual income and size of land holding.

All the other characteristics of the respondents like education, social participation, extension contact, irrigation potentiality, onion crop intensity, risk orientation, extension participation, economic motivation, innovativeness and exposure to information sources were positive significant associated with the adoption of post harvest techniques of onion. While, Age was negative and significantly associated with the adoption of post harvest techniques of onion.

The major constraints were faced by onion growers':

1. Lack of information about production, demand, fluctuation in market price
2. Reduced quality and production due to uncertain change environment
3. Less price due to middle men of onion sales agent
4. Lack of training and guidance about post-harvest techniques
5. Scarcity of skilled labours and high wages of labour.
6. Lack of information about procedure for export

7. Low production and profit due to small farm size.
8. Inadequate guidance by extension personnel
9. Inadequate of transport facility

Some of important suggestions expressed by more than 60.00 per cent of the respondents to overcome the constraints in adoption about post harvest techniques of onion :

1. Priority should be given to value added product industries
2. Extension agencies should be regularly contact the onion growers' to disseminate latest PHT
3. Long distance & rapid transport facilities should be easily available
4. Export facilities for onion should be easily available at the time of harvesting
5. Training should be given to the onion growers' in relation to best post harvest techniques

92. FARM WOMEN'S KNOWLEDGE AND ADOPTION OF DAIRY PRACTICES IN JUNAGADH DISTRICT OF GUJRAT STATE

YEAR : 2008

NAME OF STUDENT

Anil Kumar

MAJOR ADVISOR

Dr. D. M. Thakrar

Abstract:

In the developing country like India, most predominantly agricultural, the economic status of the people is directly related to the production they get from land and livestock. India depends on growth of agriculture and animal husbandry. Both these enterprises play a significant role in Indian economy. Livestock sector is a prominent sector among agriculture and allied activities in India. India is the world's single largest milk producing country with a share of about 14 per cent in world milk production. Milk has achieved a unique status in terms of its output value and contribution to the national economy, with output exceeding Rs. 1,00,000 crores and has made a rapid stride both in terms of number of milk producers and quantity of milk produced.

Live stock and dairy has been one of the sectors in India where female work force participation has been high. Rural women perform a large part of the work relating to the maintenance of dairy cattle, milk production and processing. It is said that adequate training is necessary for gaining knowledge in any field which is essential for acceptance and adoption of any ideas. (Sheela et al. 1993).

In the dairy development map of India, Gujarat occupies a place of pride. This is mainly due to the impressive strides which have taken in organizing a chain of co-operative dairies in many parts of the state. The unity of dairy co-operative societies, veterinary college and state department of animal husbandry offer an opportunity whereby the gain of the white revolution can flow to the producers and generate a self sustaining and progressively accelerating momentum.

Farm women's knowledge and adoption of dairy practices certainly affects their efficiency in work and in the development of dairy enterprise. It was therefore, felt necessary to determine th extent of knowledge of farm women in the management of live stock and dairy practices. It was also felt important to know the extent of their knowledge regarding livestock management and dairying and their adoption in dairy occupation. It is worthwhile to know th farm women knowledge and adoption of dairy practices to streamline the latest innovations in the dairy management.

Objectives

With all the above points in view, this research was undertaken with the following objectives.

1. To study the personal and socio-economic characteristics of farm women
2. To measure the extent of knowledge of farm women about dairy practices
3. To know the extent of adoption of dairy practices by farm women
4. To ascertain the association of knowledge about dairy practices with selected characteristics of farm women
5. To ascertain the association of adoption of dairy practices with selected characteristics of farm women
6. To identify constraints faced by farm women in adoption of dairy practices
7. To seek the suggestions from the farm women to overcome the constraints in adoption of dairy practice

Methodology

In order to achieve the objectives, a sample of 120 respondents, representing 8 villages of 4 talukas of Junagadh district of Gujarat State was drawn by using multistage random sampling technique.

To measure the farm women's knowledge about dairy practices a teacher made knowledge test was developed and used. To identify the farm women extent of adoption of dairy practices, the adoption index was developed and used. The adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were compiled analyzed and interpreted in the light of specific objectives.

MAJOR FINDINGS

More than half; 57.50 per cent, 53.33 per cent, 70.83 per cent, 63.33 per cent farm women belonged to middle age, medium education, large family size, joint type of family category, respectively. About 60.00 per cent and 44.17 per cent of the respondents had animal husbandry plus farming as their occupation and middle annual income, respectively. About 57.50 per cent of the farm women possessed medium herd size. Majority; 60.00 per cent and 58.33 per cent of the farm women fell into category of medium social participation, medium localite cosmopolite value orientation, respectively.

About 63.33 per cent and 53.33 per cent, 55.00 per cent of the farm women possessed medium size of land holding, medium exposure to information sources and medium extension contact respectively.

Practice wise knowledge of farm women revealed that like watering animal at proper time (100 per cent) known practices by the farm women, while knowledge about Jafrabadi breed of buffalo (97.50 per cent), using clean milk vessels and fat content (96.66 per cent), knowledge of Gir cow breed and natural insemination (95.83 per cent), products prepared from milk (95.00 per cent), knowledge of ticks parasite of milch animals (94.16 per cent) were well known to the majority of the respondents.

A considerable percentage (54.17 per cent) of the farm women had 'medium level' of knowledge about dairy practices. Whereas, 25.00 per cent had low and 20.83 per cent had high extent of knowledge about dairy practices.

Farm women adopted more dairy practices of clean milk production (ranked first), followed by watering (second), animal health care (third), housing (fourth) and feeding (fifth). At the same time, with respect to breeding (sixth) was less adopted practice by the farm women.

Besides, 50.00 per cent of the farm women had 'medium' level of adoption about dairy practices. Whereas, 30.00 per cent and 20.00 per cent had low and high level of adoption about dairy practices, respectively.

There was non significant association of the knowledge of farm women about dairy practices with their size of land holding, type of family, occupation, herd size, exposure to information sources, extension contact and localite cosmopolite value orientation.

Education of the farm women was positively and significantly associated with their knowledge of dairy practices.

The remaining characteristics like age, size of family, annual. income and social participation were positively and significantly associated with the knowledge of farm women.

There was non significant association of the adoption of dairy practices with the size of land holding, type of family, occupation, herd size, extension contact, exposure to information sources and localite cosmopolite value orientation.

The remaining characteristics like age, size of family, annual income, social participation and education were positively and significantly associated with the adoption of dairy practices of farm women.

Constraints

The most important constraints in the adoption of dairy practices were in case of watering, (1) Unavailability of water basin at home, (2) Unavailability of water; in case of feeding, (1) Lack of awareness about feeding of animal, (2) High cost of balanced concentrates; in case of housing, (1) High cost of construction of good housing, (2) Economic difficulties; in case of animal health care, (1) Lack of awareness about contagious disease, (2) Lack of vaccine in time; in case of Breeding, (1) Lack of awareness about breeding; (2) Lack of facility of pregnancy diagnosis; in case of clean milk production (1) Lack of information about availability of anti-infective material for washing udder, (2) Lack of time to bath the animal before milking and incase of dairying problem (1) Low rates of milk procurement (2) Dairy co-operatives not making weekly payment of milk sold.

Suggestions

The most important suggestions expressed by the farm women to overcome the constraints in adoption of dairy practices were : 'Remunerative price of milk should be provided to the farm women ' (96.66 per cent), 'Proper guidance about animal breeding' (93.33 per cent), 'Making weekly payment of milk sold by dairy co-operative societies ' (90.00 per cent), 'Contagious and other diseases should be managed in time (87.50 per cent), 'Anti-infective material for washing udder should be made available regularly' (85.83 per cent), 'Proper guidelines should be availed about feeding practices' (79.16 per cent), 'Training should be imparted to the farm women in relation to improved dairy practices' (77.50 per cent), 'facilities regarding the stontge of milk be made available' (75.00 per cent), 'Awareness regarding vaccine for cattle should be created through mass media' (75.00 per cent), 'Balanced concentrates should be subsidized by Government' (73.33 per cent), 'Facilities regarding the pregnancy diagnosis should be created' (70.83 per cent), 'Improved fodder crop seeds should be made available at nearest place' (66.66 per cent), 'Regional Rural Bank should provide loan for construction of good housing' (58.33 per cent), 'extension system should be streamlined to disseminate latest improved dairy practices' (54.16 per cent) and 'Services of milk procurement officer be made available for consulting about dairy practices' (50.00 per cent).

It can be concluded that majority of the farm women offered different suggestions viz., proper guidance about animal breeding, effective control of contagious.

93. INDIGENOUS AND SCIENTIFIC KNOWLEDGE OF FARMERS ABOUT USES OF NEEM IN JUNAGADH DISTRICT OF GUJRAT STATE
YEAR : 2008
NAME OF STUDENT

M. K. Jadeja

MAJOR ADVISOR

Dr. D. M. Thakrar

Abstract:

Neem (*Azadirachta indica*, A.Juss) belongs to the family Meliaceae. It is a hardy, quick growing, evergreen tree. Fresh neem leaves and flowers come in March- April. The lifespan of tree is more than two centuries. It is naturally distributed on Shivalik hills of Uttar Pradesh and hillock of Deccan, in Karnataka and adjoining states. Neem is bitter in taste due to the presence of "Triterpenese" or "Limonoids". The most important bioactive substance of neem is "Azadiractin". The neem tree grows on almost all type of soils and wide range of climate. Neem tree is recognized as "Kalpauriksha" because all parts of neem and its products are very useful in agriculture, industries, medicines and in many other fields. The important parts of neem like leaves are used as animal feed, storage of grains, and making of soap and toothpastes. Neem kernel powder is use to protect against weevil, lesser grain borer and khapra beetle. 01 lake Is used as a fertilizer and manure. Green twigs are used as toothbrushes and as a prophylactic for mouth and teeth complaints. Neem oil is used as antiseptic, for burning purposes for making of soap and toothpastes and hydrogenation. Gum is used in medicines and for dyeing silk. Bark is useful in fever, nausea, vomiting and skin diseases. Timber is used for agricultural implement.

Because of versatile usages and availability all around in the fields and near by houses in rural area, neem has taken a place of important tree in the hearts of farmers of the tribal and non-tribal region. To motivate rural people to make best uses of this tree in agriculture and other work, farmers's role can be aggravated. It is believed that farmers can play significant role in popularizing, maintaining and adopting easily available natural material for various economic profit of family. Neem as an important eco and farmers-friendly natural material, farmers can be encouraged to popularize usages of this tree. To understand existing status of this tree among farmers, it was realized to examine the level of awareness of rural farmers regarding this tree to know the existing place of neem tree among them. With this back ground in mind, the present study was undertaken with following objectives:

1. To study the selected characteristics of the respondents.
2. To access the indigenous and scientific knowledge level of the farmers' towards different uses of neem.
3. To determine the extent of adoption of farmers' regarding uses of neem.
4. To ascertain the association between the characteristics of farmers' and their level of knowledge about uses of neem.
5. To study the constraints faced by respondents in use of neem and their products.
6. To seek the suggestions from farmers to improve their existing pattern of knowledge and use of neem for various purposes.

The methodological procedure consisted of dependent and independent variables, setting and selection of the respondents, analysis of data and various statistical measures used to test the hypothesis. A sample of 100 respondents representing 10 villages of two blocks viz, Mendarada and Keshod of Junagadh district was drawn by using purposive and random sampling techniques. The respondents were personally interview with the help of structured scheduled. To measure knowledge about indigenous and scientific usages of neem, a teacher made knowledge test was developed and used. The data were collected and

analysed in the light of objective of the study. The following important conclusions were drawn based on the findings of the study.

Major findings:

Majority of the respondents were found in middle age group (48.00 per cent). More than half, 64.00 per cent, 66.00 per cent, 65.00 per cent farmers belonged to primary education, joint family and agriculture + A.H. as their occupation respectively.

About 58.00 per cent of the farmers possessed medium herd size and medium extension participation. Less than half of the respondents (44.00 per cent) of the farmers were found with Rs. 40,000 to 80,000 annual income. Majority of the respondents were belonged to medium level of social participation and localite- cosmopolite value orientation with 66.00 per cent and 69.00 per cent respectively. About 68.00 per cent and 57.00 per cent respondents were fall in medium level of scientific orientation and medium level of extension contact. In case of size of land holding and innovativeness, respondents were belonged to small to medium farmers (55.00 per cent) and high level of innovativeness with 42.00 per cent.

Majority of the respondents were found with 73.00 per cent of the respondents had medium level of knowledge followed by 14.00 per cent had high level of where as, 13.00 per cent had low and knowledge about indigenous practices.

Practice wise knowledge of the farmers like usages of neem tree (ranked first), neem twigs / branches (ranked second), neem leaves (ranked third). Neem cake (ranked fourth), neem root (ranked fifth), neem oil (ranked sixth), neem gum (ranked seventh) and method of preparing a solution of neem seed kernel and neem oil (ranked eighth).

Adoption level of majority of the respondents were found with 69.00 per cent of the respondents had medium level of adoption followed by 16.00 per cent had high level of adoption where as, 15.00 per cent had low level of adoption about indigenous practices.

There were positive and highly significant results found in age, education, extension participation and social participation with their knowledge, while localite-cosmopolite value orientation was A found negative and significant with their level of knowledge Occupation, extension contact, innovativeness and scientific orientation of the respondents were found positive and significant with their level of knowledge.

There was non significant association of knowledge of farmers about different indigenous and scientific usages of neem with their type of family, size of land holding, herd size and annual income.

Major constraints faced by the respondents were: less exposure of training, insufficient knowledge about various uses of neem, unavailability of neem based products in market, unavailability required quantity of neem and unavailability of sufficient literature on usages of neem were major problems and less coverage of such information in communication means were minor problems faced by neem tree owner farmers in using neem for agriculture, health and other purposes.

Major suggestions given by neem tree owner farmers in this regards were; training programmes on various uses of neem should be organized at village level, the posters showing various uses of neem should be displayed at gram panchayat, co-operative organizations and other public places in village, indigenous knowledge should be tested on scientific grounds and should be extended further, guidance on the uses of neem should be provided right from school level and efforts should be made to use fellow land by neem plantation to create awareness about neem.

94. IMPACT OF FRONTLINE DEMONSTRATION (FLDS) OF CASTOR PRODUCTION TECHNOLOGY ON THE KNOWLEDGE AND ADOPTION LEVEL OF CASTER GROWERS IN JUNAGADH DISTRICT OF GUJARAT STATE

YEAR : 2008

NAME OF STUDENT

S. D. Satasiya

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

India has made a spectacular progress in crop production during the last three decades. Oil seed crops have a specific place in Indian agriculture, industry and foreign exchange however; the production of oilseeds is yet to make an indelible impression. Under such circumstances castor (*Ricinus communis*L.) has proved to be highly adaptable crop due to its drought tolerance. It is mainly growing under rained conditions on marginal lands with poor management practices. Castor is a perennial crop but grown as an annual for economic purpose. Castor grows well in tropical conditions. It grows best in heat and humidity. The crop duration is 4-5 months. In India, it is sown in July/August and harvesting commences around January/February. The arrivals in the market start from January onwards till mid of May.

India leads the world in castor seed production. It shares about 64% in total global production. China holds the second position with 18% share followed by Brazil with 12%. The main aim of frontline demonstration is “to demonstrate under real farmer's field situations, the superior production potentials and benefits of the latest improved technologies in agriculture with direct supervision of scientists. With reference to this view in mind the topic was selected, “Impact of frontline demonstration of castor production technology on the knowledge and adoption level of castor growers in Junagadh district of Gujarat state” was selected with following objectives.

1. To study the selected characteristics of the respondents.
2. To measure the knowledge level of respondents with respect to castor production technology.
3. To determine the extent of adoption of respondents with respect to castor production technology.
4. To ascertain the relationship between knowledge & the characteristics of the respondents.
5. To ascertain the relationship between adoption and the characteristics of the respondents.
6. To ascertain the extent of variation in the dependent variables caused by independent variables.
7. To identify the constraints faced by the respondents for adoption of castor production technology.
8. To seek suggestions of respondents to overcome the difficulties faced in adoption of castor production technology.

The theoretical orientation was developed for the study on the basis of reviewed literature having direct or indirect bearing on the present study. The various concepts utilized in the study were operationalized, the tentative paradigm was laid down, and working hypothesis was formulated.

Knowledge and adoption (dependent variables) and selected characteristics of the

respondents (independent variables), setting and selection of respondents, analysis of data and the various statistical measures were used to test the hypothesis. The statistical measures such as percentage, standard deviation, mean score, correlation co-efficient, multiple regression were used.

To measure castor growers' extent of knowledge about recommended castor production technology, a teacher made knowledge test was developed and used.

To measure castor growers' extent of adoption of recommended cumin production technology, the adoption index was developed and used. The adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The selected independent variables such as age, education, size of social participation, extension contact, annual income, size of land holding, irrigation potentiality, crop intensity, risk orientation, extension participation, innovativeness, exposure to mass media and localite cosmopolite value were measured by scales developed by other researchers and with the help of responses to appropriate questions with schedule.

A sample of 110 cumin growers of both demonstrator and non-demonstrator growers representing 42 village of Junagadh, Mendarada, Kesod, Manavadar, Visavadar, Vanthali taluka of Junagadh district was drawn by using purposive and proportionate random sampling techniques. Out of 110 respondents, 55 respondents were demonstrators and 55 were non-demonstrators of castor growers. The castor growers were personally interviewed with the help of structured interview schedule. The data were collected and analyzed in light of the objectives of the study. The following important conclusions were drawn based on the findings of the study.

Findings

About 45.46 per cent demonstrator and non-demonstrator (43.63 per cent) respondents were middle age group and had low education to medium education of demonstrator 74.55 per cent and non-demonstrator 76.35 per cent. About 40.00 per cent demonstrator and 43.63 per cent non-demonstrator respondents having small size of land holding. About 76.35 per cent demonstrator and 65.44 per cent non-demonstrator belong to medium and high income respectively. While 70.90 per cent demonstrator and 63.63 per cent non-demonstrator respondents found medium social participation and 65.45 per cent demonstrator and 60.00 per cent non-demonstrator respondents had medium extension participation. Majority of the demonstrator respondents 63.63 per cent and non-demonstrator respondents 58.18 per cent had medium cropping intensity. While 78.18 per cent demonstrator and 70.90 per cent non-demonstrator belonged to medium risk orientation. While 76.35 per cent demonstrator and 65.45 per cent non-demonstrator respondents had medium to high innovativeness. Majority 69.09 per cent demonstrator and 61.18 per cent non-demonstrator respondents had medium level of exposure to mass media. While 54.45 per cent demonstrator and 47.27 per cent non-demonstrator respondents had medium level of localite cosmopolite value orientation.

About 23.63 per cent demonstrator and 16.36 per cent had high levels knowledge about recommended castor production technology. Majority 67.27 per cent of demonstrator and 60.00 per cent non-demonstrator castor growers had medium level of knowledge about the recommended castor production technology. While 9.09 per cent demonstrator and 23.63 per cent non-demonstrator respondents had low level of knowledge.

About 20.00 per cent demonstrator and 12.72 per cent non-demonstrator respondents had high extent of adoption about recommended castor production technology, respectively Majority (69.09 per cent) of the demonstrator and 65.45 per cent non-demonstrator castor growers had medium adoption about the recommended castor production technology.

Where as 10.90 per cent demonstrator and 21.81 per cent non-demonstrator respondents had low extent of adoption.

The data revealed that in case of demonstrator farmers, it was observed that the first rank was occupied by plant protection measures (94.52 per cent), followed by harvesting (87.12 per cent), seed rate (68.46 per cent), irrigation (83.80 per cent), chemical fertilizers (80.10 per cent), improved variety (78.39 per cent), were ranked second, third, fourth, fifth, sixth, respectively. While, soil testing was the seventh rank (76.37 per cent), followed by weed control (73.31 per cent), sowing distance (72.15 per cent), while Fym/compost fertilizers (71.78 per cent), sowing time (70.74 per cent), thinning and gap filling (68.04 per cent), while seed rate (64.60 per cent), tillage rank (60.91 per cent) and inter culturing (51.04 per cent) were ranked eighth, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, respectively.

In case of non-demonstrator farmers, it was observed that the first rank was occupied by chemical fertilizers (85.77per cent), followed by thinning and gap filling (76.03 per cent), seed treatment (86.21 per cent), sowing time (67.17 per cent), irrigation (66.72 per cent), seed treatment (56.16 per cent), plant protection measures (47.63 per cent) were ranked second, third, fourth, fifth and sixth, respectively. While Fym/compost fertilizers (47.16 per cent) was ranked seventh followed by soil testing (46.70 per cent) , weed control (45.44 per cent), tillage (42.95 per cent), thinning improved variety (39.12 per cent), harvesting (31.06 per cent), inter culturing (29.16 per cent) and sowing distance (22.35 per cent) were ranked eighth, nine, ten, eleventh, twelve, thirteen, fourteen, fifteen respectively.

There was negative and significant association with the knowledge about recommended castor production technology and age of both demonstrator and non-demonstrator respondents. While there was a non-significant association with knowledge and their, annual income, size of land holding in case of demonstrator farmers and in case of non-demonstrator farmers annual income, size of land holding, extension participation, crop intensity, innovativeness were non-significantly associated with the knowledge of recommended castor production technology. While remaining all characteristics of the demonstrator respondents like education, social participation, extension participation, irrigation potentiality, crop intensity, risk orientation, , innovativeness, exposure to mass media, localite cosmopolite were positively and significantly associated with the knowledge of recommended castor production technology and in case of non-demonstrator respondents education, social participation, irrigation potentiality, risk orientation, exposure to mass media, localite cosmopolite were positively and significantly associated with the knowledge of recommended castor production technology.

There was negative and significant association with the extent of adoption about recommended castor production technology and age of both demonstrator and non-demonstrator respondents. While there was a non-significant association with extent of adoption and their, annual income, size of land holding in case of demonstrator farmers and in case of non-demonstrator farmer's annual income, size of land holding, crop intensity, risk orientation, innovativeness, irrigation potentiality, were non-significantly associated with the extent of adoption of recommended castor production technology. While remaining all characteristics of the demonstrator respondents like education, social participation, extension participation, irrigation potentiality, crop intensity, risk orientation, innovativeness, exposure to mass media, localite cosmopolite were positively and significantly associated with the extent of adoption of recommended castor production technology and in case of non-demonstrator respondents education, social participation, extension participation, exposure to mass media, localite cosmopolite were positively and significantly associated with the adoption of recommended castor production technology.

In case of demonstrator respondents, the non-significant effect was observed on knowledge level through different variables like age, education, size of land holding, annual income, social participation, Cropping intensity, Innovativeness, Mass Media Exposure. While positive and significant effect was observed in case of extension participation, Localite-cosmopolite, Value orientation, Irrigation potentiality, Risk orientation. The contribution of this variables was 62.60 per cent in case of non-demonstrator respondents the non significant effect was observed on knowledge level through different independent variables like Social participation, Irrigation potentiality, Risk orientation, Mass Media Exposure, Localite-cosmopolite Value orientation. Where as positive and significant effect was observed in case of age and education. The contribution of these variables was 50.88 per cent.

In case of demonstrator respondents, the non-significant effect was observed on adoption level through all variables like age, education, size of land holding, annual income, social participation, Cropping intensity, Innovativeness, Mass Media Exposure. Extension participation, Localite-cosmopolite Value orientation, Irrigation potentiality, Risk orientation. The contribution of this variables was ($R^2=16.13$ per cent), while in case of non-demonstrator respondents the non significant effect was observed on adoption level through different independent variables like education, extension participation, Social participation, Mass Media Exposure, Localite-cosmopolite Value orientation. Where as positive and significant effect was observed in case of age. The contribution of these variables was ($R^2=29.91$ per cent).

Some important constraints in adoption of recommended castor production technology as faced by the demonstrator and non-demonstrator castor growers were:

1. High price of improved/hybrid seeds
2. High cost of threshing and harvesting
3. Lack of irrigation facility
4. Non availability of finance in time
5. High price of chemical fertilizers
6. High price of herbicides
7. High price of fungicides/Pesticides
8. Lack of knowledge about critical stages
9. High cost of labour
10. Non-availability of Extension workers in villages as per time schedule

Some important suggestions to overcome the constraints in adoption of recommended castor production technology, as perceived more important by the respondents are listed as under:

1. Cost of threshing and harvesting should be reduced
2. Farmer should be protected by crop insurance, if crops fail
3. Inputs should be made available at subsidized rate
4. Remunerative price should be made available to the castor growers for their products
5. Village level workers should be frequently contact the farmers to make them aware about the new farm technology.

95. CAPACITY BUILDING OF FARMERS' THROUGH TRAINING ON ORGANIC FARMING PRACTICES IN SURENDRANAGAR DISTRICT OF GUJARAT STATE

YEAR : 2008

NAME OF STUDENT

N. B. Chauhan

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

During the last decade organic farming has gained international pilip- recognition as a viable option to conventional farming. In many parts of the country farmers practice organic farming by default or in absence of resources. The organic fanning movement is spreading gradually in almost all states of the country. Indian organic products are steadily making inroads into world organic food market. India having variety of geographical and climatic regions has great potentiality to export various agricultural commodities in world market.

Agriculture and environment are of late, threatened irreversibly by the indiscriminate use of modern technologies. Indiscriminate use of high doses of chemicals in agriculture alters the ecosystem due to their hazardous nature. Due to consumption of food with such chemicals cause severe damage to human being. Indigenous knowledge or traditional knowledge of rural people can be taken into consideration to solve these problems. Rural people are living in the close vicinity of nature. They have developed their own organic practices; these organic practices are location specific and this knowledge prone to lost if not properly documented.

In spite of these growing opportunities in this field there has been little efforts in research front to reorient the research agenda to create database on various aspects of organic farming. The present investigation is a comprehensive attempt to identify important characteristics of the farmers, motivational factors behind shift towards organic farming and to explore the determinants of extent of adoption among organic farmers.

Keeping this in view, the present study was undertaken with following specific objectives:

Objectives:

1. Study the selected characteristics of respondents
2. To assess the knowledge level of the trained and untrained farmers towards organic farming practices.
3. To determine the extent of adoption of the trained and untrained farmers regarding organic farming practices.
4. To ascertain the association between the characteristics of trained and untrained farmers and their level of knowledge of organic farming practices.
5. To assess the association between the characteristics of trained and untrained farmers and their extent of adoption of organic fanning practices.
6. To know the direct and indirect effect of independent variable on trained respondents with respect to organic farming practices.
7. To determine the appropriateness of methods and techniques used for training.
8. To study the constraints faced by respondents in adoption of organic farming practices.
9. To seek the suggestions from farmers regarding training components for strengthening training programmes.

Methodology:

For sampling of the respondents' multistage random sampling technique ill he used. According to availability of the respondent 90 trained and 90 untrained farmers will be selected from Surendranagar district of Saurashtra regions. two Talukas of same district

viz; Sayala and Chotila will be selected and among them three villages will be selected from each Talukas namely Sayala (Bhamrasala, Khitala and Kotada), Chotila (Trambuda, Mokas Pipaliya Dhora). The respondents will be selected in each village keeping in view of sample size of 15 trained and 15 untrained farmers.

For collection of the data field survey by personal interview method with the help of structured schedule was used. The data were collected, coded, classified, tabulated and analyzed in order to get meaningful findings. The major findings are as follows:

Major Findings:

Characteristics of the respondents

More than half 66.60 per cent and 57.42 per cent of the trained as well as untrained farmers were found in middle age group, while maximum 29.97 per cent trained farmers had graduate level education and 18.87 per cent of the respondents were from secondary school level respectively and in case of untrained farmers maximum 43.29 per cent had primary level education followed by secondary education and higher education with 23.31 per cent. There was 68.82 per cent of the trained farmers had medium annual income while annual income of the untrained farmers were found 47.73 per cent and 29.97 per cent medium income and low income respectively, less than half of the (31.08 per cent) of the trained respondents were medium farmers. While in case of untrained respondents small and medium farmers were found with 29.97 per cent and 38.85 per cent respectively. About 57.52 per cent of trained farmers had medium level of extension participation while in terms of untrained farmers also having 43.29 per cent medium level of extension participation, whereas majority of the trained farmers 63.27 per cent had medium level of social participation while in untrained farmers' situation they were found majority with low social participation with 53.28 per cent.

More than half (63.27 per cent) of the trained farmers were found to have 3 to 4 years of organic farming experience and only 14.13 per cent farmers had high experience of organic farming. A conspicuous percentage (71.04 per cent) the trained farmers were found to have medium level localite — cosmopolite value orientation while in case of untrained respondents 54.39 per cent had medium level localite- cosmopolite value orientation. A considerable 44.40 per cent of the trained farmers were found to have high innovativeness group while as far as untrained farmer concerned 69.93 per cent were found with medium innovativeness and majority of trained farmers 43.29 per cent having well as irrigation facility and also similarity in untrained farmers' cases. Majority of the trained farmers (77.70 per cent) had medium level of cropping intensity while in case of untrained farmer 72.15 per cent were noted with medium level of cropping intensity, more than two third (64.38 per cent) of trained as well as untrained farmers had medium level of risk orientation while 73.26 per cent of the respondents had medium level of mass media exposure while in case of untrained farmer had 48.84 per cent and 40.44 per cent low and medium level of mass media exposure, 64.38 per cent trained farmers had medium level of marketing orientation where as untrained farmer had low marketing orientation with 54.39 per cent.

Knowledge and Adoption

A majority (70.00 per cent) of the respondents had medium level of knowledge where as 15.56 per cent had low and 14.44 per cent had high level of knowledge about organic farming practices while in case of untrained farmers 47.73 per cent had medium level of knowledge while 41.07 per cent and 1.21 per cent had low level and high level of knowledge respectively.

The results inferred that the extent of adoption of organic farming practices was found medium to high among 83.43 per cent of the trained farmers while in case of untrained farmers result revealed that 57.72 per cent were found with medium level of adoption.

In land preparation practice, both trained as well as untrained farmers' adopt deep tillage with 81.20 and 84.00 per cent respectively also with ranked first followed by summer ploughing with 71.87 and 82.50 per cent respectively in trained and untrained farmers' cases, application of organic manure practices adoption or application of FYMs in both trained as well as untrained farmers were found high with 88.10 and 84.32 per cent, seed treatment with *Trichoderma* adopted with 93.84 per cent by trained farmers while in case of untrained farmer cases use of *Rhizobium* in groundnut adopted with 76.11 per cent.

In practice weed management, ploughing /tillage ranked first with 88.26 per cent followed by hand weeding 69.64 per cent and mulching 67.00 per cent respectively. in mulching various aspects including under this but dry crop residue ranked first with 68.51 per cent, while in untrained farmers' cases ear head of sorghum and bajara ranked first with 88.00 per cent, in green manuring Pigeon pea ranked first with 70.00 per cent in trained farmers' cases, Neem cake found ranked first 94.28 per cent followed by Ground nut cake with 91.11 percent in trained as well as untrained farmers' cases.

In application of concentrated manures, adoption of trained farmers' was found Cow dung/Urine with 93.66 per cent with ranked first while untrained farmers' case it was found that Cow dung/Urine adopted with 70.66 per cent, Application bio-fertilizer indicated that in majority (97.33 per cent) trained farmers' case *Rhizobium* ranked first with followed by *Azotobacter* 96.00 per cent while in case of untrained farmers' case adoption of all the bio fertilizer found between 45.00 per cent and 64.66 per cent, application of Bio pesticide/Agents. Use of Neem Oil and Powder was found 92.00 per cent adoption w kit ranked first while in case of untrained farmers' Neem oil and Powder Bound with ranked first and 76.00 per cent.

In application of bio insecticide, in case of trained respondents' (92.00 per cent) use of Neem leaves and seed extract found with ranked first and while in case of untrained farmers' case also use of Neem leaves and Seed extract ranked first with 74.00 per cent followed by Buttermilk 72.00 per cent, in mechanical cultivation majority of the respondents (88.00 per cent) use of collection and destruction of affected plant parts was found ranked first with followed by uprooting alternate host plant 82.00 per cent and collection and destruction of egg masses/larvae 77.00 per cent similar result were found in untrained respondents too, the respondents were adopting cropping pattern for crop rotation in trained as well as untrained farmers' were Groundnut + wheat with 83.33 per cent and 72.00 per cent respectively, in trained farmers' case 76,00 per cent were ready to adopt and also in the procedure of organic farming certification passing through NSC (National Steering Committee), AA (Accreditation Agency) and I & CA (Inspection and Certification Agency) by awareness imparting in the training programme while untrained farmers' were found only 41.75 per cent due to lacking of information regarding certification.

Association between dependent and independent variables

There was non significant association of the knowledge of trained farmers' about organic farming practices with their annual income, size of land holding and cropping intensity while untrained farmers' had non significant association also with social participation, innovativeness, mass media exposure and marketing orientation

Age was negatively and significantly associated with the knowledge of organic farming practices in trained as well as untrained respondents.

The remaining characters like education, extension participation, farm experience, localite-cosmopolite value orientation, irrigation potentiality and risk orientation had positive and significant relation ship in addition to this also in case trained farmers' social participation, innovativeness, mass media exposure and marketing orientation were positively and significantly associated with the know ledge of respondents about organic

farming practices.

There was non significant association of the adoption of organic farming practices with the annual income, cropping intensity and marketing orientation in case of trained farmers' while in addition to this also size of land holding, social participation, innovativeness and mass media exposure.

Age, size of land holding were negatively and significantly associated with their degree of adoption in trained farmers' case while only age found negatively and significantly associated. Whereas education, extension participation, organic farming experience, localite cosmopolite value orientation, irrigation potentiality, risk orientation had positive and significant association with the adoption of organic farming practices (Final Paradigm, fig. 8 and 9) while in addition to this trained farmers' had also positive and significant association with social participation, innovativeness and mass media exposure.

Direct and Indirect effect of independent variable on dependent variable

The result of path analysis reflects that marketing orientation about organic farming products was the most important variable, affecting directly and positively the knowledge of organic farming practices. It had also provided the way for education and extension participation in exerting their indirect substantial effect on knowledge of organic farming practices.

Paths' result inferred that education about organic farming practices was the most important variable, affecting directly and positively the adoption of organic farming practices. It had also provided a way for the variables viz., risk orientation and age in exerting their indirect substantial effect on adoption of organic farming practices.

Appropriateness of Training methods

Out of eleven extensions' training methods five methods secured 70 per cent and above scores. According to the score, the ranks were assigned all the eleven methods. The methods which have been secured 70 per cent or above score were lecture with discussion and demonstration ranked I, lecture with computer based presentation and discussion ranked II, lecture with discussion and A.V. aids ranked III, lecture with A.V. aids ranked IV and Method demonstration ranked V.

Impediments faced / perceived by respondents

Technical constraints

The results regarding technical constraints revealed that The lack of marketing information (67.20 per cent) was the main constraint ranked first followed by lack of crop specific scientific recommendations (49.28 per cent), lack of knowledge about certification (42.00 per cent) and difficult to control disease, pest and weeds (33.60 per cent) were ranked second, third and fourth, respectively as reported more than 50.00 per cent trained farmers. The other constraints were; long transition period (29.68 per cent), lack of information regarding organic farming (26.88 per cent), difficulty in maintaining cattle (17.92 per cent) and inadequate availability of organic inputs (16.24 per cent) were ranked fifth, sixth, seventh and eighth, respectively.

Institutional constraints

Regarding institutional constraints among both group of farmers, lack of Govt. support for training participation (72.24), lack of consumer awareness (64.10 per cent). No Govt. subsidies for organic farming cultivation (52.08 per cent) and lack of assured marketing network (41.44 per cent) were important constraints and ranked first, second, third and fourth, respectively. Other constraints recorded were: difficult to maintain farming records (38.64) inadequate certification agencies (29.68 per cent), certification process is cumbersome and time consuming (26.32 per cent), and difficult to convince members

(17.16 per cent) in order of their importance.

Economic constraints

With respect to economic constraints, no premium price available in local market (75.60 per cent) was ranked first followed by high certification charges (58.80 per cent), less yield in initial years (42.00 per cent) and need frequent training (33.60 per cent) which were ranked second, third, fourth respectively. Other constraints, reported by respondents were high labour requirement (30.80 per cent), costlier organic inputs (29.12 per cent) time consuming organic practices (26.88 per cent) and require more investment during conversion period (24.08 per cent). as their order of importance.

Situational constraints

Among the situational constraints, difficult to meet organic standards (53.20 per cent), lack of faith of consumer in organic products (46.48 per cent) and fragmented holding (40.32 per cent) were found as the major common constraints were ranked first, second and third by the respondents respectively. Other constraints reported were inadequate transport facility (38.64 per cent), small holding (12.88 per cent) and negative attitude of neighboring farmers (10.08 per cent) which were ranked as fourth fifth and sixth order, respectively in their order of importance.

Suggestions for strengthening training programmes

Venue of Training

The respondents were asked to suggest they felt, most suitable for undergoing training. From data shown in the Table 11, it can be observed that a majority (70.0 per cent) trained farmer had suggested farmers training centre Viz: SSK (Sardar Smruti Kendras at different Agril. Uni) was a suitable venue for training with a first ranked followed by 16.66 per cent and 7.77 per cent respondents suggested the in the village and at the farm site respectively with second and third ranked.

Suitable time of training

The result revealed that half of the respondents (50.00 per cent) were suggested that training programme should be organized in slack season with a first ranked followed by 30.00 per cent suggested during crop season as a most suitable time with ranked second. Only 16.66 per cent and 03.33 per cent respondents were suggested organizing training prior to monsoon and after harvesting of the crops allotted with rank third and fourth respectively

Duration of training

It is inferred that more than half of the respondents 56.66 per cent were suggested 3 days for training with a ranked first while 4 to 7 days, 1 to 2 weeks and more than 2 weeks were suggested 28.88 per cent, 11.11 per cent and 3.33 per cent trained farmers with second, third and fourth ranked respectively.

Training methods

With regard to appropriate methods suggested/adopted by training institutions during training programme, an attempt was also made to elicit the suggestions from the trained farmers about the appropriate methods with preference.

With a support of result revealed that the lecture with discussion and demonstration was most important and effective method of training suggested (95.33 per cent) preferred with a first ranked followed by 88.88 per cent, 82.22 per cent and 78.88 per cent Work shop, lecture and computer based presentation with discussion and motivational tours/Farm trips respectively with second, third and fourth ranked respectively. Remaining 20.00 per cent respondents were suggested some high-tech training methods in their preference viz., conference, panel discussion and buzz session due to their awareness with high extension participation and innovativeness characteristics with ranked ninth.

96. INDIGENOUS KNOWLEDGE OF THE GIR MALDHARI WOMEN ABOUT MEDICINAL USES OF PLANTS IN JUNAGADH DISTRICT OF GUJARAT

YEAR : 2009

NAME OF STUDENT

R. F. Vala

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

A study entitled " Indigenous Knowledge of The Gir Maldhari Women About Medicinal Uses of Plants In Junagadh District Of Gujarat" was carried with the objectives of (1) To study the profile of the Gir maldhari women in various 'Nesses', (2) To find out opinion of the Gir maldhari women regarding use of plants for medicinal purpose, (3) To measure the existing indigenous knowledge of the Gir maldhari women about medicinal use of some of the selected plants available around them, (4) To know the indigenous medicinal use of the plants by the Gir maldhari women, (5) To find out relationship between profile of the Gir maldhari women and their indigenous knowledge about medicinal use of some of the selected plants available around them, (6) Extent of variation in level of indigenous knowledge of Gir maldhari women caused by selected variables, (7) To analyze constraints faced by the Gir maldhari women in identification and use of plants for human health care available around them. (8) To seek the suggestions of the Gir maldhari women to improve their existing status of indigenous knowledge and uses of plants for human health care.

The present study was conducted in the Gir forest area of Junagadh district of Gujarat state. Seven nesses dominated having more than 50 family of Gir forest area were identified and selected by using proportionate random sampling technique for the study. For, these seven nesses namely, Vaniavav, Gadakia, Sanbheda, Dadluya, Alvani, Kabra and Kansia in Gir area of Junagadh district were purposively selected where medicinal plants are available. Hundred respondents were selected from nesses. For collection of the data field survey by personal interview method with the help of structured schedule was used. The data were collected, coded, classified, tabulated and analyzed in order to get meaningful findings.

The study revealed that Majority of the Gir Maldhari women located around plants had old age (58.00 per cent), farming and Animal Husbandry as a major source of income (51.00 per cent), up to 5 acres of land holding (64.00 per cent), low level of annual income (60.00 per cent), at least one or more milch animal (89.00 per cent), no membership in any social organization (88.00 per cent), no contact with the extension personals (59.00 per cent), low exposure to information sources (58.00 per cent), never contact with ayurvedic health consultant (69.00 per cent) and less than half (47.00 per cent) of the Gir Maldhari women had medium level of cosmopolitanism and Majority of the Gir Maldhari women opined that plants are highly useful to eradicate major human diseases (69.00 per cent), effect shown by plant material for indigenous ayurvedic human health care is slow but they like to use it (94.00 per cent), indigenous medicinal uses of plant material for human health care are better than allopathic medicines (81.00 per cent) The cent percent of the Gir Maldhari women had knowledge to identify some of the plants useful for medicinal purpose available around their locations like Kadvo Tulshi, Jambu, Khakharo, Limbdo and Nilgiri, Whereas majority of them had knowledge of same aspect in case of Vad (98.00 per cent), Mamejvo (97.00 per cent), Ambla (97.00 per cent), Akdo (96.00 per cent), Kobi (93.00 per cent), Dudhli (93.00 per cent), Safed Anghedo (91.00 per cent), Arjun (91.00 per cent), Chanothi (89.00 per cent). In case of the season of availability of the plants useful for

medicinal purpose were known by cent per cent (Aakdo, Jambu, Khakharo, Limbdo, Vad) or nearly cent per cent Tulshi (99.00 per cent), Deshi Bawal (99.00 per cent), Nilgiri (99.00 per cent), Arjun (98.00 per cent), Kadvo Tandaljo (98.00 per cent), Safed Anghedo (98.00 per cent), Bili (96.00 per cent), Dhaturu (92.00 per cent), Bhangro (91.00 per cent), Memjvo (90.00 per cent). In case of the indigenous medicinal uses were known by cent per cent Bltangro (100.00 per cent), Vad (100.00 per cent) or nearly cent per cent Limbdo (98.00 per cent), Chanothi (98.00 per cent), Mamejvo (94.00 per cent), Aakdo (93.00 per cent), Khakharo (92.00 per cent), Tulsi (87.00 per cent), Dudheli (81.00 per cent). In case of indigenous knowledge about which part of plant is useful for human health treatment was possessed by cent percent of the Gir Maldhari women in case of Bhangro and Vad, while knowledge about which part of plant is useful for human health treatment was possessed by 98.00 per cent in case of Limbdo and Tulshi (97.00 per cent), Aakdo (93.00 per cent), Khakharo (92.00 per cent), Mamejvo (89.00 per cent), Kadvo Tandaljo (80.00 per cent). In case of adoption cent per cent of the (air Maldhari women had adopted some of the plants for at least one of the human health treatments like Bhangro and Vad. Whereas, plants like Limbdo and K. hakharo were used by 98.00 per cent and 92.00 per cent of the Gir Maldhari women respectively:

Total three out of twelve independent variables had shown significant association with the extent of indigenous knowledge regarding medicinal plant the variables, Occupation and land holding had negative and significant correlation with the indigenous knowledge of Gir Maldhari women about the medicinal uses of the plants. The R^2 value (0.48) expressed the ideas that twelve variables jointly contributed toward 48.00 per cent of the variation in level of indigenous knowledge about medicinal plant of respondents.

The major constraints were unavailability of required information on medicinal uses of plants through mass media, Inadequate exposure of live specimens of plants useful for medicinal uses, Non-availability of pictorial presentation of plants useful for medicinal uses at village level, Poor campaigning of medicinal uses of plants, Inadequate training exposure.

The major suggestions expressed by the Gir Maldhari women to accelerate use of plants for human health care that there is a need to organize training camps and exhibitions at village level, Group meeting of Gir Maldhari women with experts should be arranged, efforts should be made to encourage people to know and use plants for health care by NGOs, medicinal uses of plants must be included in the content of school education.

All the twelve independent variables contributed to the extent of 48.00 per cent of the variations in the level of indigenous knowledge about medicinal plant of respondents. Among all the respondents majority of them aware of identification, season of availability, medicinal use and awareness about part of plant useful for treatment. The present investigation is a comprehensive attempt to identify important characteristics of the Gir Maldhari women, indigenous knowledge and to explore the determinants of extent of adoption of medicinal plant. Thus present study has thrown light on the new areas in which research needed to be carried out.

97. ROLE OF SELF-HELP GROUPS (SHGS) FOR EMPOWERMENT OF WOMEN
YEAR : 2009
NAME OF STUDENT

K. U. Chandravadia

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

A study entitled "Role of self help groups (SHGs) for empowerment of women" was carried with the objectives of (1) To study the socio-personal profile of the member of Self Help Groups, (2) To know the extent of women empowerment through Self Help Group, (3) To ascertain the relationship between socio-personal characteristics with empowerment, (4) To find extent of variation caused by dependent variables on extent of empowerment in self help groups, (5) To identify and analyze motivational factor behind self help group, (6) To know the activities carried out by self help groups, (7) To know the constraints as perceived by self help groups, (8) To give suggestions to strengthen the self help groups.

The present study was conducted in the area of Junagadh district of Gujarat State. According to availability SHG women were selected from three talukas, so twenty respondents from each village were selected by simple random sampling (SRS). For, these nine villages namely, Shedhaya, Devli, Muldwarka, Lushala, Thanapipli, Panchala, Khirasara, Balagam and Char purposively selected from Junagadh district where self help groups are formed. Two hundred women were selected from self help groups. For collection of the data field survey by personal interview method with the help of structured schedule was used. The data were collected, coded, classified, tabulated and analyzed in order to get meaningful findings.

The study revealed that more than half (62.00 per cent) of the self help group women belonged to middle age (44.00 per cent), education up to (26.00 per cent) primary level, belonged to medium (48.00 per cent) size of family, low annual income (44.00 per cent), up to 1 ha of land holding (44.50 per cent), more than half (72.00 per cent) SHG women were married, less than half (39.00 per cent) of the daily labour in agriculture and allied fields, low social participation (62.00 per cent), more than half (57.00 per cent) of the respondents had training undergone through self help group, amount of saving (52.00 per cent) up to Rs. 26-50 per month, more than half (51.50 per cent) of the self help groups age were per cent 5 to 10 years, more than half (82.5 per cent) of the respondents were more than 10 SHG members, had medium market orientation (55.00 per cent) of the respondent. In case of empowerment majority of the (66.50 per cent) of the self help group women had medium level of empowerment about self help group. Whereas, 17.50 per cent and 16.00 per cent of the SHG women had high and low level of empowerment, respectively.

Total five out of fourteen independent variables had shown significant association with the extent of empowerment regarding self help group. The variables, age, family size, marital status, amount of saving and deposit and age of self help group had negative and significant correlation with the empowerment about self help group. The R^2 value (0.63) expressed the ideas that fourteen variables jointly contributed toward 63.97 per cent of the variation in level of empowerment about self help group of respondents. The calculated "t" vales of the partial regression coefficient were significant at 0.01 levels in case of education (9.208), size of land holding (3.820) and training undergone (2.738). The calculated "t" vales of the partial regression coefficient were significant at 0.05 levels in case of age (2.017), family size (2.378), amount of saving (2.469), age of self help group (2.728) and number of members in SHG (2.330). In case of motivational factors result related to awareness building more than half (83.50 per cent) of the SHG women motive to generate

income; with respect to status building motives, majority (77.00 per cent) of SHG women attracted due to self interest; among NGO development, majority (89.50 per cent) of the SHG women motives other self help groups; as regards the motives related to media, majority (60.00 per cent) of SHG women were motivated through televisions; majority (71.50 per cent) of SHG women motive personal and institutional concern.

SHG women actively participate in dairy cooperative (55.00 per cent), handicraft (45.50 per cent), milk product (36.50 per cent) and making of detergent, soap and powder (24.50 per cent). Women active in combine activity like dairy cooperative and milk product were (31.50 per cent) and earn income in both of this activity.

The major constraints were lack of knowledge of record keeping, problem in saving money, SHG women depend on male members, unable to do formalities of bank like transaction, opening bank account and loan procedure, lack of interpersonal trust, complicated procedure of getting loan, all women do not attend meeting on time and quarrelling women with each other.

The major suggestions expressed by the SHG women accelerate maintain the register regularly, increase level of education in women, women should come on time for meeting, bank cooperative with self help group, Training on various aspects should be conducted, to provide marketing to all activity and co operation among members is must. The present investigation is a comprehensive attempt to identify important characteristics of SHG women and their level of empowerment of self help group. Thus present study has thrown light on the new areas in which research work needed to be carried out.

98. KNOWLEDGE AND ADOPTION OF CORIANDER PRODUCTION TECHNOLOGY

YEAR : 2009

NAME OF STUDENT

S. R. Kumbhani

MAJOR ADVISOR

Dr. D. M. Thakrar

Abstract:

The gap between know how already attained and their application in field is still large despite of considerable advancement in coriander production technology. Coriander is the important spices crop of the Junagadh district. However, majority of the coriander growers did not know and had not yet adopted recommended coriander production technology, due to lack of technical knowledge and several constraints experienced by them in adoption of recommended coriander production technology. Keeping the above fact in view, the study entitled "Coriander growers' knowledge and adoption about coriander production technology" was undertaken with following specific objectives of (1) To study the personal and socio-economic profile of respondents, (2) To measure the knowledge level of respondents about coriander production technology, (3) To know the extent of adoption of coriander production technology, (4) To ascertain the association of knowledge about coriander production technology with their selected characteristics, (5) To ascertain the association of adoption about coriander production technology with their selected characteristics, (6) To identify constraints faced by respondents in adoption of coriander production technology, (7) To seek the suggestions from the respondents to over come the constraints in adoption of coriander production technology.

In order to realize the above objectives, a sample of 160 coriander growers, representing 8 villages of two talukas (Manderada and Keshod) of Junagadh district was drawn by using random sampling techniques. To measure the coriander growers' knowledge about recommended coriander production technology a teacher made

knowledge test was developed and used. To identify the coriander growers' extent of adoption of recommended coriander production technology, the adoption index was developed and used. The adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were compiled analyzed and interpreted in the light of specific objectives.

Findings

About one half (45.63 per cent) of the coriander growers belonged to middle age group, while more than one half (50.62 per cent) of the coriander growers were from medium education group, medium size of land holding (63.12 per cent) and medium annual income (60.00 per cent).

Whereas, (65.62 per cent) and (68.75 per cent) respondents had medium coriander crop intensity and production, respectively. Medium marketing orientation (61.87 per cent), medium exposure to information sources (60.00 per cent), medium exposure to information source (60.00 per cent), medium social participation (55.00 per cent), medium extension participation (54.37 per cent), medium irrigation potentiality (48.12 per cent) and medium risk orientation (39.37 per cent) and medium innovativeness (39.37 per cent).

About (65.62 per cent) of the respondents had medium knowledge level about the recommended coriander production technology, followed by (17.51 per cent) high and (16.87 per cent) low level of knowledge about recommended coriander production technology, respectively.

About (61.87 per cent) of the coriander growers had medium adoption index, followed by (14.37 per cent) and (23.75 per cent) with high and low level of adoption of the recommended coriander production technology, respectively.

The data revealed that in case of farmers, it was observed that the first rank was occupied by improved variety (87.16 per cent), followed by irrigation (86.74 per cent), harvesting (81.68 per cent), chemical fertilizers (81.00), weed control (76.66 per cent), plant protection measures (76.41 per cent), were ranked second, third, fourth, fifth, sixth, respectively. While packing was the seventh rank (76.16), following by FYM/compost fertilizers (73.27 per cent), seed rate (72.80 per cent), selling (72.28 per cent), sowing time (69.49 per cent), preparatory tillage (67.50 per cent), method of sowing (62.91 per cent), storage (61.20 per cent), grading (53.91 per cent), seed treatment (50.78 per cent), and soil testing (32.50 per cent) were ranked eighth, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, respectively.

There was negative and significantly associated with the knowledge about recommended coriander production technology and age of respondents. While marketing orientation was negative and non significant associated with the knowledge of recommended coriander production technology and there was no significant association with the knowledge about recommended coriander production technology and their annual income.

Remaining all characteristics of the respondents like education, social participation, extension contact, size of land holding, irrigation potentiality, coriander crop intensity, risk orientation, extension participation, innovativeness, exposure to information source and production were positively significant associated with the knowledge of recommended coriander production technology.

There was no significant association with the adoption about recommended coriander production technology and their annual income, size of land holding.

All other characteristics of the respondents like education, social participation, extension contact, irrigation potentiality, coriander crop intensity, risk orientation, extension participation, innovativeness, exposure to information source and production were positively significant associated with the adoption of recommended coriander production technology. While, Age was negative and significantly associated with the adoption about recommended coriander production technology respectively. Where as marketing orientation was negative and non significant associated with the adoption about recommended coriander production technology.

Some important constraints faced by coriander growers were: Inadequate and irregular power supply, Weight and quality loss during storage and transport, High charges of electricity, Inadequate storage facilities, Lack of marketing infrastructure facilities, Lack of post harvest management facilities, Fluctuation of coriander price in the market.

Some of important suggestions expressed by more than 60.00 per cent of the respondents to overcome the constraints in adoption of recommended coriander production technology were:

Irrigation sources should be increased, Remunerative price should be given to coriander growers, Market facilities should be strengthened, Regular supply of electricity for irrigation purpose should ensured, Inputs should be made available at subsidized rate.

99. KNOWLEDGE AND ADOPTION OF KHARIF SESAME GROWERS ABOUT RECOMMENDED KHARIF SESAME PRODUCTION TECHNOLOGY

YEAR : 2010

NAME OF STUDENT

A. M. Dalsaniya

MAJOR ADVISOR

Dr. D. M. Thakrar

Abstract:

Sesame is the important edible oil seed crop of the Amreli district. However, majority of the *Kharif* sesame growers did not know and had not yet adopted recommended sesame production technology, due to lack of technical knowledge and several constraints experienced by them in adoption of recommended sesame production technology. Keeping the above fact in view, the study entitled “Knowledge and adoption of *Kharif* sesame growers about recommended *Kharif* sesame production technology” was undertaken with following specific objectives

1. To study the selected characteristics of the respondents.
2. To measure the knowledge level of respondents about *Kharif* sesame production technology.
3. To know the extent of adoption of *Kharif* sesame production technology.
4. To ascertain the association of knowledge about *Kharif* sesame production technology with their selected characteristics.
5. To ascertain the association of adoption about *Kharif* sesame production technology with their selected characteristics.
6. To identify constraints faced by respondents in adoption of *Kharif* sesame production technology.
7. To seek the suggestions from the respondents to overcome the constraints in adoption of *Kharif* sesame production technology.

In order to realize the above objectives, a sample of 120 *Kharif* sesame growers, representing 4 villages of two talukas (Savarkundla and Lathi) of Amreli district was drawn

by using Purposive with proportionate random sampling techniques. To measure the *Kharif* sesame growers' knowledge about recommended sesame production technology a teacher made knowledge test was developed and used. To measure the *Kharif* sesame growers' extent of adoption of recommended sesame production technology the adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were compiled analyzed and interpreted in the light of specific objectives.

Findings

About one half (46.67 per cent) of the *Kharif* sesame growers belonged to middle age group, while more than one half (55.83 per cent) of the *Kharif* sesame growers were from primary education group, medium size of land holding (64.17 per cent) and medium annual income (62.50 per cent). Whereas, 82.50 per cent and 75.00 per cent of respondents had medium level cropping intensity and extension participation, respectively. Medium level marketing orientation 60.00 per cent, medium level mass media exposure 56.67 per cent, medium level social participation 53.33 per cent, medium level irrigation potentiality 43.33 per cent and medium level risk orientation 71.67 per cent and medium level innovativeness 47.50 per cent.

About 74.17 per cent of the respondents had medium level knowledge about the recommended sesame production technology, followed by low and high level of 13.33 per cent and 12.50 per cent knowledge about recommended sesame production technology, respectively.

About 74.17 per cent of the *Kharif* sesame growers had medium level adoption index, followed by 13.33 per cent and 12.50 per cent with high and low level of adoption of the recommended sesame production technology, respectively.

There was negative but significantly associated with the knowledge about recommended sesame production technology and age of respondents. While, market orientation was negative and non significantly associated with the knowledge of recommended sesame production technology and there was no significant association with the knowledge about recommended sesame production technology and their annual income of respondents.

Remaining all characteristics of the respondents like education, size of land holding, irrigation potentiality, social participation, extension participation, cropping intensity, risk orientation, innovativeness and mass media exposure were positive and significantly associated with the knowledge of recommended sesame production technology.

There was no significant association with the adoption about recommended sesame production technology and their annual income and size of land holding.

All other characteristics of the respondents like education, irrigation potentiality, social participation, extension participation, cropping intensity, risk orientation, innovativeness and mass media exposure were positive and significantly associated with the adoption of recommended sesame production technology. While, age was negatively associated with the adoption about recommended sesame production technology respectively. Where as marketing orientation was negatively non significant associated with the adoption about recommended sesame production technology.

The important constraints faced by *Kharif* sesame growers in adoption of improved sesame production technology were: failure of crop due to heavy rainfall, unavailability of fertilizers in time, weight and quality loss during storage and transportation, inadequate storage facilities and lack of marketing infrastructure facilities.

However, the suggestions expressed by more than 60.00 per cent of the respondents to overcome the constraints in adoption of recommended sesame production technology viz: remunerative price should be given to sesame growers, market facilities should be strengthened, inputs should be made available at subsidized rate, sufficient and timely credit facility should be made available.

100. FACTORS AFFECTING THE LEVEL OF INTERNET EXPOSURE OF PG STUDENTS OF JUNAGADH AGRICULTURAL UNIVERSITY

YEAR : 2010

NAME OF STUDENT

N. M. Vegad

MAJOR ADVISOR

Dr. B. R. Karkar

Abstract:

The experiences of developed countries indicate that there are enormous scopes of using Internet facilities in all the research and academic institutions for the PG Students. Research scolders can link themselves to remote computers via the Internet and gain access to the data, information and programs stored on it. They can do almost anything like sending and receiving messages, updates about specific events or topics, reading or copying information stored on other computers, reading newspapers, magazines and newsletters, downloading computer software, sharing of expensive hardware, centralized administration of all computers, posting and reading public messages to exchange information about certain topics or areas of interest.

In industrially and agriculturally developed state of Gujarat, Junagadh Agricultural University has been working for creating competent human resources for agricultural research, education and extension educational activities. The newly established Junagadh Agriculture University of the Gujarat state offers educational programme up to Ph.D. level in Agriculture, Agricultural Engg. & Tech. Fisheries, and Veterinary The actual association of users with any communication system gives authentic image of such system. Looking to this fact, a study on factors affecting the level of Internet exposure of PG Students of Junagadh agricultural university was undertaken with following objectives.

1. Profile of Internet user PG Students of Junagadh Agricultural University
2. Measure attitude of the PG Students towards the use of Information technology for self empowerment
3. The level and pattern of Internet exposure of PG Students of Junagadh Agriculture University
4. The factors affecting the level of Internet exposure of PG Students of Junagadh Agriculture University
5. Problems faced by the PG Students of JAU in the exposure of Internet
6. Suggestions offered by the PG Students to improve their level of Internet exposure

Present study was undertaken in Agriculture College, Agricultural Engg. & Tech. College, ABM College, Fisheries College, and Veterinary College of Junagadh Agricultural University, Junagadh of Gujarat state. The study was conducted on a random sample of total 100 postgraduate students studying and doing research work either in the final year of Masters or in any year of Ph.D. in Agriculture, Agricultural Engg. & Tech., ABM, Fisheries and Veterinary faculties of Junagadh Agriculture University, Junagadh. An interview schedule was prepared as per the objectives and data were collected through personal contacts. The data were classified, tabulated and analyzed to make the findings meaningful. The statistical measures, such as percentage, mean score, standard deviation, coefficient of correlation, multiple regression and standard partial regression coefficient were used.

The results indicate that majority (72.00 per cent) of the Internet user PG Students were studying in Master Degrees, while slightly less than two fifth (28.00 per cent) of them were studying in Ph.D. degrees. It was observed that majority of the Internet user PG Students of JAU had up to 23 years of age (65.00 per cent), (82.00 per cent) PG Students has Family income up to 1 to 2 lack received their last degree with first class (70.00 per cent), knowledge of three

languages (72.00 per cent), high level of exposure in various extracurricular activities (65.00 per cent), everyday exposure of library (50.00 per cent), exposure of computer training (72.00 per cent), low to medium level of self confidence (77.00 per cent), medium level of competition orientation (55.00 per cent), low to medium level of achievement motivation (64.00 per cent), slightly more than two fifth of them had medium level of scientific orientation (45.00 per cent), medium level of Innovation proneness (44.00 per cent), majority of them had low to medium degree of computer nervousness (75.00 per cent), while 42.00 per cent of them had highly favorable attitude towards the use of Information Technology.

As far as level and pattern of Internet exposure of PG Students was concerned, majority of them had above three years of experience of Internet exposure (70.00 per cent), used Internet facility every day (70.00 per cent). The best three uses of Internet made by them were to collect information for research reference, to send e-mail and to send application for job download & Save as separate file or folder and Some PG Students prefer writing useful information on separate paper, at the same time some of them preferred Internet just for watching. The most important sources to explore Internet utilized by the PG Students were college library or their concerned departments. Slightly more than half (51.00 per cent) of them possessed more than two e-mail ID, slightly more than two fifth (45.00 per cent) were utilizing e-mail facility everyday, 10.00 per cent of them had exposure of chatting on Internet. Majority of them used Internet by their own (94.00 per cent), Google and Yahoo were the most preferred and used search engines by them. Majority of them had medium to high level of overall Internet exposure (75.00 per cent), whereas highly preferred websites expressed by them were ICAR's www.icar.org.in website and their university's www.jau.in website.

The study reveals that Internet exposure was observed significantly higher among those JAU PG Students, who had connection with Ph.D. level of education, high academic performance, knowledge of additional languages, elevated involvement in extracurricular activities, superior exposure of library, exposure of computer training, greater achievement motivation, advanced scientific orientation, higher innovative proneness, low degree of computer anxiety and positive attitude towards the use of Information technology. Further, study relates that positivism of the PG Students in case of achievement motivation, attitude towards the use of IT, knowledge of different languages, knowledge of Internet, library exposure and computer training.

The major problems faced by JAU PG Students during their exposure of Internet were; lack of institutional motivational atmosphere, inadequate time provided by Cyberary authority to each student to use Internet, slow speed of server, unavailability of all the sites on the server of University and lack of knowledge of minor repairing of different parts. Other minor problems expressed by them were scholars are not permitted to download useful materials from the Internet on CD, lack of detail knowledge and skill to create own site to document department works, lack of time, time consuming and lack of sufficient number of computer.

The most valuable suggestions offered by the PG Students to accelerate use of Internet were; more number of computers should be provided in Cyberary, non credit course on IT to train students should be started, scholars should be permitted to download useful materials from the Internet on CD, 24 hours permission should be given to the students to explore Internet at department and Cyberary and adequate facilities to use Internet should be created. The other valuable suggestions offered by them were; speed of university server should be improved, all the facilities obtainable on Internet should be made available on university server, each department should be given all advanced IT facilities, the high speed of Internet should be constantly maintained and all the science and technology related sites available on Internet should be made accessible on university server.

101. KNOWLEDGE OF AGRICULTURAL STUDENTS REGARDING GLOBAL WARMING AND IT EFFECT ON SUSTAINABLE AGRICULTURE
YEAR : 2011
NAME OF STUDENT

P. M. Dadhania

MAJOR ADVISOR

Dr. D. M. Thakrar

Abstract:

The agricultural situation in India has undergone a rapid change in last two decades. Agricultural Entrepreneurship plays a very important role in improving food and nutrition security, reducing poverty and in accelerating economic growth in a predominantly agricultural and rural economy like that of India. Education has been considered a lubricating force in the process of overall socio-economic development. The most important theme of linkage between agricultural entrepreneurship and educational institutions are on brink of the 21st century as we have almost reached to the cross road of Indian economy where the process of liberalization has started. This is indeed a crucial time for all of us to very seriously contemplate to develop a vision which can help us in our endeavor to promote economical and social status of our people and lead us to achieve the ultimate goal of our total participation in management of their organization. Entrepreneurship education provides opportunities to develop skills, in addition to the knowledge through engaging the learners in a variety of processes and situations. Keeping in view the present study entitled “KNOWLEDGE OF AGRICULTURAL STUDENTS REGARDING GLOBAL WARMING AND ITS EFFECT ON SUSTAINABLE AGRICULTURE” was undertaken with following specific objectives:

1. To study profile of the agricultural students of agriculture faculty of JAU.
2. To study level of knowledge of the agricultural students about global warming.
3. To study sensitivity of the agricultural students to minimize global warming problem.
4. To ascertain relationship between profile of the agricultural students and their level of knowledge about global warming.
5. To ascertain suggestions of the agricultural students to create awareness about global warming among the postgraduate research scholars.

The present study was undertaken at College of Agriculture, Junagadh Agricultural University, Junagadh. The study was conducted on randomly selected 100 students. The data were collected by distributing the questionnaire to randomly selected post graduate research scholars.

The dependent and Independent variables were measured with the help of suitable scale and procedures adopted by other research workers were used with due modification. The statistical tools used for analysis were mean, standard deviation and coefficient of correlation.

Major findings of the study are summarized below:

1. Nearly two-third of the post graduate research scholars (62.00 per cent) had age in the range of 22 to 24 years.
2. More than half of the post graduate research scholars (57.00 per cent) were in first class category.
3. Slightly less than half (44.00 per cent) was low participation in extracurricular activities.
4. Slightly less than three fourth (70.00 per cent) of the post graduate research scholars father has above S.S.C. education level of education.
5. One third (37.00 per cent) of the post graduate research scholars mothers has above

S.S.C.

6. More than one third (42.00 per cent) of the post graduate research scholars had high level habit to collect information from sources like text books, reference books, reports of seminar, symposia, conferences, news papers, research journals, TV and radio.
7. Exactly half (50.00 per cent) of the post graduate research scholars of JAUs were utilizing library facility everyday out of which, 26.00 per cent, 19.00 per cent and 05.00 per cent of them used it for one hour, two to three hours and for more than three hours, respectively.
8. Great majority (65.00 per cent) of the post graduate research scholars used internet every day, out of which 37.00, 19.00 and 09.00 per cent of them utilized it up to one hour, two to three hours and above three hours, respectively.
9. More than two fifth of the post graduate research scholars (45.00 per cent) family had income up to Rs. 1.0 lakh.
10. More than half (59.00 per cent) post graduate research scholar's father engaged in farming and animal husbandry.
11. More than half (57.00 per cent) of the postgraduate research scholars had medium level of scientific orientation
12. 63.00 per cent of the post graduate research scholars had medium level of innovation proneness.
13. More than two fifth (46.00 per cent) of the post graduate research scholars held neutral attitude towards IPM.
14. Out of the 13 variables, three variables namely academic performance, father's occupation and attitude towards IPM of post graduate research scholars had a positive and significant correlation with their knowledge about global warming and rest ten variables did not show any significant relationship.
15. Major suggestion endorsed by the post graduate research scholars were each student should be given responsibility to maintain one tree in campus, awareness on long term effect of GW problem should be created, establishing Environmental Information Center at college, Regular plantation of trees/plants should be organized in academics villages, post graduate students should be encouraged doing research on GW issues, special lecture of scientists on GW should be organized in academics institution and award should be given for the best research work done by postgraduate students on GW issues.

102. EXTENSION STRATEGIES FOR RISK MANAGEMENT IN DRY LAND AGRICULTURE IN NORTH SAURASHTRA ZONE

YEAR : 2011

NAME OF STUDENT

S. R. Makadia

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

India has about 108 million hectares of dry farming area which constitutes nearly 75 per cent of the total 143 million hectares of arable land (Anon. 2005). In such areas crop production becomes relatively difficult as it mainly depends upon intensity and frequency of rainfall. Out of 19.6 million hectares of total geographical area of Gujarat, 9.6 million hectares area is under cultivation. Out of this cultivated area, 78 per cent (7.5 million ha) is rainfed (Vora, 1992). However, majority of the farmers of dry farming areas are not aware

as well as not adopting recommended dry farming technologies, due to lack of technical knowledge and several constraints experienced by them in adoption of recommended dry farming technologies. Keeping the above fact in view, the study entitled “Extension Strategies for Risk Management in Dry Land Agriculture in North Saurashtra Zone” was undertaken with specific objectives.

1. To study the selected characteristics of the respondents.
2. To measure the knowledge level of respondents about recommended dry farming technologies.
3. To know the extent of adoption of the respondents about recommended dry farming technologies.
4. To ascertain the association of knowledge about recommended dry farming technologies with their selected characteristics.
5. To ascertain the association of adoption about recommended dry farming technologies with their selected characteristics.
6. To identify constraints faced by respondents in adoption of recommended dry farming technologies.
7. To seek the suggestions from the dry farming adopters to overcome the constraints in adoption of recommended dry farming technologies.

In context to above objectives, a sample of 120 dry farming adopters' representing 6 village of Rajkot, Tankara and Jodiya Talukas of North Saurashtra was drawn by using random sampling techniques. To measure the dry farming adopters' knowledge about recommended dry farming technologies a teacher made knowledge test was developed and used. To measure the dry farming adopters' extent of adoption of recommended dry farming technologies the adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were compiled analyzed and interpreted in the light of specific objectives.

Findings

About one half (46.67 per cent) of the dry farming adopters belonged to middle age group, while majority of the respondents (55.83 per cent) were from primary education group, medium size of land holding (64.17 per cent) and medium annual income (62.50 per cent).

Whereas, 82.50 per cent and 75.00 per cent of dry farming adopters were from medium level cropping intensity and extension participation, respectively. Medium level marketing orientation 60.00 per cent, medium level mass media exposure 56.67 per cent, medium level social participation 53.33 per cent, medium level irrigation potentiality 48.33 per cent and medium level risk orientation 71.67 per cent and medium level innovativeness 47.50 per cent.

Majority of the respondents (63.33 per cent) were from moderate level of knowledge about the recommended dry farming technologies, followed by low (20.83 per cent) and high (15.84 per cent) level of knowledge about recommended dry farming technologies, respectively. About 57.50 per cent of the dry farming adopters were from medium level adoption index, followed by 24.17 per cent and 18.33 per cent with low and high level of adoption of the recommended dry farming technologies, respectively.

There was positive and significant association with the knowledge about recommended dry farming technologies and their education, size of land holding, social participation, extension participation, cropping intensity, risk orientation, innovativeness and mass media exposure.

While market orientation was negative and non significant associated with the

knowledge of recommended dry farming technologies. Age was negative and significantly associated with the knowledge of recommended dry farming technologies. While remaining all characteristics of the dry farming adopters like annual income and irrigation potentiality were non significantly associated with the knowledge of recommended dry farming technologies. There was positive and significant association with the adoption of recommended dry farming technologies and their education, social participation, and extension participation cropping intensity, risk orientation, innovativeness and mass media exposure.

There was no significant association with the adoption of recommended dry farming technologies and their annual income, size of land holding. Age was negative and significantly associated with the adoption of recommended dry farming technologies. While market orientation and irrigation potentiality were negative and non significantly associated with the adoption of recommended dry farming technologies.

The important constraints faced by dry farming adopters were: Appearance of periodic drought spells during cultivation, Poor return as compare to modern technologies, Lack of organized extension machinery to disseminate the proven dry farming technologies, Inadequate and untimely supply of agricultural inputs, Farmers don't willing to take risk, Lack of information and experience regarding dry farming, Poor economic status of the farmers etc.

However, the suggestions expressed by more than 60.00 per cent of the dry farming adopters to overcome the constraints in adoption of recommended dry farming technologies viz: Provide special administrative setup to promote dry farming, market facilities should be strengthened, inputs should be made available at subsidized rate, sufficient and timely credit facility should be made available.

103. ADOPTION OF CLEAN MILK PRODUCTION PRACTICE FOLLOWED BY DAIRY FARM WOMEN IN JUNAGADH DISTRICT

YEAR : 2011

NAME OF STUDENT

A. R. Pagar

MAJOR ADVISOR

Dr. M. N. Popat

Abstract:

In India, keeping milch animals has been never a separate occupation from agriculture. Thus, its rural economy is closely tied up with milch animals. Agriculture is basis of village life in India. Seventy percent of the Indian population depends on it for their livelihood.

India occupies the foremost position among the countries of the world in respect of livestock. It contributing nearly about one fourth of world's total bovine population. India maintained its position as largest producers of milk, with achievement of around 104.8 million tonnes during 2007-08. However, there is large population of milk producing animals; the milk production is very low as compared to other countries.

Livestock sector had among the few growth sectors in rural India over the past five decades and its contribution to the GDP has 4.36 per cent share in 2006-07. (Anonymous 2008).

The recent advances in dairy science technology have demonstrated that adoption of clean milk production practices has great potential for increasing the quality of milk production. Clean milk production is considered as one of the important factors in economy of Gujarat state. The dairy farm women can increase production of milk by adopting clean milk production practices and different recommended package of practices.

In the present study, an attempt was made to know the level of adoption of clean milk

production practices and empirically verify the hypothesis of “ADOPTION OF CLEAN MILK PRODUCTION PRACTICES FOLLOWED BY DAIRY FARM WOMEN IN JUNAGADH DISTRICT” was under taken with following objectives:

1. To study the profile of dairy farm women of Junagadh district.
2. To study the knowledge level of dairy farm women regarding clean milk production practices.
3. To study the adoption of clean milk production practices followed by dairy farm women.
4. To explore the relationship between profile of dairy farm women with their adoption of clean milk production practices.
5. To identify the constraints faced by the dairy farm women in adoption of clean milk production practices.
6. To seek suggestions from the dairy farm women to overcome the constraints faced by them in adoption of clean milk production practices.

A researcher studying in Junagadh Agricultural University Junagadh therefore Junagadh district is chosen for this study. Sixteen milk producing villages were randomly selected from eight talukas. For this study 160 dairy farm women who had minimum 3 years of experience in dairy farming were selected randomly from those 16 villages i.e. ten dairy farm women from each village. To know the various characteristics of dairy farm women, it was measured with using well structure schedule. Measurements of knowledge level of dairy farm women regarding clean milk production practices was carried out by teacher made test. A measurement of adoption of clean milk production practices by dairy farm women was done by using well structure schedule. A simple ranking technique was applied to measure the constraints and suggestions given by dairy farm women. The data were collected with the help of well-structured interview schedule through personal contact and data were compiled, tabulated and analyzed to get proper answers for objectives of the study. The statistical tools used were percentage, mean score, standard deviation and coefficient of correlation. The important findings of the study are summarized as below :

1. Majority (83.75 per cent) of the dairy farm women were found in the middle age group.
2. About 28.75 per cent of the dairy farm women had education up to higher secondary.
3. Nearly two third 65.62 per cent of the dairy farm women had medium level of experience in dairy farming.
4. More than (64.38 per cent) of dairy farm women were found in small size of family.
5. Majority (71.25 per cent) of the dairy farm women had membership in one organization.
6. More than two-fifth (42.50 per cent) of the dairy farm women were medium farmer.
7. More than half (51.25 per cent) of dairy farm women had medium herd size.
8. More than half (55.00 per cent) of the dairy farm women were found with medium annual income.
9. Majority (73.13 per cent) of dairy farm women had medium extension participation.
10. Majority (66.87 per cent) of dairy farm women had medium exposure to mass media.
11. More than two-third (69.38 per cent) of the dairy farm women had moderately

- favorable attitude towards dairy farming.
12. More than half (56.87 per cent) of the dairy farm women had medium level of risk orientation.
 13. Majority (60.62 per cent) of the dairy farm women had medium level of knowledge regarding clean milk production practices.
 14. Majority (70.62 per cent) of the dairy farm women had medium level of adoption regarding clean milk production practices.
 15. The independent variables *viz.* education, experience in dairy farming, herd size, annual income, risk orientation, land holding, extension participation, attitude towards dairy farming and knowledge regarding clean milk production practices had positive and highly significant correlation with adoption of clean milk production practices of dairy farm women. Whereas, age, size of family and social participation of the dairy farm women had non-significant correlation with adoption of clean milk production practices of dairy farm women.
 16. Major constraints faced by dairy farm women in adoption of clean milk production were; equipments and tools of clean milk production were costly, lack of availability of KMnO_4 solution for cleaning and washing purpose, lack of proper training on clean milk production, inadequacy of skilled labour, lack of technical knowledge about clean milk production practices and lack of stainless still utensils.
 17. Valuable suggestions given by dairy farm women were KMnO_4 solution should be made available at village level, subsidy should be provided for purchasing tools and implements required for clean milk production, veterinary doctor should visit timely in the village, provide timely technical knowledge regarding clean milk production and regular training programmes should be conducted for clean milk production.

104. KNOWLEDGE AND ADOPTION OF COCONUT PRODUCTION TECHNOLOGY IN JUNAGADH DISTRICT OF GUJRAT STATE

YEAR : 2012

NAME OF STUDENT

M. A. Koli

MAJOR ADVISOR

Dr. M. N. Popat

Abstract:

Agriculture as the largest private enterprise in India and will continue to be the life line of the Indian economy least in foreseeable future. It contributes nearly 22 per cent to national G.D.P. In food sector alone agriculture contributes about 250 thousand crores rupees annually. Also provide direct employment to about 234 million people.

The Coconut Palm (*Cocos nucifera* Linn.) is supposed to be one of the five legendary Devavrikshas and is eulogised as Kalpavriksha - the all giving tree - in Indian classics. All parts of the palm are used in some way or another in the daily life of the people of the west coast; the traditional coconut growing area. Its fruit is called Lakshmi Phai and is used in social and religious functions in India irrespective of whether palm is locally grown or not.

Coconut is one of the important plantation crops of Gujarat state particularly in coastal area. The coconut plant having high economic potential for coconut growers. The plant is unique in the sense that it is capable of meeting all the basic needs of food, fiber, fuel, timber and even animal feed. Still the growers are getting disenchanted with it.

Total production of coconut in India is 101.48 million nuts and productivity is 5231 nuts

per hectare (Anonymous, 2009), whereas, in Gujarat, coconut grown in 16674 hectare with production 172466 M.T.

Among all the fruit crops, coconut is the most thrived age old major cash crop of Junagadh district. Considering the area and production of coconut in Gujarat, Junagadh is first. In Junagadh district, the area under the coconut is 7076 hectare producing 77836 M.T. of coconut every year. Considering the taluka wise area of coconut in Junagadh district, Mangrol ranked first having an area 1632 ha. under coconut, followed by Maliya Hatina taluka having an area of 900 ha. and Veraval taluka having an area of 328 ha.

The improved crop technologies in coconut are developed. The improved varieties are also available to the farmers. Various farmers training programmes are being conducted by the government and other agencies; however there has been no major breakthrough in coconut production.

The technology of growing coconut crop is complex and sophisticated. It requires through understanding and repeated practice of different skills on the part of farmers reap rich harvests. Therefore, farmers should be trained in specific operational and technical know-how and skill embracing all phases of production for maximizing their economic returns.

Keeping all these facts in mind the present research problem "KNOWLEDGE AND ADOPTION OF COCONUT PRODUCTION TECHNOLOGY IN JUNAGADH DISTRICT OF GUJARAT STATE" was undertaken.

OBJECTIVES OF THE STUDY

1. To study the selected characteristics of coconut growers.
2. To measure the level of knowledge of farmers about the coconut production technology.
3. To know the extent of adoption of coconut production technology.
4. To ascertain the association of knowledge about coconut production technology with their selected characteristics.
5. To ascertain the association of adoption of coconut production technology with their selected
6. To identify constraints faced by farmers in adoption of coconut production technology.
7. To seek the suggestions from the respondents to overcome the constraints in adoption of coconut production technology.

In order to realize the above objectives, a sample of 108 coconut growers, representing 6 villages of two talukas (Mangrol and Veraval) of Junagadh district was drawn by using multiple stage purposively sampling technique. To know the various characteristics of coconut growers the scales developed by various researchers were used with some modifications. Measurements of knowledge about recommended production technology of coconut the teacher made knowledge test was used. A measurement of adoption was done by using scale developed by chattopadhyay (1974) with slight modification. A simple ranking technique was applied to measure the constraints faced by coconut growers. The data were collected with the help of well-structured, pre-tested, Gujarati version interview scheduled through personal contact and data were compiled, tabulated and analyzed to get proper answers for objectives of the study. The statistical tools used were; percentage, mean score, standard deviation and coefficient of correlation value.

Major Findings :

The important findings of the study are summarized as below:

Characteristics of the coconut growers

1. Majority (62.04 per cent) of the coconut growers were found in the middle age group.
2. More than one-third (34.26 per cent) of the coconut growers had education up to secondary level of education.
3. Majority (60.19 per cent) of coconut growers were found in large size of family.
4. More than two-fifth (44.44 per cent) of the coconut growers had medium level of experience in coconut cultivation.
5. Slightly less than three-fifth (59.26 per cent) of the coconut growers were medium size of land holding (2.01 to 4 ha).
6. About 57.41 per cent of the coconut growers had medium land holding (1.1 to 3.0 ha) under coconut cultivation.
7. More than half (52.78 per cent) of the coconut growers were found with medium annual income.
8. Majority (73.15 per cent) of the coconut growers had medium coconut yield index.
9. Majority (75.00 per cent) of the coconut growers had medium social participation.
10. Majority (63.89 per cent) of coconut growers had medium extension participation.
11. More than three-fifth (63.89 per cent) of coconut growers had medium exposure to mass media.
12. Less than three-fifth (57.40 per cent) of the coconut growers had medium level of risk orientation.
13. Majority (58.33 per cent) of the coconut growers had medium level of scientific orientation.
14. More than half (56.48 per cent) of the coconut growers had medium level of market orientation.
15. More than three-fifth (62.96 per cent) of coconut growers had medium innovativeness.
16. Majority (64.81 per cent) of the coconut growers had medium level of knowledge regarding recommended practices of coconut.
17. Majority of the coconut growers (66.67 per cent) had medium level of overall adoption regarding recommended practices of coconut.
18. The independent variables viz., education, experience in coconut cultivation, land holding, annual income, yield index, social participation, extension participation, mass media exposure, risk orientation, scientific orientation, market orientation and innovativeness had positive and significant correlation with knowledge level of coconut growers regarding recommended production technology of coconut crop. The variables viz., age, size of family, area under coconut showed non-significant relationship with knowledge level of the coconut growers.
19. The independent variables viz., education, experience in coconut cultivation, land holding, area under coconut, annual income, yield index, extension participation, mass media exposure, risk orientation, scientific orientation, market orientation and innovativeness had positive and significant correlation with adoption level of coconut growers regarding recommended production technology of coconut crop. The variables viz., age, size of family and social participation showed non-significant relationship with adoption level of the coconut growers.
20. Major constraints faced by coconut growers in adoption of recommended production technology were; unavailability of healthy seedlings, non-availability of labours, high cost of inputs, lack of market facilities, high rates of labours, lack of

knowledge about control measures of pests and diseases, high cost of transportation, lack of timely technical guidance, lack of knowledge about recommended dose of fertilizers and fluctuations in market rate.

21. Coconut growers suggested that price of planting material should be minimized, timely technical guidance should be provided to the farmers, sufficient knowledge should be provided regarding recommended dose of fertilizer, insecticide/pesticides, good and healthy seedlings should be provided, proper marketing facility should be established, guidance should be provided to raise nursery, coconut co-operative marketing society should be started in potential coconut growing area and training on new technologies should be imparted to the farmers.

105. KNOWLEDGE AND ADOPTION OF CASTOR AS INTERCROP WITH GROUNDNUT IN SOUTH SAURASHTRA AGRO CLIMATIC ZONE OF GUJARAT

YEAR : 2012

NAME OF STUDENT

U. N. Humbal

MAJOR ADVISOR

Dr. B. R. Karkar

Abstract:

Despite considerable advance in agricultural production technology as well as expansion in infrastructure for increasing productivity of various crops, the gap between know how already attained and their application in the field is still quite large. There is a wide scope for increasing the castor production per unit area. Castor is the most important non-edible oil seed crop. The castor as intercrop with which crops is popular in saurashtra region. There are many problems experienced by the farmers in adoption of recommended crop production technologies. In this content, it is right time to examine the technological knowledge of farmers with respect to castor as intercrop with groundnut. It is equally important to know the level of adoption of this practice. This would be useful to prepare extension strategy, if there is communication gap, It would also be useful to increase the adoption level by identification and analysis of the factors responsible for it. Hence, it felt necessary to take up the study entitled “Knowledge and adoption of castor as intercrop with groundnut in South Saurashtra Agro Climatic Zone of Gujarat” was undertaken with following specific objectives.

1. To study the personal, socio-economic, communication, psychological and situational characteristics of the respondents.
2. To measure the knowledge level of respondents about recommended crop production technology of castor as intercrop with groundnut.
3. To know the extent of adoption of respondents about recommended crop production technology of castor as intercrop with groundnut.
4. To ascertain the relationship between knowledge level of respondents about recommended crop production technology of castor as intercrop with groundnut and their selected characteristics.
5. To ascertain the relationship between adoption of respondents about recommended crop production technology of castor as intercrop with groundnut and their selected characteristics.
6. To identify the constraints faced by respondents in adoption of recommended crop production technology of castor as intercrop with groundnut.
7. To seek the suggestions from the respondents to overcome the constraints in

adoption of recommended crop production technology of castor as intercrop with groundnut.

In context to above objectives, a sample of 120 respondents representing 24 villages of Keshod, Vanthali, Manavadar, Dhoraji, Jetpur and Upleta Talukas of South Saurashtra was drawn by using multistage purposive sampling techniques. To measure respondents' level of knowledge about recommended crop production technology of castor as intercrop with groundnut, a teacher made knowledge index was developed and used. To measure respondents' extent of adoption of recommended crop production technology of castor as intercrop with groundnut, the teacher made adoption index was developed and used. The scale developed by Chattopadhyay (1974) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were collected, analyzed and interpreted in the light of specific objectives.

Major findings

Majority (68.33 per cent) of respondents belonged to medium extension articulation, medium risk orientation (67.50 per cent), medium size of land holding (65.83 per cent), medium annual income (61.67 per cent) and medium cropping intensity (60.83 per cent).

More than one half (56.66 per cent) of respondents belonged to medium mass media exposure, medium localite-cosmopolite value orientation (56.66 per cent), primary level of education (55.00 per cent), medium social participation (52.50 per cent) and middle age group (50.83 per cent).

As less than one half (49.17 per cent) of respondents belonged to medium innovativeness and bore well irrigation potentiality (39.17 per cent).

Majority (65.00 per cent) of the respondents had medium level of knowledge about the recommended crop production technology of castor as intercrop with groundnut. Whereas, 20.00 per cent and 15.00 per cent respondents had low and high levels knowledge about recommended crop production technology of castor as intercrop with groundnut, respectively.

Majority (60.00 per cent) of the respondents had medium adoption about the recommended crop production technology of castor as intercrop with groundnut. Whereas, 21.67 per cent had low and 18.33 per cent had high extent of adoption of recommended crop production technology of castor as intercrop with groundnut, respectively.

The characteristics of the respondents like education, extension participation, innovativeness, risk orientation and cropping intensity had positive and highly significant relationship with the knowledge of farmers about recommended crop production technology of castor as intercrop with groundnut.

The characteristics of the respondents like size of land holding, social participation, localite-cosmopolite value orientation, mass media exposure and irrigation potentiality were positively and significantly related with the knowledge of farmers about recommended crop production technology of castor as intercrop with groundnut.

There was no significant relationship with the knowledge about recommended crop production technology of castor as intercrop with groundnut and their annual income. Age was negatively and significantly related with the knowledge of farmers about recommended crop production technology of castor as intercrop with groundnut.

The characteristics of the respondents like education, extension participation, innovativeness and cropping intensity had positive and highly significant relationship with the adoption of recommended crop production technology of castor as intercrop with groundnut.

The characteristics of the respondents like socimost important suggestions expressed by

respondents were : remuneral participation, localite-conmopolite value orientation, mass media exposure and risk orientation had positive and significant relationship with the adoption of recommended crop production technology of castor as intercrop with groundnut.

There was no significant relationship with the adoption of recommended crop production technology of castor as intercrop with groundnut and their annual income, size of land holding and irrigation potentiality. Age was negatively and significantly related with the adoption of recommended crop production technology of castor as intercrop with groundnut.

The important constraints faced by respondents were : high price of chemical fertilizers, less supply of electricity, high price of improved and hybrid seeds, high cost of threshing and harvesting as well as high cost and lack of skilled labours, scarcity of FYM / compost fertilizers, non-availability of chemical fertilizers in required quantity in time, high price of insecticides/pesticides growth stages of castor and insufficient demonstration of improved technologies on farmers' fields etc.

However, the suggestions given by the respondents to overcome the constraints in adoption of recommended castor production technology the five most important suggestions expressed by respondents were : remunerative price of the product should be made available, the projects for increasing availability of irrigation water should be implemented, chemical fertilizers should be made available at subsidized rate, therem must be regular electric supply at the time of critical stages of crops for irrigation and cost of threshing and harvesting should be reduced by innovation of improved machinery.

106. TRAINING NEEDS OF GROUNDNUT GROWERS OF JUNAGADH DISTRICT IN SOUTH SAURASHTRA AGRO-CLIMATIC ZONE

YEAR : 2012

NAME OF STUDENT

D. B. Mavani

MAJOR ADVISOR

Dr. B. R. Karkar

Abstract:

Groundnut is the most thrived age-old major oilseed crop as well as cash crop of saurashtra region of Gujarat state. Though the recommended varieties are available to the groundnut growers, there has been no major break-through in groundnut production. The technology of recommended varieties of groundnut is complex and sophisticated. It requires a through understanding and repeated practices of different skills on the part of groundnut growers to reap rich harvests. Therefore, the groundnut growers should be trained in specific operational and technical know-how and skills embracing all phases of production for maximizing their economic returns. Keeping this fact in mind, the present study "TRAINING NEEDS OF GROUNDNUT GROWERS OF JUNAGADH DISTRICT IN SOUTH SAURASHTRA AGRO-CLIMATIC ZONE" was under taken with the following specific objectives:

1. To study the selected characteristics of the groundnut growers.
2. To determine the training needs of groundnut growers in relation to recommended groundnut production technology.
3. To find out relationship, if any exists between the selected characteristics of groundnut growers with their training needs.
4. To ascertain the relative suitability of venue, season, duration, size of training group and extension methods in training programmes of groundnut growers in relation to

- groundnut production technology.
5. To know the constraints and seek the suggestions to overcome the constraints in adoption of groundnut production technology.

Methodology:

To realize these objectives, three talukas were selected randomly, out of fourteen talukas and six villages were selected randomly from each of the selected talukas. Totally 120 groundnut growers were selected randomly from selected villages. Responses were collected with the help of personal interview. The data were analyzed in the light of above objectives.

Findings:

1. Characteristics of the groundnut growers

Majority of groundnut growers' belonged to medium cropping intensity, extension participation, risk orientation, size of land holding, annual income, market orientation, mass media exposure, social participation, primary education, innovativeness, middle age and bore well irrigation potentiality, respectively.

2. Training needs of groundnut growers

The respondents needed training not only in the sub-items of package of practices but also in storage, marketing and credit. The ten major items, maximum priority was given by the respondents for plant protection measures.

Majority (59.17 per cent) of the groundnut growers needs medium training in relation to groundnut production technology.

3. Characteristics of groundnut growers with their training needs

The independent variables *viz.* irrigation potentiality, social participation, extension participation, risk orientation and mass media exposure had significant related with the training needs of recommended groundnut production technology. Land holding, innovativeness and market orientation had positive and highly significant related with the training needs of recommended groundnut production technology. Whereas, age and education had negative and significantly related with the training needs of recommended groundnut production technology.

While remaining two characteristics of the respondents like annual income and cropping intensity had non-significantly related with the training needs of recommended groundnut production technology.

4. For effective training programmes, the respondents suggested the following

1. Sardar Smruti Kendra, Junagadh was preferred as the most suitable venue.
2. Before the onset of groundnut season was preferred as the most suitable season.
3. Training for five days and above was preferred as the most suitable duration.
4. Optimum size of training group should be of 25 farmers.
5. Demonstration + discussion method (combination of two methods) was preferred as the most suitable method for effective training programme.

5. Constraints and suggestions of the respondents

5.1 Constraints in Adoption of recommended Groundnut Production Technology

The important constraints faced by groundnut growers were:

1. Failure of crop due to heavy rainfall.
2. Unavailability of fertilizers in time.

3. Weight and quality loss during storage and transportation.
 4. Inadequate storage facilities.
 5. Lack of marketing infrastructure facilities.
 6. Fluctuation of groundnut price in the market.
 7. Insufficient plant protection measures.
- 5.2 Suggestions to overcome the Constraints in Adoption of recommended Groundnut Production Technology
- Out of 7 suggestions given by the respondents to overcome the constraints in adoption of recommended groundnut production technology the three most important suggestions expressed by respondents were:
- o Remunerative price should be given to groundnut growers.
 - o Market facilities should be strengthened.
 - o Inputs should be made available at subsidized rate.

107. PARTICIPATION OF FISHER WOMEN IN POST HARVEST OPERATION ACTIVITIES

YEAR : 2012

NAME OF STUDENT

H. K. Jadhav

MAJOR ADVISOR

Dr. M. N. Popat

Abstract

India is endowed with a coastline of 8,129 km with 3,638 fishing villages. About five lakh women are involved in the post-harvest sector of marine fisheries.

Gujarat is one of the major maritime States of India, possessing the longest coastal line and widest continental shelf area. Its coastal line is about 1,600 km long and there are about 220 fishing villages in 12 maritime districts. There are about 47,650 active fishermen in the State in the districts of Kutch, Porbandar, Jamnagar, Junagadh, Amreli, Bhavnagar, Ahmedabad, Kheda, Bharuch, Surat, Navsari and Valsad.

Veraval forms one of the major fish landing centers of the Saurashtra coast with fish landing ranging from 59,930 tonnes in 1984-'85 to 42,535 tonnes in 1985-'86. The commercial trawling by private entrepreneurs started only in 1967 and since then there has been a steep increase in the number of trawlers and other boats. There are about 511 trawlers, 120 OBM boats, 45 IBM boats and 20 non-mechanized boats in Veraval.

The extend of participation of women in fish related activities varies from country depending on the local conditions, level of literacy, social customs and economic conditions states generally involves fish drying, processing, loading and unloading, retail marketing and net making. Marketing is one of the important aspects in fisheries, which are basically looked after by fisherwomen.

Keeping all these facts in mind the present research problem "PARTICIPATION OF FISHER WOMEN IN POST-HARVEST OPERATION ACTIVITIES" was undertaken with following objectives.

Objectives:

1. To study the personal, socio-economic, communicational and psychological characteristics of the fisher women.
2. To ascertain the extent of participation of fisher women in post-harvest operation activities.

3. To study the relationship of certain personal, socio-economic, communicational and psychological variables of the fisher women with the participation of post-harvest operation activities.
4. To ascertain the extent of participation of fisher women time spent in different household and other subsidiary occupation.
5. To find out the fisher women with the decision making in household task (expenditure pattern) and their children education and marriage.

Methodology:

A researcher was studying in Junagadh therefore Junagadh district was chosen for this study. Ten villages were randomly selected from eight talukas. For this study 120 fisher women were selected randomly from those 6 villages i.e. 20 fisher women from each village. To know the various characteristics of fisher women was measured with using well structure schedule. Measurements of participation of fisher women in post-harvest operation activities done by teacher made test. Association of certain personal, socio-economic variable of the fisher women with the participation of post-harvest operation activities in decision making was done by using correlation coefficient test. Measurement of time spent pattern of fisher women in different household and other subsidiary occupation was done by using 24 hours recall method. Decision making of fisher women in different aspects of post-harvest operation activities was measured with using well structure schedule. The data were collected with the help of well-structured, pre-tested, Gujarati version interview schedule through personal contact and data were compiled, tabulated and analyzed to get proper answers for objectives of the study. The statistical tools used were percentage, mean score, standard deviation and coefficient of correlation.

Major Findings:

1. Majority (80.83 per cent) of the fisher women were found in the middle age group.
2. About 32.50 per cent of the fisher women had education up to primary.
3. Majority (56.67 per cent) of the fisher women was found in joint type of family.
4. More than half (51.67 per cent) of fisher women were found in large size of family.
5. Majority (68.33 per cent) of the fisher women had membership in one organization.
6. About 44.17 per cent of fisher women are beach worker as their family occupation.
7. Vast majority (98.33 per cent) of the fisher women were married.
8. Majority (59.17 per cent) of the fisher women were found with medium annual income.
9. About 60.00 per cent of the fisher women had medium level of experience in fishing.
10. About 59.17 per cent of the fisher women had medium level of market accessibility related to fishing occupation.
11. More than half (65.84 per cent) of fisher women had medium exposure to mass media.
12. Majority (75.83 per cent) of fisher women had medium level of extension participation.
13. Majority (66.67 per cent) of the fisher women had medium level of participation in post-harvest activities of fishing, followed by high (16.67 per cent) and low (16.66 per cent).
14. Among the independent variables studies viz. education, experience in fishing,

social participation, annual income, market accessibility, extension participation, mass media exposure had positive and highly significant correlation with participation of post-harvest operation. Whereas age, size of family, type of family, family occupation and marital status of the dairy farm women had non-significant correlation with participation of post-harvest operation. While, age of the fisher women exhibit negative and significant correlation with participation of post-harvest operation.

15. Maximum daily average time spent by the respondents in house hold task was observed in cooking and serving (3.52 hours) followed by cleaning and arranging house (1.39 hours), bringing water (0.79 hours) and churning milk / ghee making (0.52 hours). These activities were daily performed by fisher women.

Decision making pattern with respect to home expenditure

1. More than half (55.00 per cent) the fisher women took joint decision with husband to of be spent amount on food material.
2. Majority (63.33per cent) of the fisher women participated in taking independent decision about place of purchase of food material.
3. Majority (58.33 per cent) and (67.50 per cent) of the fisher women participated in taking independent decision about type of material for clothing and place of purchase of clothes, respectively.
4. Majority(47.50 per cent) of the fisher women took joint decision with husband regarding amount to be spend on clothing.
5. Majority (58.33 per cent) of the fisher women were took independent decision about amount to be spend on religious activities.

Decision Making in Children Education

1. Majority (45.83 per cent) and (50.83 per cent) of the fisher women take joint decision with husband regarding health and hygiene practices and sending children to school, respectively.
2. Majority (37.50 per cent) and (39.17per cent) of the fisher women take joint decision with husband regardin educational level of children and selection of subject/branch, respectively.
3. Majority (62.50 per cent) of the fisher women take joint decision with husband regarding amount to be spend on children education.

Decision making in marriage of children

1. Majority (46.67 per cent) and (41.67 per cent) of the fisher women take joint decision with husband regarding desired marriage age for boys and girls and selection of the match, respectively.
2. Majority (89.17 per cent) of the fisher women take independent decision regarding amount to be spend on marriage.
3. Majority (85.00 per cent) of the fisher women take joint decision with husband regarding form of marriage.
4. Majority (50.00 per cent) of the fisher women take joint decision with relatives regarding amount and form of dowry.
5. Majority (80.00 per cent) of the fisher women had medium participation in decision making.

108. IMPACT OF FRONTLINE DEMONSTRATION ON GROUNDNUT GROWERS**YEAR : 2013****NAME OF STUDENT**

J. U. Patoliya

MAJOR ADVISOR

Dr. D. M. Thakrar

Abstract:

The lack of transfer of technology from research system to the client system is the main problem in increasing agricultural production in the developing world. Still there is a wide gap between attained technical know-how and its utilization in the field of common farmers. The present rate of agricultural production can be doubled if the available groundnut production technologies are brought to bear with production process and programme. This requires the steady flow of information from the scientist to the millions of farmers. Moreover, inputs are needed to be used scientifically. This is possible through the demonstration as it is an important and appropriate extension method which make it possible to disseminates the technology to the user farmers. Keeping this fact in view the Government of India launched frontline demonstration programme for oilseed crops under auspicious of oilseed mission. It has played significant role in increasing the knowledge and adoption of recommended groundnut production technologies by the groundnut growers.

Considering this, the present investigation entitled “Impact of Frontline Demonstration on Groundnut Growers” knowledge and adoption with respect to recommended groundnut production technology; was undertaken with the following specific objectives:

1. To study the selected characteristics of the respondents.
2. To measure the knowledge level of respondents with respect to recommended groundnut production technology.
3. To determine the extent of adoption of respondents with respect to recommended groundnut production technology.
4. To ascertain relationship between knowledge and the characteristics of the respondents.
5. To ascertain relationship between adoption and the characteristics of the respondents.
6. To identify the constraints faced by the respondents in the adoption of recommended groundnut production technology.
7. To seek suggestions of respondent to overcome the difficulties faced in the adoption of recommended groundnut production technology.

In order to realize the above objective, a sample of 120 groundnut growers, representing 46 villages of 16 talukas of Junagadh and Rajkot districts were drawn by multistage random sampling techniques. To measure the groundnut growers' knowledge about recommended groundnut production technology a teacher made knowledge test was developed and used. To measure the groundnut growers' extent of adoption of recommended groundnut production technology the adoption quotient developed by Chattopadhyay (1974) was used with slight modification. The data were collected with the help of structured schedule by personal interview method. The data were compiled analyzed and interpreted in the light of specific objectives.

Findings

Majority of the demonstrator (60.00%) and non-demonstrator (48.33%) respondents were middle age group and had low education to medium education of demonstrator (76.66%) and non-demonstrator (66.66%). About 38.34 percent of demonstrator and 33.33 percent of non-demonstrator respondents having medium size of land holding. About 71.66 percent of

demonstrator and 66.66 percent of non-demonstrator belong to medium and high income respectively. While 58.33 percent of demonstrator and 50.00 percent of non-demonstrator respondents was in medium social participation and 70.00 percent of demonstrator and 66.67 percent of non-demonstrator respondents had medium extension participation. Majority of the demonstrator respondents (61.66%) and non-demonstrator respondents (56.67%) had medium yield index. While 66.66 percent of demonstrator farmers and 61.67 percent of non-demonstrator farmers belonged to medium mass media exposure. Majority of demonstrators (81.66%) and non-demonstrator (68.33%) farmers had medium to high innovativeness. Majority of demonstrator (63.33%) and non-demonstrator (55.00%) farmers had medium level of risk orientation. While majority of demonstrator (70.00%) and non-demonstrator (63.33%) farmers had medium level of cropping intensity.

About 16.67 percent of demonstrator and 11.67 percent of non-demonstrator had high level of knowledge about recommended groundnut production technology. Majority of demonstrator (65.00%) and non-demonstrator (58.33%) groundnut growers had medium level of knowledge about the recommended groundnut production technology.

About 23.33 percent of demonstrator and 16.67 percent of non-demonstrator farmers had high extent of adoption about recommended groundnut production technology. Majority of the demonstrator (56.67%) and non-demonstrator (51.66%) groundnut growers had medium adoption about the recommended groundnut production technology.

The data on practice-wise adoption revealed that in case of demonstrator farmers, it was observed that the first rank was occupied by plant protection measures (96.66%), followed by chemical fertilizer (93.33%), preparatory tillage (88.33%), seed rate (85.00%), improved variety (83.33%), sowing time (81.66%), were ranked second, third, fourth, fifth, sixth, respectively. While, harvesting was the seventh rank (77.50%), followed by weed control (76.66%), sowing distance (75.00%), FYM/compost fertilizers (70.00%), interculturing (58.33%), irrigation (50.00%), seed treatment (45.00%), soil testing (40.00%) and gap filling (31.25%), were ranked eighth, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, respectively.

In case of non-demonstrator farmers, it was observed that the first rank was occupied by plant protection measures (95.00%), followed by sowing time (91.66%), chemical fertilizer (86.66%), improved variety (85.00%), weed control (81.66%), irrigation (78.33%), predatory tillage (76.66%) were ranked second, third, fourth, fifth and sixth and seventh, respectively. While harvesting (75.00%) was ranked eighth followed by FYMt/compost (66.66%), seed rate (56.66%), interculturing (55.00%), sowing distance (43.33%), soil testing (41.66%), seed treatment (26.66%), gap filling (3.33%) were ranked nine, ten, eleventh, twelve, thirteen, fourteen, fifteen respectively.

There was negative and non-significant association with the level of knowledge about recommended groundnut production technologies and age of both demonstrator and non-demonstrator farmers. Whereas, there was positive and non-significant association with the level of knowledge about recommended groundnut production technologies and annual income of both demonstrator and non-demonstrator farmers. There was non-significant association with the knowledge about recommended groundnut production technologies and land holding, social participation, yield index, mass media exposure, innovativeness and cropping intensity in non-demonstrator farmers. While there was positive and significant association with the knowledge about recommended groundnut production technologies and yield index, innovativeness, in case of demonstrator farmers. In case of non-demonstrator farmer education, extension participation, risk orientation was significantly associated with the knowledge of recommended groundnut production technology. While remaining all characteristics of the demonstrator farmers like education, land holding, social participation, extension participation, mass media exposure, risk

orientation, irrigation potentiality and crop intensity were positively and highly significantly associated with the knowledge of recommended groundnut production technologies, while in case of non-demonstrator farmers' irrigation potentiality was positively and highly significantly associated with the knowledge of recommended groundnut production technology.

There was negative and significant association with the extent of adoption of recommended groundnut production technologies and age of demonstrator farmers, while in non-demonstrator farmers, there was positively and non-significantly associated with the extent of adoption of recommended groundnut production technology. There was negative and significant association with the extent of adoption of recommended groundnut production technologies and annual income of non-demonstrator farmers, while in case of demonstrator farmers, there was positively and non-significantly associated with the extent of adoption of recommended groundnut production technology. While there was a non-significant association with extent of adoption and their yield index and innovativeness in both demonstrator farmers and non-demonstrator farmers. There was positive and significant association with the extent of adoption about recommended groundnut production technology of demonstrator farmers and education, size of land holding, social participation, extension participation, mass media exposure and irrigation potentiality, whereas in case of non demonstrator farmers, social participation, extension participation, irrigation potentiality and cropping intensity were positively and significantly associated with the extent of adoption of recommended groundnut production technology. While remaining all characteristics of the demonstrator farmers like risk orientation and cropping intensity were positively and highly significantly associated with the extent of adoption of recommended groundnut production technology.

Some important constraints in adoption of recommended groundnut production technology as faced by the demonstrator and non-demonstrator groundnut growers were:

1. High price of improved seeds.
2. High cost of threshing and harvesting.
3. Shortage and high wages of labour.
4. Non-availability of finance on time.
5. Lack of knowledge about critical stages.
6. Lack of irrigation water. (Irregular rainfall).
7. High price of chemical fertilizers.
8. High price of herbicides
9. Non-availability of improved seeds in required quantity on time.
10. Lack of awareness about the recommended dose of pesticides/fungicides.

Some important suggestions to overcome the constraints in adoption of recommended groundnut production technology, as perceived by the farmers were as follows:

1. Cost of threshing and harvesting should be reduced.
2. Inputs should be made available at subsidized rate.
3. Farmer should be protected by crop insurance, if crops fail.
4. Remunerative price should be made available to the groundnut growers for their products.
5. Village level workers should be frequently contacting the farmers to made them aware about the new farm technology.
6. Demonstration of new farm technology should lay out on farmers field.
7. There must be regular electric supply at the time of critical irrigation.
8. Training should be given to the farmers in relation to new farm technology.
9. Irrigation facilities should be made available.
10. Improved and certified seed should be provided by Government at local place.

109. KNOWLEDGE AND ADOPTION OF RECOMMENDED PRACTICES OF KHARIF GROUNDNUT GROWERS IN SOUTH SAURASHTRA ZONE OF GUJRAT STATE
YEAR : 2013
NAME OF STUDENT

B. B. Hadiya

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

Groundnut is a principal crop of the Saurashtra region of Gujarat State. It is grown so extensively since 1910. There is a wide exists between average yield of common farmers and actual potential yield. The lot gap leads to a considerable gap between supply and demand of edible oil in our country. As a result of this gap, the price of the edible oil rise beyond the reach of economically weaker section. Thus, one of the most important problems, the country faces today and one that calls for immediate attention is that of stepping up production of all the oil seeds crops in general and groundnut in particular. Since improvement in varieties of groundnut has not been of the same order as in cereals and cotton. One has to depend upon all the improved practices pertaining to groundnut cultivation to boost up the production per unit area. The low yield of the groundnut could mainly be attributed to the fact that the farmers have not still adopted the recommended practices of Kharif groundnut. Knowledge concerning the recommended Kharif groundnut practices play vital role in adoption of the technologies by the farmers. Moreover, there is low knowledge and adoption comes in the way of recommended Kharif groundnut practices which hampered the groundnut production, with this consideration the problem entitled "Knowledge and adoption of recommended practices of Kharif groundnut growers in South Saurashtra Zone of Gujarat State". The specific objectives of the study were: (i) to study the personal, socio-economic, communication, psychological and situational characteristics of the farmers (ii) to measure the knowledge level of respondents about recommended practices of Kharif groundnut (iii) to know the extent of adoption of the respondents about recommended practices of Kharif groundnut (iv) to ascertain the association of knowledge about recommended practices of Kharif groundnut with the selected characteristics of respondents (v) to ascertain the association of adoption of recommended practices of Kharif groundnut with the selected characteristics of respondents (vi) to identify the constraints faced by the respondents in the adoption of recommended practices of Kharif groundnut (vii) to seek suggestions to overcome the constraints faced by the respondents in the adoption of recommended practices of Kharif groundnut.

The study was conducted in the South Saurashtra Agro Climatic Zone of Gujarat State. The study was conducted under *expos, facto* research design. A multistage random sampling technique was followed for this study. The South Saurashtra Zone is consisted of 26 talukas of 5 districts of the state having common agro-climatic conditions. Out of 26 talukas, 4 talukas were randomly selected. From each selected taluka, three villages were selected randomly. Thus, 12 villages were selected. Total 120 respondents, 10 respondents from each selected village were selected by using multistage random sampling technique with a condition that the farmers have cultivated Kharif groundnut at least since last two years. The survey was conducted on the basis of 2012-13 Kharif season cultivation and yield.

Majority of the groundnut growers were in the group of medium mass media exposure (73.34 per cent), medium yield index (70.84 per cent), medium risk orientation (61.67 per cent) and medium cropping intensity (60.83 per cent). Although, more than fifty and less than sixty per cent of the respondents were medium social participation (59.17 per cent), medium middle age group (58.33 per cent), medium annual income (55.00 per cent). medium

extension participation (55.00 per cent) and large size of land holding (52.50 per cent). Below fifty per cent of the respondents were from medium irrigation potentiality like as borewell (38.33 per cent) and most of the groundnut growers educated up to primary level (44.17 per cent). In concern with innovativeness, 35.00 per cent of the respondents were from early majority group.

About 55.83 per cent of the respondents were from medium level knowledge group with respect to recommended practices of *Kharif* groundnut. The considerable amount (22.50 and 21.67 per cent) of respondents was in low and high knowledge group, respectively.

About 65.83 per cent of the respondents had medium extent of adoption about recommended practices of *Kharif* groundnut. The considerable amount (19.17 and 15.00 per cent) of respondents was in low and high adoption group.

The data on practice-wise adoption revealed that level of adoption was found very high (more than 70 per cent) in practices like, gap filling (rank I), interculturing (rank II), preparatory tillage (rank III), sowing distance (rank IV), seed rate (rank V), weed control (rank VI) and FYM/Compost (rank VII).

The probable reason for the above facts might be that all above practices are low cost and have high importance for getting higher yield.

The important constraints faced by respondents were: (i) high price of chemical fertilizers (ii) failure of crop due to heavy rainfall (iii) less supply of electricity (iv) high cost and lack of skilled labours (v) scarcity of FYM/Compost fertilizers (vi) high price of insecticides/pesticides and fungicides (vii) Inadequate storage facilities

Out of 14 suggestions given by the respondents to overcome the constraints in adoption of recommended practices of *Kharif* groundnut, the five most important suggestions expressed by respondents were: (i) remunerative price of the prod. should be made available (ii) the projects for increasing availability of irrigation water should be implemented (iii) there must be regular electric supply at the time of critical stages of crops for irrigation (iv) soil testing laboratory should be available at Taluka level (v) inputs should be made available at subsidized rate

The tentative paradigm was developed in the beginning of the thesis while arriving at the conceptual framework of this study (Fig. 3.1 & 3.2). Now final form of paradigm based on the findings of this study is presented in the (Fig. 6.1 & 6.2) showing those independent variables which had significant association with respondents' knowledge and adoption of recommended practices of *Kharif* groundnut.

110. QUINTESSENTIAL PARADIGM OF SHGS' WOMEN IN RELATION TO GROUP DIMENSIONS IN JUNAGADH DISTRICT

YEAR : 2014

NAME OF STUDENT

Ms. Sujata J. Parmar

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

Several forces are working and influence the “Self Help Group” (SHG) Dynamics. The important personal and socio-psychological factors which are responsible to the effectiveness of SHG dynamics need to be thoroughly undertaken and activated on sustainable basis. Keeping all these in mind a study was planned to measure “quintessential paradigm of SHGs' women in relation to group dimensions in Junagadh district”. With the objectives of study the profile characteristics of the members of selected SHGs, measure the group dynamics effectiveness of the members, study the relationship between profile characteristics of the members and the group dynamics effectiveness, know the constraints as perceived by self help groups, give suggestions to strengthen the SHGs

The present study was conducted in the area of Junagadh district of Gujarat State. By using purposive multistage sampling procedure, in which 120 respondents from among the member of the SHGs were selected as a sample of the study. Well structured and pretested interview schedule was employed to collect specific data. Majority of the respondents were from low level of material possession (50 per cent) and social participation (64.16 per cent), Majority of the respondents were medium (35 per cent) level of proactive attitude and skill development (55 per cent). Majority of the respondents were found in high category for namely, decision making (38.33 per cent), group cohesiveness (44.16 per cent), leadership (42.5 per cent), and task function (47.5 per cent).

It was also concluded that education, social participation, proactive attitude and skill development were positive and highly significantly associated with group dynamic effectiveness. There were seven variables jointly contributed toward 67.3 per cent of the variation in level of group dynamic effectiveness.

Major constraints faced by the respondents were lack of training for conducting various activities effectively in group with 1.93 mean score. The major suggestions expressed by respondents that improve level of functional / adult education in SHG women should be increased with 85.20 per cent.

111. TRAINING NEEDS OF FARMER IN RELATION TO ORGANIC FARMING PRACTICES

YEAR : 2015

NAME OF STUDENT

Rohan Sharma

MAJOR ADVISOR

Dr. N. B. Jadav

Abstract:

The present investigation is a comprehensive attempt to identify important characteristics of the farmers, motivational factor behind shift towards organic farming and to explore the determinants of extent of adoption among organic farmers. For sampling of the respondents' multistage random sampling techniques was used. According to availability of the respondent 90 trained and 90 untrained farmers were selected from Surendranagar, Rajkot and Jamnagar district of Gujarat.

More than half 58.89 per cent of the trained as well as untrained farmers were found in middle age group, whereas majority of the trained farmers 61.11 per cent had medium, while in untrained farmers' 41.11 per cent level of social participation. There were 64.45 per cent of the trained farmers had medium annual income while in untrained of farmers were found 54.44 per cent, More than half 58.89 per cent of the trained farmers were found to have 3 to 4 years of organic farming experience. About 58.89 per cent and 55.45 per cent of trained and untrained farmers had medium level of extension participation respectively. While 62.22 per cent of the respondents had medium level of mass media exposures.

A considerable 42.22 per cent and 71.11 per cent of the trained farmers were found to have high innovativeness group respectively, more than two third 56.67 per cent of trained as well as untrained farmers had medium level of risk orientation. A conspicuous percentage 63.33 per cent of the trained and 62.22 per cent untrained farmers were found to have medium level localite-cosmopolite value orientation respectively, while 62.22 per cent of the respondents had medium level of market of organic produce, more than two third 63.33 per cent of trained as well as untrained farmers had medium level of scientific orientation, while 64.45 per cent of the respondents had medium level of herd size while in case of untrained farmers had 43.33 per cent and 41.11 per cent low and medium level of herd size respectively.

The results inferred that the extent of adoption of organic farming practices was found medium to high among 90.00 per cent of the trained farmers while in case of untrained farmers result revealed that 58.89 per cent were found; A majority 58.89 per cent of the respondents had medium level of knowledge about organic farming practices; There was a highly significant association of the adoption of organic farming practices with the education, extension participation, localite cosmopolite value orientation, risk orientation, scientific orientation; out of eighteen extensions' training methods five methods secured 70 per cent and above scores; The results regarding technical constraints revealed that the lack of marketing information (77.78 per cent) was the main constraint ranked first; regarding institutional constraints among both group of farmers, lack of Govt. support for training participation (75.00); With respect to economic constraints, no premium price available in local market (77.78 per cent) was ranked first; among the situational constraints, difficult to meet organic standards (61.11 per cent).

The respondents were suggest a majority (66.67 per cent) trained farmers had suggested farmers training center viz; SSK (Sardar Smruti Kendra at different Agricultural University) was suitable venue for training with a first ranked; The result revealed that half of the respondents (50.00 per cent) were suggested that training programme should be organized in slack season with a first ranked; The data revealed that half of the respondents (55.55 per cent) were suggested that training programme should be organized in slack season with a first ranked; With regard to appropriate methods suggested/adopted by training institutions during training programme an attempt was also preference; Results indicated that the lecture with discussion and demonstration was most important and effective method of training suggested by majority (95.55 per cent) preferred with a first ranked.

112. EMPLOYABILITY OF POSTGRADUATE SCHOLARS STUDYING IN JUNAGADH AGRICULTURAL UNIVERSITY

YEAR : 2015

NAME OF STUDENT

O. U. David

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

Employability refers to a person's capability of gaining initial employment, maintaining employment and obtaining new employment if required. In simple terms employability is about capability of getting and keeping fulfilling work. Individuals enter higher education mainly to improve their future employment opportunities, but a degree no longer secures employment. Companies expect apart from academic capabilities, additional qualities and competencies of the individual that will facilitate the most successful and speedy transition from higher education to workplace.

Relatively few studies have attempted to construct an instrument explicitly gauging employability and fewer still have focused on developing accurate measures to assess the employability of postgraduates in particular. Instead crude measures of graduate employability have been used as a gauge of quality of high education. Junagadh Agricultural University with the number one focus for the year 2030 of "endowing the quality of education to produce globally competitive graduates and postgraduate in different areas of agriculture and allied sector" has not carried out this kind of research on the employability of the postgraduate scholars. Considering this facts, the present study was conducted with the following objectives: to study the profile of the postgraduate scholars, to develop a scale to measure employability of postgraduate scholars, to study the employability of postgraduate scholars, to find out the relationship between the profile and employability of postgraduate

scholars, to find out the constraints faces by postgraduate scholars in developing employability and to ascertain suggestions to make postgraduate scholars employable.

The study was undertaken using purposively sampling of 120 postgraduate research scholars studying in any semester and subjects at College of Agriculture, Junagadh Agricultural University. In this research, to study and measure the employability of postgraduate scholars, fourteen indicators based on the opinion of experts and review of literature was collected. The collected data were classified, tabulated, analyzed and interpreted in order to make the findings meaningful. The statistical measures such as frequency, percentage, arithmetic mean and co-efficient of correlation were used in the study.

The top-five preferred job of the majority of postgraduate scholars was agricultural research, farming (entrepreneurship), extension related, dairy farming (entrepreneurship) and agricultural consultancy.

Majority (72.50 per cent) of the postgraduate scholars had above average level of overall employability. Positive attitude was shown for agricultural education. High level of creative skills in solving farmers clients problems was also found among students. Two third (73.33 per cent) had shown the habit of using internet each day.

The level of employability was observed significantly higher among those postgraduate scholars, who had better academic performance, highly educated father and mother, higher degree of library exposure and increased level of job preference.

The foremost constraints as realized by the postgraduate scholars for low level of employability were education system does not provide platform to build necessary confidence among scholars to face the job competition, inadequate language competency in English among the scholars, low level of realization to have self-motivation among the scholars to develop their employability skills, lack of desirable employability generating aptitude among teachers involved in higher agriculture education and improper guidance of the postgraduate scholars by the major guide.

Need to include more practical exercises in the course curriculum to improve team work and coordination, provide better training to the scholars to face the job interviews confidently, give more thrust to develop entrepreneurship and self-employment among the agriculture graduates than preferring the white collared jobs, integrate the RAWE programme with various industries and successful private firms to give more exposure to the job situations.

113. TECHNOLOGICAL GAP IN GROUNDNUT CROP IN SOUTH SAURASHTRA AGRO-CLIMATIC ZONE OF GUJRAT STATE

YEAR : 2015

NAME OF STUDENT

J. G. Markana

MAJOR ADVISOR

Dr. B. N. Kalsariya

Abstract:

Groundnut (*Arachis hypogaea*.) is an important crop grown worldwide and cultivated in more than 100 countries. Groundnut is considered as the world's fourth largest source of edible oil and third most important source of vegetable protein. It is also a major oilseed legume crop in India. Main groundnut research stations, Junagadh has released various improved cultivation practices for *kharif* groundnut crop and are being communicated to the groundnut growers through various extension agencies. It is observed that there is a wide gap in adoption of improved groundnut cultivation practices. Looking to the importance and urgency of the problem, a study entitled "Technological gap in groundnut crop in South Saurashtra agro climatic zone of Gujarat State" is planned with following objectives: To study the profile, knowledge level and technological gap in adoption of improved cultivation technologies by groundnut growers.

In order to realize the objective of the study, 120 farmers were selected from 8 villages of the 4 talukas of Rajkot and Junagadh districts of South Saurashtra agro climatic zone by employing multistage purposive and random sampling technique. The data of this study were collected with the help of structural interview schedule. The collected data were classified, tabulated, analyzed and interpreted in order to make the findings meaningful.

Majority of the respondents fall in medium category with respect to age, size of land holding, annual income, social participation, extension participation, mass media exposure, innovativeness, risk orientation, cropping intensity, adoption and knowledge. Where as there were 48.33 per cent primary education and 39.17 per cent borewell for irrigation.

Nearly two-third (62.50 per cent) of *kharif* groundnut growers had medium technological gap. In case of practice wise technological gap, highest technological gap was observed in adoption of plant protection measures (43.95 per cent) followed by improved variety (43.64 per cent), application of fertilizer (35.59 per cent), with ranked I, II and III respectively.

The characteristics of the respondents like size of land holding, annual income, social participation, extension participation, mass media exposure, innovativeness, risk orientation, knowledge and adoption had negative and highly significant relationship with the technological gap of recommended practices of *kharif* groundnut.

The most important constraints faced by the *kharif* groundnut growers were: lack of well established infrastructure of soil testing laboratory, high cost of tillage operation, poor quality of seed, shortage of F.Y.M, high cost of fertilizer, irregularity of sowing due to uncertainty of rainfall, high wages of labour and more incidences of insect, pest.

The important suggestions offered by majority of *kharif* groundnut growers' were: remunerative price of the product should be made available (87.50 per cent), government should take some measure to protect the field of farmers from the damage caused by *Neelgay* and *Bhund (boar)*(85.00 per cent) and provide sufficient electric power supply at the time of critical stages of crops for irrigation (81.67 per cent).

114. ENTREPRENEURIAL BEHAVIOR OF DAIRY FARM WOMEN IN JUNAGADH DISTRICT

YEAR : 2015

NAME OF STUDENT

P. G. Amreliya

MAJOR ADVISOR

Dr. V. J. Savaliya

Abstract:

Entrepreneurship can be defined as a creative and innovative response to the environment made by an organizer of business enterprise. The entrepreneur is an economic person, who strives to maximize the profit by adopting innovations and person with a will to act, to assume risk, and to bring about a change through organization of human efforts. The role played by entrepreneurs has vital importance in the developing countries like India, where there are ample opportunities for using innovations in the field of dairying. In India, agriculture may suffer from monsoon failure more often but dairying seldom fails and provides regular and steady income employment to the farming community. There are most of factors which influence the entrepreneurial behaviour. Keeping all these aspects in consideration, a study entitled entrepreneurial behaviour of dairy farm women in Junagadh district was planned. The objectives of study were to ascertain the personal, socio-economic, communication and psychological characteristics of dairy farm women, to study the entrepreneurial behaviour of dairy farm women, to study the relationship between entrepreneurial behaviour and characteristics of dairy farm women, to study the

different components of entrepreneurial behaviour, to identify the constraints faced by dairy farm women in operating dairy enterprise and elicit the suggestions of dairy farm women for development of dairy enterprise.

The present study was conducted in the area of Junagadh district of Gujarat state. The multistage random sampling procedure was used in which 160 respondents were selected as a sample of the study. A well structured and pretested Gujarati version interview schedule was employed to collect specific information.

Majority of the respondents (64.37 per cent) were from middle age, about 30.63 per cent of the dairy farm women had education up to higher secondary level, medium experience in dairy practices (61.25 per cent), medium size of family (43.75 per cent), medium size of land holding (35.63 per cent), medium annual income (50.00 per cent), medium herd size (76.25 per cent). Most (87.50 per cent) of the respondents had dairy plus farming as their occupation, membership in one organization (33.75 per cent), medium extension participation (55.00 per cent), mass media exposure (56.88 per cent), scientific orientation (63.12 per cent) and market orientation (40.63 per cent).

Majority of the dairy farm women (51.25 per cent) were found in medium category of entrepreneurial behaviour, while 30.00 per cent and 18.75 per cent of the dairy farm women were in high and low entrepreneurial behaviour.

It was also concluded that dairy experience, extension participation and mass media exposure were positively and highly significantly associated with entrepreneurial behaviour. Education, land holding, annual income, livestock possession, social participation, scientific orientation and market orientation had positive and significant relationship with entrepreneurial behaviour.

Major constraints faced by the respondents were high cost of concentrate (88.12 per cent), high cost of milch animal (75.00 per cent), non-remunerative price for milk (70.62 per cent), susceptibility of animal to diseases (67.50 per cent), high cost of veterinary medicines (61.25 per cent) and high investment (59.37 per cent).

The most important suggestions expressed by the farm women were concentrates should be made available at cheaper rate (87.50 per cent), enhanced milk price for the producers (79.37 per cent), cost of veterinary services should be reduced (72.50 per cent), contagious and other diseases should be managed in time (68.75 per cent), provision of proper A.I. facility should be at village level (64.37 per cent), subsidies should be given on certain inputs like veterinary medicines and fodder seeds (61.87 per cent) and loan amount to purchase dairy animals should be increased (60.00 per cent).

115. IMPACT OF TRAINING ON FARM WOMEN'S ADOPTION ABOUT GROUNDNUT PRODUCTION TECHNOLOGY

YEAR : 2015

NAME OF STUDENT

J. G. Rathod

MAJOR ADVISOR

Dr. V. J. Savaliya

Abstract:

Women are indeed pivot around whom the family, society rather the whole humanity moves. From ancient day women have played a pivotal role in agriculture production in India. In modern agriculture too, women continue to share a number of farm operations with men. Thus, the women are the main architect of change in the rural farming. Majority of the farm operations contributing to 70 per cent of the total work are done by women. These women need to be trained to improve their skill, knowledge and production through scientific orientation and modern agricultural technology. Realizing the importance of such training, the Government of India, requested, the Royal Netherlands Government, to assist

the Government of Gujarat to organize such training. This special TWA Project was implemented at Farmer Training Center, Junagadh since, 1990. A considerable time of 25 years has been passed to its implementation, hence it was felt necessary to know the impact of this project. Keeping all these aspects in consideration, a study entitled “Impact of training on farm women's adoption about groundnut production technology” was planned up. The objectives of study, considered to measure the extent of adoption of trained and untrained farm women, to study the personal, socio-economic, communication, and psychological characteristics of farm women, to study the relationship between extent of adoption and characteristics of trained and untrained farm women, to study the difference between adoption and yield of groundnut production technology, to study the appropriateness of methods and techniques used for training, to know the opinions of the trained farm women and to seek the suggestions for effective organization of training programme.

The present study was conducted in the area of Junagadh district of Gujarat state. By using purposive random sampling procedure, in which 120 trained and 120 untrained farm women selected as a sample of the study. Well structured and pretested interview schedule was employed to collect specific data.

Majority of the respondents (47.50 per cent trained and 45.00 per cent untrained farm women) were from young age, about 72.50 per cent of the trained farm women had education up to primary to secondary level, large size of family (65.83 per cent trained and 59.17 per cent untrained respondents), medium land holding (59.17 per cent trained and 50.83 per cent untrained farm women), medium annual income (59.17 per cent trained and 55.83 per cent untrained respondents), medium social participation (69.16 per cent trained and 55.00 per cent untrained farm women), medium extension participation (68.33 per cent trained and 60.33 per cent untrained respondents), medium mass media exposure (58.33 per cent trained and 52.50 per cent untrained farm women), medium innovativeness, (52.50 per cent trained and 51.67 per cent untrained respondents), bore well as irrigation source (44.16 per cent trained and 45.00 per cent untrained farm women), medium yield index (60.83 per cent trained and 58.33 per cent untrained farm women).

Majority of the trained and untrained farm women (70.00 per cent and 59.17 per cent) were found in medium category of extent of adoption.

It was also concluded that annual income, extension participation and irrigation potentiality was positively and highly significantly associated with extent of adoption. Education, mass media exposure, innovativeness and yield index had positive and significant relationship with extent of adoption. Size of family and size of land holding had non-significant relationship with extent of adoption. Age had negative and significant association with extent of adoption.

The trained farm women were found significantly superior to untrained farm women in terms of adoption and yield of improved groundnut production technology.

According to appropriateness of methods and techniques used for training, the most appropriate methods secured first three ranks were lecture with discussion and demonstration, lecture with discussion and A.V. aids as well as lecture with computer based presentation and discussion.

The majority of trained farm women opined that the training environment was good and good interaction between trainees and trainers. Majority of trained farm women also opined that the hostel facility was good and proper boarding facilities were provided to them.

The most important suggestions expressed by the trained farm women were venue should be training centre (66.66 per cent), duration of training should be of three days (62.50 per cent), time should be during slack season (50.00 per cent), trainees group should be of 25 members (73.33 per cent) and training method should be lecture with discussion and demonstration method (95.83 per cent).

116. INFORMATION NEEDS OF GROUNDNUT GROWERS IN SOUTH SAURASHTRA AGRO-CLIMATIC ZONE OF GUJRAT STATE
YEAR : 2016
NAME OF STUDENT

B. J. Sangada

MAJOR ADVISOR

Dr. N. B. Jadav

Abstract:

With a view to support larger group of groundnut growers with agricultural information in future, it seems worthwhile to determine the information needs of the groundnut growers. The objectives of the research were to study the profile characteristics of the respondents, ascertain the information need, find out the knowledge level of the farmers, to ascertain the relationship between selected characteristics of groundnut growers and their information need and constraints and suggestions of groundnut growers.

In order to realize the objectives of the study, 120 farmers were selected from 8 villages of the 4 talukas of Rajkot and Junagadh districts of South Saurashtra agro climatic zone by employing multistage purposive random sampling technique.

Majority of the respondents belonged to middle age group (53.33 per cent), had medium education up to primary level (41.67 per cent), medium size of land holding (53.33 per cent), medium annual income (43.33 per cent) and medium social participation (47.50 per cent). More than half of the respondents belonged to medium extension participation (52.50 per cent), medium mass media exposure (63.33 per cent) and medium cosmo politeness (55.83 per cent). Majority of the respondents had medium economic motivation (46.67 per cent), medium market orientation (49.17 per cent), medium scientific orientation (51.67 per cent) and medium risk orientation (57.50 per cent). Majority of the groundnut growers (68.33 per cent) had medium level of information need and medium level of knowledge (56.67 per cent) about groundnut production technology.

The most important constraints faced by the groundnut growers were: Agricultural information is not available as and when required, information is not available at co-operative societies and insufficient organization of field demonstrations. The important suggestions offered by majority of groundnut growers' were: agricultural information centre should be established at village, required information should be available at co-operative societies and information about TV/radio programme should be available as per requirement of farmers.

117. ATTITUDE OF FARM WOMEN TOWARDS POST-HARVEST MANAGEMENT OF FRUITS AND VEGETABLES
YEAR : 2016
NAME OF STUDENT

Patel Raziyanu I.

MAJOR ADVISOR

Dr. B. N. Kalsariya

Abstract:

In present scenario post harvest management of fruits and vegetables is an emerging area that encompasses the usage of optimum harvest factors, reduction of losses in handling, packaging, transportation and storage, processing and home scale preservation with low cost technology. Considering implication of post harvest management at farmer level practices, it is beneficial to make farmers to adopt scientific practices about this. This study focused on attitude of farm women towards post harvest management for fruits and vegetables. For this, attitude scale was developed by researcher in this study which also assessed training needs for same as dependent variables. Also, profile characteristics of

farm women including their association with dependent variables were studied. Moreover, respondents may come across certain constraints in post harvest management that also studied during research. Study also emphasized on perceived training methodology in terms of venue, season, duration etc.

Study was conducted in four taluka selected from two districts; Veraval and Talala from Gir somnath while Vanthali and Mendarada from Junagadh district which are notable for their horticulture contribution. Total 120 respondents were taken by multistage purposive random sampling from selected area. Data was collected by personal interview using structured interview schedule. Scale to measure attitude of farm women towards post harvest management of fruits and vegetables was developed by scale product method proposed by Eysenck and Crown (1949). Constructed scale consists of total twenty statements which were selected based on quartile and scale value for which the reliability tested was 0.78. Training needs was measured through item analysis of total twelve main items with thirty seven sub item by teacher made scale. However, Individual respondents' training needs was measured through training need quotient. Total fourteen profile characteristics of farm women were studied using scale developed by researcher. Constraints and suggestions taken from respondents were collected, analyzed and ranked.

Result of research showed that Majority (65.83 per cent) of farm women belonged to middle age group, educated up to secondary (46.67 per cent) and above fifteen year farming experience (51.67 per cent). They (86.67 per cent) had large size family (above six member) with mainly medium size of land holding (46.67 per cent), engaged mainly in horticulture and allied activity majority (85 per cent) earning medium annual income (64.17 per cent) and showed medium cosmopolitaness (49.17 per cent). For communication characteristic, two fifth (45.83 per cent) of farm women had medium information seeking behavior. Concerning psychological characteristics, it was found that nearly half (48.33 per cent) of farm women had high economic motivation, medium management efficiency (69.17 per cent) with high market orientation (45.83 per cent), high scientific orientation (53.33 per cent) and medium deferred gratification (52.70 per cent).

Concerning attitude, it was found that nearly two fifth (39.17 per cent) of farm women had more favorable attitude while 30.83 per cent had moderately favourable and 12.50 per cent had most favorable attitude towards post harvest management of fruits and vegetables. Majority (64.17 per cent) of respondents indicated medium training needs followed by 18.33 per cent and 17.50 per cent showed high and low training needs, respectively. Three most needed training needs tasks identified, out of the twelve items were insect and disease management that ranked first followed by processing and value addition and physiological disorder.

Out of fourteen independent variables studied, education, cosmopolitaness, information seeking behavior, economic motivation, management efficiency, market orientation and scientific orientation had positive and highly significant correlation with attitude and training needs of farm women for post harvest management of fruits and vegetables. Annual income is positively significantly correlated with attitude and training needs for same. Deferred gratification had positively significant association with attitude. Age and Farming experience had negative and highly significant correlation with attitude of farm women towards post harvest management of fruits and vegetables.

Among the indicated constraints and suggestions, most important constraint was shortage of labour for grading and harvest and similarly most important suggestion was allocation of community storage facilities at village level. Suggestions for training methodology can be concluded that farm women preferred training at village level, prior monsoon starting for one or two day, comfort with up to fifteen trainees likes to learn through education tour most.

118. IMPACT OF TRAINING IMPARTED BY KVK ON THE KNOWLEDGE AND ADOPTION OF THE BENEFICIARIES ABOUT IPM IN CUMIN.
YEAR : 2016
NAME OF STUDENT

R. P. Rajput

MAJOR ADVISOR

Dr. V. J. Savaliya

Abstract:

Integrated Pest Management is a knowledge-based technology. It involves integration of different methods of disease and pest management to manage an important disease or pest of a crop or to manage all the important diseases and pests of a particular crop or to manage all diseases and pests in a particular cropping system. Under IPM, use of chemical pesticides is discouraged but not totally banned. IPM modules are area specific. They take into consideration not only diseases and insect pests but also availability of inputs. Most of the modules include too many practices, which usually discourage the farmers. They are not ready to invest their entire energy in pest management alone. Therefore, it is important to develop modules involving few critical interventions. Keeping in view of this background and considering the vast scope of IPM strategy, the present research study entitled "Impact of training imparted by KVK on the knowledge and adoption of the beneficiaries about IPM in cumin" was planned up. The objectives of study, considered to measure the extent of knowledge and adoption of beneficiaries and to study the personal, socio-economic, communication, psychological and situational characteristics of respondents as well as relationship between extent their of knowledge and adoption. It also included to study the constraints in adoption about IPM in cumin and suggestions to overcome constraints.

A study was conducted in Jamnagar district of Gujarat state. The Krishi Vigyan Kendra, Jamnagar was selected for the study. Total 160 beneficiaries selected as a sample of the study by using purposive random sampling procedure. Well structured and pretested interview schedule was prepared according to objectives and employed to collect specific data.

Majority of the respondents (60.00 %) were from middle age, about 39.38 % respondents had education up to higher secondary level, large size of family (70.00 %), medium size of land holding (49.37 %), medium annual income (56.87 %), medium social participation (61.25 %), medium extension participation (56.87 %), medium level innovativeness (54.38 %), medium economic motivation (64.38 %), medium risk orientation (65.00 %) and irrigation potentiality (68.75 %).

Majority of the respondents (72.50 %) were found in medium category of knowledge level and majority of the respondents (68.12 %) were found in medium category of adoption about IPM in cumin.

It was also concluded that extension participation and risk orientation were positively and highly significantly associated with knowledge and adoption level of beneficiaries. Irrigation potentiality, education and economic motivation had positive and significant relationship with knowledge and adoption level of beneficiaries.

Major constrains faced by the respondents were inadequate demonstrations on IPM technologies (88.12 %), lack of knowledge about pest's life cycle (86.25 %), lack of trainings on IPM technologies (83.75 %).

The most important suggestions expressed by the respondents were technical guidance should be provided regarding assessment of ETC (85.00 %), training on IPM technologies (80.62 %), trichoderma should be made available at local market (74.37 %).

119. TRAINING NEEDS OF FARM WOMEN ABOUT IMPROVED ANIMAL HUSBANDRY PRACTICES**YEAR : 2017****NAME OF STUDENT**

Diksha Sharma

MAJOR ADVISOR

Dr. B. N. Kalsariya

Abstract:

Animal husbandry is an indiscernible component of Indian agriculture supporting livelihood of more than two-thirds of the rural population. Besides that it promotes gender equity. More than three fourth of the labour demand in livestock production is met by women but crucial role in agriculture and allied activities has been grossly under estimated and undervalued. In spite of active involvement of women in different animal husbandry activities. lack of exposure and assess to new technology has restricted women to show their full potential for the growth of livestock sector. fence upon, adequate training is necessary for gaining knowledge in any field which is essential for acceptance and adoption of any ideas. For imparting training, training need assessment is vital and first step in the desired direction. Keeping this in view, present study was thought to be taken out with measure the training needs and knowledge level of farm women about improved animal husbandry practices in which researcher has assessed training needs for same including their association with different socio-economic and psychological characteristics of respondents.

The present study was conducted in Four talukas i.e. Junagadh and Mendrada from Junagadh District and Kodinar and Veraval from Gir-Somnath district selected purposively because maximum farm women and fanner engaged in dairy occupation. A total number of 120 respondents from 12 villages of the selected talukas were included for this investigation. The data were collected by personal interview method through developed & pre-tested schedule and the collected data were scored, tabulated and subjected to analysis using mean, SD and correlation. However, individual respondents' training needs was measured through training need quotient. Total fourteen profile characteristics of farm women were studied using scale developed by researcher. Constraints and suggestions taken from respondents were collected, analyzed and ranked.

Result of the research showed that more than two-third (67.50 per cent) of farm women belonged to middle age group, functionally to primary level of education (70.84 r cent), medium and large size of family (76.66 per cent) and medium and high level of iry experience (85.00 per cent). Three-fifth respondents had small to semi-medium land (ding (60.84 per cent). less than half (43.34 per cent) of women were having medium size herd, medium level annual income (64.16 per cent) and less than half (46.67 per cent) of farm women had low social participation. With reference to communication characteristics, majority of farm women (61.66 per cent) had medium level of extension participation and mass media exposure (60.84 per cent). Majority (58.34 per cent) of farm women had medium and high level of economic motivation, medium level of adoption of improved animal husbandry practices (67.50 per cent), favourable attitude toward improved practices (70.0(1 per cent). medium level of risk orientation (55.84 per cent) regarding to adoption of improved animal husbandry practices.

Overall preference of farm women on improved animal husbandry practices, housing facility (2.69 mean score) was the most preferred training area of rural women (first rank) followed by health care practices (2.59 mean score), fodder production (2.56 mean score) got second and third rank, respectively. In case of overall knowledge of farm women about

improved animal husbandry practices, it is observed that nearer two-third of farm women (65.84 per cent) had medium level of knowledge followed by 20.83 per cent and 13.33 per cent had low and high level of knowledge, respectively.

Out of fourteen independent variables, six variables viz. social participation, extension participation, mass media exposure, adoption, attitude and risk orientation had negative and highly significant correlation with training needs of farm women about improved animal husbandry practices. Education had negative and significant correlation whereas, age, size of family, dairy experience, size of land holding, herd size and economic motivation had non-significant association with training needs of farm women. Annual income was there that showed positive and significant correlation with training needs of farm women about improved animal husbandry practices.

The most important constraints were high cost involved in calling veterinary staff for treatment of breeding related problems, lack of loan facility, inadequate knowledge of scientific housing and similarly most important suggestions were set forth by farm women to overcome these constraints. Suggestions for training methodology can be concluded that farm women preferred training at village level, April to June for one day, comfort with up to fifteen trainees likes to learn through demonstration methods.

120. ADOPTION OF CRISIS MANAGEMENT IN GROUNDNUT CROP BY GROUNDNUT GROWERS OF SOUTH SAURASHTRA AGRO-CLIMATIC ZONE

YEAR : 2017

NAME OF STUDENT

M. K. Jadeja

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

Agriculture is the backbone of Indian economy. Our population is increasing day by day and India has only 2.4 per cent of total land area on the planet earth, to support survival of about 1.30 billion population, which is nearly 1/5th of total world population. Indian agriculture has shown tremendous evolution after independence in spite of severe droughts and other natural calamities is the features which impair the agricultural development. It is needed to increase production of important oil seeds crops to secure the edible oil production and income security for the farmer. Despite, technological advancement, there is a wide gap exists between the know-how already attained and their application in the farmers' fields. It is well known fact that the gross cultivated area under agriculture cannot be increased. In this situation the adoption of different crisis management practices may serve a suitable and viable option to encounter the present challenges. The present investigation entitled "Adoption of Crisis Management in Groundnut Crop by Groundnut Growers of South Saurashtra Agro-Climatic Zone" was conducted as an attempt to understand the knowledge and extent of adoption of groundnut growers about crisis in groundnut cultivation, constraints faced by them in adoption and get their suggestions to overcome these constraints.

The theoretical orientation was developed for the study on the basis of review of literature. The various concepts utilized in the study were operationalized suitably. Based on the assumptions, the tentative paradigm was laid down and finally the null hypotheses were also formulated. In order to measure the extent of adoption of crisis management in groundnut crop a standardized scale was developed. The indices and different structured were developed. The scale was used to measure the independent variables. Total 200

groundnut growers were selected randomly from two talukas viz; Gondal of Rajkot district and Vanthali of Junagadh district for the study and were interviewed with the help of structured interview schedule. The collected data were analyzed, tabulated and interpreted in term of objectives.

In respect to different selected characteristics of the respondents it was found that 49.00 per cent of the respondents were in the middle age group, whereas 48.00 per cent of the respondents possessed primary level of education. As regard to land holding 48.50 per cent of the groundnut growers were from a medium size of land holding, 64.50 per cent of the groundnut growers were from medium social participation and in case of irrigation index, 51.00 per cent of the groundnut growers had a medium irrigation index and 68.00 per cent of the groundnut growers were from medium groundnut yield level.

More than two-third (70.50 per cent) of the respondents were from medium level management orientation, 76.00 per cent of the groundnut growers were from medium groundnut cropping intensity, about half (53.00 per cent) of the groundnut growers were from medium index of farm experience, 53.00 per cent of the groundnut growers were from medium innovativeness, 68.50 per cent of the groundnut growers had medium risk orientation, about two-third (69.00 per cent) of the groundnut growers were from medium level of extension participation and more than two-third (74.50 per cent) of the groundnut growers were from medium level of knowledge about crisis management practices.

There was negative and significant association between adoption of crisis management practices of groundnut growers and their age. The characteristics like, social participation, yield level, management orientation, index of farm experience, innovativeness, extension participation had positive and highly significant relationship with adoption level of respondents with respect to crisis management practices. The characteristics like education, irrigation index and risk orientation had positive and significant relationship with adoption level of respondents with respect to crisis management practices. There was non-significant association of the adoption level of respondents with respect to crisis management practices with their size of land holding and cropping intensity.

The important constraints perceived by groundnut growers were: unavailability of irrigation water during dry spell of crop period, white grub cannot be controlled completely, non- remunerative price, high price of chemical fertilizers, high rate of labour charges, unavailability of irrigation water at critical stages of crop growth, non availability of information about future aberrant weather conditions including cyclone, scarcity of labour at harvesting stage.

Some of the important suggestions offered by the respondents were remunerative price of farm produce should be made available, long, medium and short term forecasting system for weather situations should be developed and the information should be availed to farmers at right time, improved implements should be developed for the field operation like harvesting. Effective control measures should be developed for control of white grubs. Farmers should be informed well in advanced with information about the attack of different pest and diseases of groundnut crop.

121. SOCIO-PSYCHOLOGICAL IMPACT OF SHG ON ITS MEMBERS IN JUNAGADH DISTRICT
YEAR : 2017
NAME OF STUDENT

Nakum Pooja B.

MAJOR ADVISOR

Dr. V. J. Savaliya

Abstract:

Women are the vital infrastructure and their empowerment would hasten the pace of social development. Individually, a poor woman tends to be erratic and uncertain in her behaviour. Group membership smoothes such rough edges making her more reliable. The Self Help Groups are a viable alternative in achieving the objectives of women empowerment in terms of social, economic, psychological, health, cultural and political empowerment. SHGs have begun to make a significant contribution in poverty elevation and empowerment of poor, especially women in rural areas of our country. The SHGs working in Junagadh district also play a vital role for empowering the women in all dimensions. So, for measuring the Socio Psychological Impact of SHG on its members, the study was carried out in total nine villages and from each village ten SHG and ten Non SHG members were selected. Thus, total 180 respondents (90 SHG members +90 Non SHG members) were selected for the study.

The results of this study indicated that among all SHG members three-fifth (60.00 per cent) of members had medium Socio-Psychological level followed by 22.22 per cent and 17.78 per cent had high and low Socio-Psychological level, respectively. While in case of Non SHG members, more than half (57.78 per cent) of respondents had medium Socio-Psychological level followed by 22.22 per cent and 20.00 per cent had low and high Socio-Psychological level, respectively.

Majority of the SHG (71.12 per cent) members and Non SHG (51.11 per cent) members belonged to middle age, 32.22 per cent of SHG members and 35.55 per cent of Non SHG members were educated upto primary level, 54.45 per cent of SHG members and 61.10 per cent of Non SHG members belonged to nuclear family, 40.00 per cent of SHG members and 38.90 per cent of Non SHG members had three to four members in their family, slightly more than two-fifth (41.11 per cent) of SHG members and two-fifth (40.00 per cent) of Non SHG members were having a small size of land holding, 53.33 per cent of SHG members and 40.00 per cent of Non SHG members had low annual income. SHG members had medium level of social participation (73.33 per cent), material possession (66.67 per cent), sources of information (67.78 per cent), market orientation (66.67 per cent), risk orientation (68.89 per cent) and innovativeness (71.11 per cent). While Non SHG members had medium level of social participation (61.11 per cent), material possession (63.33 per cent), sources of information (68.89 per cent), market orientation (64.44 per cent), risk orientation (72.22 per cent) and innovativeness (65.56 per cent).

It was concluded that education, annual income, social participation, material possession, sources of information, market orientation, risk orientation, innovativeness had highly significant relationship with socio-psychological level of SHG members. Age and type of family were significantly correlated with socio-psychological level of SHG members. While in case of Non SHG members, type of family, social participation, material possession, sources of information, market orientation and risk orientation had highly significant relationship with socio-psychological level of respondents. Education, annual income and size of family had significant relationship with socio-psychological level of respondents. The SHG members were found significantly superior with regards to socio-psychological level as compared to Non SHG members.

Among the all SHG members, 74.45 per cent of members opined that meeting was conducted by NGO/ Mission Mangalam staff. The SHG members had adopted various activities as their income generating activities such as handicrafts, *Khakhra*, *Papad*, picklesmaking, tailoring and stitching of rexin bag etc. It was also found that the SHG members had medium level of participation as well as group atmosphere in their SHGs.

The major problems faced by SHG members were: all members do not attend meeting, money not deposited in time and many members seek loan together. The suggestions expressed by the respondents were: short-term training programmes should be arranged at the panchayat level, supervision by higher authority on SHG activities and adequate finance subsidies should be provided to women beneficiaries.

122. ADOPTION OF CHILI PRODUCTION PRACTICES WITH DRIP IRRIGATION AND CONVENTIONAL IRRIGATION METHOD BY THE FARMERS IN RAJKOT DISTRICT

YEAR : 2017

NAME OF STUDENT

A. M. Fulmaliya

MAJOR ADVISOR

Dr. V. J. Savaliya

Abstract:

Horticulture sector is a prominent sector among agriculture and allied activities as means of diversification and nature has placed India in a place of pride on horticultural development map of the world. India is second largest producer, consumer and exporter of spice and spice based byproduct. The chilli (*Capsicum annum* L.) is an important commercial and vegetable cum spice crop of India. The chilli crop is cultivated by the farmers of Saurashtra region using drip irrigation and conventional method of irrigation. The scope to increase the productivity of chilli to its potential would substantiate the need for promotion of chilli production practices on the farmer's fields. One way by which extension scientists can contribute to this task is to find out better ways and means of promoting chilli production practices among the group of clientele. In this context, it is thought worthwhile to undertake study entitled "Adoption of chilli production practices with drip irrigation and conventional irrigation method by the farmers in Rajkot district" with following specific objectives; to measure the extent of adoption of beneficiaries and to study the personal, socio-economic, communication, psychological and situational characteristics of respondents as well as relationship with extent their adoption. It also included to study the constraints in adoption about chilli production practices and suggestions to overcome constraints.

The study was conducted in Rajkot district of Gujarat state. Out of ten talukas, three talukas having higher land under chilli cultivation were purposively selected. Nine villages from these selected talukas were randomly selected. Further, 20 farmers (10 chilli growers with drip irrigation method and 10 chilli growers with conventional irrigation method) were selected from each of selected village, comprising total 180 chilli growers as respondents. Their responses were collected through pre-tested and well-structured personal interview schedule. The respondents were contacted at their home or at their field. The dependent and independent variables were measured by utilizing appropriate scale and procedures adopted by other research workers with some modifications. The statistical tools used to analyze the data were: percentage, mean, standard deviation and coefficient of correlation.

More than three-fifth (61.67 per cent) of the respondents were from middle age, more than one-third (37.78 per cent) of respondents had education up to secondary level, medium farm experience (63.33per cent), medium social participation (72.78 per cent), semi medium size of land holding (44.44per cent), high annual income (33.90per cent), medium extension

participation (52.78 per cent), medium market orientation (64.44 per cent), medium level innovativeness (51.11 per cent), high scientific orientation (70.00 per cent), medium risk orientation (58.33 per cent), medium localite cosmopolite orientation (55.00 per cent) and yield index (63.89 per cent).

Nearly three-fourth (71.11 per cent) of the respondents were found in medium category of adoption level about recommended chilli production practices with drip irrigation method and two-third (66.67 per cent) of the respondents were found in medium category of adoption about recommended chilli production practices with conventional irrigation method.

It was also concluded that characteristics of the respondents like education, social participation, extension participation, market orientation, innovativeness, scientific orientation, risk orientation, localite cosmopolite orientation and yield index had positive and highly significant relationship with the adoption of respondent farmers about recommended chilli production practices with drip irrigation method.

The characteristics of the respondents like education, social participation, extension participation, market orientation, innovativeness and scientific orientation had positive and highly significant relationship with the adoption of farmers about recommended chilli production practices with conventional irrigation method.

Major constrains faced by the respondents were fluctuation in market price (1.72 WMS), lack of market facilities (1.66 WMS), seedlings die before transplanting (1.61 WMS), high cost of labour (1.60 WMS) and lack of man power (1.58 WMS).

The most important suggestions expressed by the respondents were more number of demonstrations on chilli production technologies should be organized on farmers' fields (74.44 per cent), efforts should be made to minimized the input cost (68.88 per cent), training on new cultivation technology should be imparted (67.77 per cent), technical guidance should be provided regarding chilli production practices (65.55 per cent) and incentives in the form of subsidy should be provided by government for adoption of chilli production technologies (60.00 per cent).

123. KNOWLEDGE AND ADOPTION OF FARMERS ABOUT COTTON PRODUCTION PRACTICES RECOMMENDED BY GAU AND JAU IN JUNAGADH DISTRICT

YEAR : 2018

NAME OF STUDENT

P. B. Raviya

MAJOR ADVISOR

Dr. G. R. Gohil

Abstract:

Cotton is one of the most important commercial fiber crop of India. Cotton seed is a potential source of edible oil, cake and hull meal. In India, cotton contributes about 85 per cent of the total liber consumed in the textile industries. Gujarat state is the first in India now a days. Cotton is widely grown in all districts of Gujarat state. The low yield of the cotton could mainly be attributed to the fact that the farmers have not still adopted all the recommended practices of cotton. Knowledge of recommended cotton practices play an important role in adoption of the technologies by the fanners. Moreover, there is low knowledge and adoption comes in the way of recommended cotton practices which hampered the cotton production. With this consideration, the problem entitled "Knowledge and Adoption of Farmers about Cotton Production Practices Recommended by GAU and JAU in Junagadh District" was undertaken.

A study was conducted in Junagadh district of Gujarat state. Three talukas from Junagadh district were selected randomly. Four villages from each selected taluka, thus

twelve villages were selected. Ten cotton growers from each village and make a sample of 120 cotton growers who having highest area under cotton cultivation.

In respect to characteristics, half per cent of the respondents were from middle age group, 28.30 per cent of respondents belonged up to middle school level. Whereas, farm experience (66.66 per cent), social participation, (79.16 per cent), extension participation (58.33 per cent), mass media exposure (67.50 per cent), innovativeness (51.67 per cent), cropping intensity (70.00 per cent) and yield (55.84 per cent) were medium level of group. Large size of land holding (52.50 per cent), high level of annual income (56.70 per cent), scientific orientation (52.50 per cent) and irrigation potentiality (55.83 per cent).

Three fifth (60.00 per cent) of the respondents had medium level knowledge group followed by 21.66 per cent and 18.34 per cent of respondents were in high and low level of knowledge group about recommended cotton practices.

About two-third (68.33 per cent) of the respondents had medium level of adoption about recommended practices of cotton. The data on practicewise adoption revealed that very high rate in practices like method of sowing (rank I), land preparation (rank II), seed rate (rank III), interculturing (rank IV) and spacing (rank V). These were having more than 70.00 percent adoption level.

Out of thirteen independent variables, social participation, annual income, extension participation, mass media exposure, innovativeness, scientific orientation, irrigation potentiality and yield index had positive and highly significant relationship with the knowledge level. Whereas, education was positively and significantly related and age, farm experience, size of land holding and cropping intensity had no significant relationship with the knowledge level of respondents about recommended practices of cotton.

The independent variables were correlated with adoption of recommended practices of cotton viz., education, farm experience, social participation, annual income, extension participation, mass media exposure, innovativeness, scientific orientation, irrigation potentiality and yield index had positive and highly significant relationship with the adoption. Age, size of land holding and cropping intensity had not significant relationship with the adoption of recommended practices of cotton.

The important constraints faced by respondents were; not getting the fair price of cotton, failure of crop due to heavy rainfall, high price of improved seeds, high price of pesticides include insecticides & fungicides and poor quality of seed.

In case of suggestion, support price of the production should be higher, farmers should be protected by crop insurance during crop failure, inputs should be made available at subsidized rate, market facilities should be strengthened at remunerative price and improved and certified seed should be provided by government at cheaper rate were most important suggestions expressed by the respondents.

124. KNOWLEDGE AND ATTITUDE OF FARMERS TOWARDS 'SAWAJ' BIO-FERTILIZES AND BIO- PESTICIDES IN JUNAGADH DISTRICT OF GUJRAT STATE

YEAR : 2018

NAME OF STUDENT

J. P. Vanpariya

MAJOR ADVISOR

Dr. N. B. Jadav

Abstract:

Junagadh Agricultural University developed biofertilizers and biopesticides *Rhizobium*, *Azotobacter*, Phosphate Solubilizing Bacteria biofertilizers and *Trichoderma harzianum* and *Beauveria bassianare* spectively as 'Sawaj' trade name. There is great need

to increase farm production to overcome the requirement of food for increasing population without damaging the environment. The more use of chemical fertilizers and pesticides are harmful to living soil and therefore use of biofertilizers and biopesticides required which improve the soil fertility without any harmful effect to the soil as well as biopesticides are require to control of pest without harmful effect to environment. Looking to above facts a study entitled, "Knowledge and attitude of farmers towards '*Sawaj*' biofertilizers and biopesticides in Junagadh district of Gujarat state" The study was conducted in Junagadh district of Gujarat state. Junagadh district has consisted total nine talukas, out of nine talukas three talukas were selected which are more nearer to Junagadh Agriculture University. From each selected taluka four villages were selected randomly. Total twelve villages from three talukas of Junagadh district were selected randomly and list of farmers of these villages and talukas were collected from department of agricultural entomology and department of plant pathology of college of agriculture, J.A.U., Junagadh. Thus a total sample size of bio fertilizers and bio pesticides users became 120.

In respect to '*Sawaj*' biofertilizer users, majority (61.17 per cent) of the respondents had medium level of knowledge. Whereas, majority (66.67 per cent) of the respondents had medium level of knowledge about '*Sawaj*' biopesticides. While in case of '*Sawaj*' biofertilizer users, majority (61.66 per cent) of the respondents had medium level of attitude towards '*Sawaj*' biofertilizers. Whereas, majority (68.33 per cent) of the respondents had medium level of attitude regarding '*Sawaj*' biopesticides.

In case of '*Sawaj*' biofertilizer users, the characteristics viz. education, land holding, farm mechanization index, extension participation, scientific orientation, social participation, herd size, annual income and innovativeness had significant relationship. Only age had negative and significant relationship. While only cropping intensity and cosmopolitaness failed to establish asignificant relationship with knowledge level of respondents about '*Sawaj*' biofertilizers. In respect to '*Sawaj*' biopesticide users, the characteristics viz. cropping intensity, extension participation, innovativeness, scientific orientation, education, social participation, herd size, farm mechanization index and cosmopolitaness had significant relationship. Only age had negative and highly significant relationship. However only land holding and annual income had not significant relationship with knowledge level of respondents about '*Sawaj*' biopesticide.

The characteristics viz. land holding, farm mechanization index, innovativeness, scientific orientation, education, social participation, extension participation and comopolitaness had significant relationship, only age had negative and significant relationship. While Herd size, Annual income and cropping intensity failed to establish a relationship with attitude of respondents regarding '*Sawaj*' biofertilizers. While in case of '*Sawaj*' biopesticide users the characteristics of the respondents viz herd size, extension participation, cosmopolitaness, scientific orientation, education, social participation, land holding, annual income and innovativeness were having significant and positive relationship with attitude regarding '*Sawaj*' biopesticides. While only age had negative and significant relationship with attitude. Where as cropping intensity and Farm mechanization index failed to establish a relationship with attitude towards '*Sawaj*' biopesticides.

Two fifth (61.67 per cent) of the respondents had medium level of evaluative perception about '*Sawaj*' biofertilizers. Whereas majority (68.33 per cent) of the respondents had medium level of evaluative perception towards '*Sawaj*' biopesticides.

125. EXTENT OF INFORMATION NEEDS ABOUT ANIMAL HUSBANDRY PRACTICES BY THE FARM WOMEN OF RAJKOT DISTRICT
YEAR : 2018
NAME OF STUDENT

Jadeja Khushbuba M.

MAJOR ADVISOR

Dr. B. N. Kalsariya

Abstract:

Animal husbandry sector provides large self-employment opportunities. Presuming that one family member is employed in looking after the livestock. Women are considered to be pioneers in all sorts of development, as they play a key role in shaping the character of young generation whom we call as the future of the nation. *Nowadays, information is a basic necessity of everyday life. For anything and everything information is required.* For understanding their needs, information needs assessment is required. Keeping this in view, present study was thought to be taken out with measure the information needs of farm women about improved animal husbandry practices in which researcher has assessed information needs for same including their association with different selected characteristics of respondents.

The present study was conducted in four talukas *viz.*, Dhoraji, Upleta, Jetpur and Gondal of Rajkot district which were selected purposively because of maximum farm women and farmer engaged in dairy occupation. A total number of 120 respondents from 12 villages of the selected talukas were included for this investigation. The data were collected by personal interview method through developed and pre-tested schedule and the collected data were scored, tabulated and subjected to analysis using mean, SD and correlation coefficient. However, individual respondents' information needs was measured through information needs quotient. Total fifteen selected characteristics of farm women were studied using scale developed by researcher. Constraints and suggestions taken from respondents were collected, analyzed and ranked. Result of the research showed that more than half (51.67 per cent) of the farm women belonged to middle age group, about 62.50 per cent farm women belonged to primary education to higher secondary education, and high level of experience in dairy farming (58.33 per cent) about animal husbandry practices. Regarding socio-economic characteristics, it observed that 93.33 per cent of the respondents were having agriculture and animal husbandry as main occupation, 83.34 per cent having small to large farm size, 72.50 per cent of the respondents were belonged to general category, about 95.00 per cent respondents belong to 25,000 to 1,00,000 annual income, about 70.83 per cent of farm women having medium to large size of livestock possession. With reference to communication characteristics, it apparent that about three fifth of the farm women had no membership in any organization, 70.83 per cent had low to medium level of extension agent contact, medium level of information seeking behaviour and about 65.84 per cent farm women having low to medium cosmopolite behaviour. Pertaining to psychological characteristics, it revealed that 60.83 per cent of the farm women had high economic motivation, 60.00 per cent had medium level of decision making ability and 89.17 per cent had high level of satisfaction about animal husbandry practices. Overall preference of farm women on improved animal husbandry practices, health practices (17.76 mean score) was the most preferred for information needs by rural women followed by farm credit (13.95 mean score), marketing practices (12.35 mean score). In case of overall information needs, it is observed that majority (78.34 per cent) of farm women had medium level of information needs.

Out of fifteen independent variables, four variables *viz.*, occupation, information

seeking behaviour, cosmopolite behaviour and economic motivation had positive and highly significant correlation with information needs of farm women about improved animal husbandry practices. Whereas, age had negative and highly significant relationship with information needs. Livestock possession, extension agent contact and decision making ability had positive and significant correlation with information needs.

The major important constraints faced by farm women about improved animal husbandry practices were; non remunerative prices for milk, high cost of concentrate feed and fodder and loan procedure is lengthy and tedious. The important suggestion as given by farm women to overcome the constraints in improved animal husbandry practices were remunerative price of milk should be provided, technologies which are to be evolved by veterinary expert should be simply, practicable, economical and based on local conditions, charges of veterinary services should be reduced, loan procedure should be made easy to purchase milch animals and cattle feed should be provided at reasonable price.

126. ATTITUDE AND ASPIRATION OF POST GRADUATE STUDENT OF JUNAGADH AGRICULTURAL UNIVERSITY TOWARDS AGRICULTURAL ENTREPRENEURSHIP.

YEAR : 2018

NAME OF STUDENT

Surajiyugender Reddy

MAJOR ADVISOR

Dr. M. S. Chandavat

Abstract:

India, predominantly an agro based country with about 58 per cent population living in more than five lakh villages. The agricultural situation in India has undergone a rapid change in last two decades. Agricultural entrepreneurship plays a very important role in improving food and nutrition security, reducing poverty and in accelerating economic growth in a predominantly agricultural and rural economy like India. The interest of youngsters in agriculture is reducing day by day. Their interest needs to be rejuvenated to take up agriculture as profession, business and way of earning for better livelihood. It is possible only through adaptation of modern technologies of precision farming, poly house, green house, hydroponics, modern dairy and fishery enterprises. With this consideration, the problem entitled “Attitude and Aspiration of Post Graduate Students of Junagadh Agricultural University towards Agricultural Entrepreneurship” was undertaken.

A study was conducted in Junagadh Agricultural University, Junagadh of Gujarat state. Five colleges from Junagadh Agricultural University were selected randomly. Total 120 students from registered students of first year and second year post graduate study were selected by the proportionate random sampling method. In respect to characteristics, majority of the post graduate students belonged to 22-24 years, while 46.67 per cent of post graduate students belonged to first class category. Whereas, participation in extracurricular activities (61.67 per cent), father's education above high school level (45.83 per cent), family occupation status (68.33 per cent), family income above 2 lakh (65.84 per cent), overall modernity (65.00 per cent), reading habit (65.00 per cent) and agricultural business anxiety (60.00 per cent), self confidence (60.84 per cent), knowledge about government projects (67.50 per cent), risk orientation (70.84 per cent) and cosmopolitaness (62.50 per cent) were found in medium level of group.

Majority (73.34 per cent) of the post graduate students had most favourable attitude followed by 15.00 per cent and 11.66 per cent of had favourable and less favourable attitude towards agricultural entrepreneurship.

Majority (58.34 per cent) of the post graduate agricultural students had medium level of aspiration. Whereas, 26.66 per cent had high level and 15.00 per cent had low level of aspiration towards agricultural entrepreneurship. Out of thirteen independent variables; academic achievement, agricultural business anxiety, self confidence, risk orientation and cosmopolitaness had positive and significant relationship with the attitude. Whereas, overall modernity had positive and highly significant relationship. The age, participation in extracurricular activities, father's education, family occupation status, family income, reading habit and knowledge about government projects about agri-business had non-significant relationship with the attitude of the post graduate students towards agricultural entrepreneurship.

The independent variables were correlated with aspiration. The independent variables viz., academic achievement, father's education, family occupational status, self confidence and cosmopolitaness had positive and significant relationship with the aspiration. Whereas, family income and risk orientation had positive and highly significant relationship. The age, participation in extracurricular activities, overall modernity, reading habit, agricultural business anxiety and knowledge about government projects about agri-business had non-significant relationship with the aspiration of post graduate students towards agricultural entrepreneurship.

The important constraints faced by respondents were; less practical knowledge about entrepreneurship, lack of positive mind set to have own agricultural enterprise, lengthy procedures for getting a bank loan, less no. of visits / tours to various enterprises, limited extracurricular activities related to entrepreneurship and lack of confidence to succeed in agricultural enterprise.

In case of suggestions, practical oriented and skill based entrepreneurial activities should be imparted, training and demonstrations related to modern technology should be conducted, visits to various enterprises should be undertaken from time to time, procedures for obtaining loan should be shortened and knowledge about policy of government about agri-business should be given were most important suggestions expressed by the respondents.

127. PATTERN OF PARTICIPATION OF FARM WOMEN IN AGRICULTURAL ACTIVITIES AND DECISION MAKING IN RAJKOT DISTRICT OF GUJRAT STATE

YEAR : 2018

NAME OF STUDENT

Vaghasiya Krupali P.

MAJOR ADVISOR

Dr. V. J. Savaliya

Abstract:

Agriculture is the main source of livelihood in our country where farm business has become a family enterprise in which both men and women take part evenly. The role of women is generally complimentary, not only in physical participation in agricultural activities, but also with respect to decision making. In most of the stages, women are actively involved in carrying out agricultural activities as well as in decision making but women remained as "invisible workers". It is necessary to know their role in agricultural activities as active workers and decision makers. With this consideration, the study entitled "Pattern of Participation of Farm Women in Agricultural Activities and Decision Making in Rajkot District of Gujarat State" was undertaken.

A study was conducted in Rajkot district of Gujarat state. Nine villages were selected from three talukas. Fifteen farm women from each village were selected. Thus, total 135

farm women were considered for study.

With respect to characteristics, 48.15 per cent of farm women were from middle age group, 25.18 per cent respondents had education up to middle school level, 57.78 per cent respondents were having nuclear family and 34.07 per cent respondents had 3 to 4 members in their family. Farming experience of 62.96 per cent of respondents was medium and 33.34 per cent of farm women had small size of land holding. Whereas, with respect to social participation (60.74 per cent), extension participation (66.67 per cent), source of information (61.48 per cent), risk orientation (52.59 per cent), innovativeness (51.12 per cent), market orientation (75.56 per cent) and self confidence (62.96 per cent), farm women were in the group of medium level.

The respondents (54.81 per cent) had medium participation in agricultural activities followed by 23.70 per cent and 21.49 per cent of respondents had high and low participation in agricultural activities, respectively. The respondents (51.12 per cent) had medium participation in decision making followed by 31.85 and 17.03 per cent of them had low and high participation in decision making, respectively. The respondents had high participation in activities like harvesting and post harvesting, intercultural operations and sowing. Their participation in decision making was high in the activities like harvesting and post harvesting, intercultural operations and irrigation management.

Farm experience, size of land holding, extension participation, source of information and self confidence had positive and significant while, social participation and innovativeness had highly significant relationship with the participation in agricultural activities. Type of family and size of family had negative and significant relationship with participation in agricultural activities.

Education, farm experience, social participation, extension participation, source of information, innovativeness, market orientation and self confidence of respondents had positive and highly significant relationship with the participation in decision making. Size of land holding and risk orientation had positive and significant relationship with the participation in decision making.

The important constraints faced by respondents regarding to participation in agricultural activities were dual responsibility of work at farm and household work non-availability of suitable farm implements and machinery for women, difficulties in some agricultural work, etc. While, important constraints regarding to participation in decision making were male dominated families and society, poor educational background, lack of confidence, etc. In case of suggestions, due importance should be given to women in decision making, more female extension staff should be appointed, teaching and learning facilities should be increased for women after work, etc. were the most important suggestions expressed by respondents.

128. CAREER PREFERENCE OF AGRICULTURAL GIRL STUDENTS OF JUNAGADH AGRICULTURAL UNIVERSITY FOR DIFFERENT OCCUPATIONS
YEAR : 2018
NAME OF STUDENT

Lakhani Manshi M.

MAJOR ADVISOR

Dr. G. R. Gohil

Abstract:

Career is a regular occupation or profession in which one is making a living. Career preferences of agriculture girl students are to be studied due to increased employment opportunities and economic motivations. They do intend for a lucrative job as a fruit of their hard labour and have their own likings and disliking for various career avenues. Considering this present study entitled "Career Preferences of Agriculture Girl Students of Junagadh Agricultural University for Different Occupations" was undertaken.

A study was conducted in Junagadh Agricultural University, Junagadh. The study was conducted on sample of total 120 UG and PG agriculture girl students studying in college of agriculture, J.A.U., Junagadh.

In respect to characteristics, nearly half (49.17 per cent) of the respondents were from above 22 and up to 24 years age group, more than one-third (35.83 per cent) of the agriculture girl students had OGPA in the range of 7.6–8.0, 57.50 per cent were from rural areas, 49.17 per cent had 'farming' as their main family occupation, exactly one-third (33.33 per cent) were having small size of parents land holding, slightly more than half (50.83 per cent) had low annual income, 48.33 per cent had low participation in extra-curricular activities, 65.83 per cent were having high mass media exposure and majority of them use internet (2.94 mean score) and read newspaper (2.57 mean score), 61.67 per cent had medium level of reading habit, 68.33 per cent had medium utilization of learning sources and most of them use old question paper (4.34), lecture notes (4.28), classmates (4.13) and consulting seniors (3.96) for learning purpose, 60.83 per cent had perceived that college environment was congenial for them, 70.83 per cent had medium level of achievement motivation, 65.00 per cent had medium level of self-confidence and 65.84 per cent had medium level of risk-orientation.

The most preferred career of the agriculture girl students was to join academic teaching (rank I), followed by state agricultural department (rank II), administrative job (rank III), banking sector (rank IV) and agriculture research (rank V). Exactly half (50.00) of agriculture girl students had medium level of career preferences.

The reasons behind selection of career by agriculture girl students were Safe and comfortable nature of job (rank I), followed by future advancements and promotions (rank II), high salary (rank III), power and prestige (rank IV), amenities for work (rank V), social status (rank VI), higher monetary benefits (rank VII), self-satisfaction in job (rank VIII), enables professional growth in the area of the discipline (rank IX), provides scope for higher achievement in the area of discipline (rank X).

Majority (46.67 per cent) of agriculture girl students had less favorable attitude towards rural oriented careers.

Out of fourteen independent variables, college environment and self-confidence had positive and highly significant relationship with the career preferences. Whereas, academic performance, family occupation, participation in extra-curricular activities, mass media exposure, reading habit, learning sources achievement motivation and risk orientation were positively and significantly related and age, native place, parents land holding and family income had non-significant relationship with the career preferences of agriculture girl students.

The independent variables like native place and college environment had positive and significant relationship with the attitude of agriculture girl students towards rural oriented careers. While academic performance, family occupation, parents land holding, family income, participation in extra-curricular activities, mass media exposure, reading habit, learning sources, achievement motivation and self-confidence were negatively and significantly related and age and risk orientation had non-significant relationship with the attitude of agriculture girl students towards rural oriented careers.

129. AVOIDANCE OF AGRICULTURE AS A PROFESSION BY THE FARMER OF NORTH SAURASHTRA AGRO-CLIMATIC ZONE

YEAR : 2018

NAME OF STUDENT

T. D. Kapuriya

MAJOR ADVISOR

Dr. N. B. Jadav

Abstract:

Agriculture is the mainstay of Indian economy where in a tone of grave respect refers to the farmer as the annadata - the provider of grain. This is because in India, agriculture has been the life and the means of sustenance for the majority of the people. Even today, more than half of the country's population is directly and indirectly depends on agriculture. Through the centuries, the farmers have been the backbone of the country and yet today, in spite of being in the majority, the farmers in India are in dire straits. What's more, their living options and conditions are getting from bad to worse. Hence the present investigation entitled "Avoidance of agriculture as a profession by the farmer of North Saurashtra agro climatic zone" was envisaged with following objectives: profile of respondents, attitude of respondents towards avoiding of agriculture as a profession, relationship between attributes of respondents and their attitude, factors related for avoidance of agriculture, sustainability of agriculture as a profession and suggestion of the respondents.

In order to realize the objective of the study, 160 respondents were selected from 16 different villages of 4 talukas of Jamnagar and Rajkot district North Saurashtra agro climatic zone by applying multistage random sampling technique.

The majority (63.13 per cent) of the farmers had medium attitude towards avoidance agriculture as an occupation, followed by 23.13 per cent of them had low, 10.63 per cent of them were with high and 03.12 per cent of the farmer very low attitude towards avoidance of agriculture as a profession, while none of them was with very high attitude towards avoidance of agriculture as a profession.

There was positive and highly significant relationship between education and risk orientation and their attitude and also positively and significant relationship between occupation, social participation, mass media exposure and achievement motivation and their attitude.

The characteristics of the respondents like type of family, size of family, annual income, land holding and economic motivation were non-significant and age self confidence were negatively significant associated with the attitude towards avoidance of agriculture as a profession.

Among the total eight categories related to avoidance of agriculture as a profession descending order of rank were; economical, situational, personal and social, marketing, environmental, psychological, technological; and governmental.

About 64.38 per cent of the respondents had medium level sustainability of agriculture as profession. The considerable amount (19.37 and 16.25 per cent) of respondent was in low and high sustainability group.

Major suggestions from the respondents to attract new generation toward agriculture in sequential order were: support price of the production should be higher, chemical fertilizers, insecticides and fungicides should be provided at reasonable rates and farmer should be protected by crop insurance during crop failure by pest.

130. PERCEPTION OF GROUNDNUT GROWERS ABOUT DAMAGE CAUSED BY PESTS IN JUNAGADH DISTRICT OF GUJARAT STATE

YEAR : 2018

NAME OF STUDENT

P. H. Zala

MAJOR ADVISOR

Dr. N. B. Jadav

Abstract:

Groundnut is a principal crop of the saurashtra region of Gujarat state. Junagadh district of Gujarat has 0.26 million hectares under groundnut and produce 0.45 million MT of groundnut. Groundnut cultivation in this district was constrained by inadequate, uncertain and erratic rainfall, infestation of pests and diseases. Pests like more numbers of wild animal like blue bull, pig *etc.*, insects like white grub, *Spodoptera Litura*, *Helicoverpa Armygera*, jassid, thrips *etc.* and diseases like, stem rot, bud necrosis, root rot *etc.* are more damage in groundnut. Management of pests is prerequisite for increase the production. Hence, the present investigation entitled “perception of groundnut growers about damage caused by pests in Junagadh district of Gujarat state” was envisaged with the following objectives: profile of groundnut growers, documentation and rationalism of practices followed by groundnut growers to protect the groundnut from pests, perception of the respondents about damage caused by pests, relationship between profiles of the respondents and their perception and suggestion of the respondents.

In order to realize the objectives of the study, one hundred twenty farmers were selected from twelve villages of the three talukas of Junagadh districts of Gujarat state by employing multistage random sampling technique.

The majority of the respondents (65.00 per cent) had medium level of perception about damage caused by pests of groundnut. Whereas, 18.33 per cent and 16.66 per cent groundnut growers had low and high level perception.

There was positive and significant relationship between education, annual income, extension participation, training received, farm mechanization index, yield index, cropping intensity index and attitude towards modern agriculture and their perception of the groundnut growers and also positive and highly significant relationship between social participation, innovativeness and risk orientation and their perception. The characteristics of the respondents age was negatively significant and size of land holding was non-significant relationship with the perception of the respondents about damage caused by pests in groundnut.

Among the total thirty five documentation and rationalism practices for protect groundnut from pests more than 660 per cent of the farmer followed practices like, drying of pod (rank I), opened furrow (rank II), wire fencing use (rank III), early sowing of groundnut (rank IV) and deep ploughing (rank V).

The important suggestions from the respondents to prevent pests damage in groundnut crop were: inputs like pesticide should be made available at subsidized rate, farmers should be protected by crop insurance during crop damage by pests and zatka machine should be provided as low price and subsidy scheme.

131. KNOWLEDGE AND ADOPTION OF FARMERS ABOUT POMEGRANATE PRODUCTION PRACTICES IN SAURASHTRA REGION
YEAR : 2018
NAME OF STUDENT

Kadam Datta NarayanRao

MAJOR ADVISOR

Dr. P. S. Gorfad

Abstract:

Key words Knowledge, Adoption, Pomegranate farmers The area under pomegranate is increasing every year. However, average production is low than potential yield. The main reason for low production is lack of knowledge and low adoption of improved pomegranate production technology. Therefore, it is worthwhile to study entitled "Knowledge and Adoption of Farmers about Pomegranate Production Practices in Saurashtra Region". This study was carried out with specific objectives: personal, socio-economic, communicational, situational, psychological, the extent of knowledge and adoption of pomegranate growers about improved practices of pomegranate production, association of pomegranate growers' knowledge and adoption about improved pomegranate production practices with their selected characteristics, constraints and suggestions from the pomegranate growers to overcome the constraints faced by them.

In order to realize the objectives of the study, 120 farmers were selected from 12 villages of 4 talukas of Jamnagar and Bhavnagar districts of Saurashtra agro climatic zone by employing purposive and simple random sampling technique. The data were collected by personal interview method with the help of structured interview scheduled. The data so collected were coded, classified, tabulated and analyzed in order to make meaningful conclusions. The result of the study revealed that majority of the pomegranate growers were in middle aged (59.16 per cent), primary school level of education (44.16 per cent), medium farm experience (50.84 per cent), medium social participation (70.00 per cent), medium size of land holding (52.50 per cent), high level of annual income (42.50 per cent), medium extension participation (66.67 per cent), medium mass media exposure (57.50 per cent), medium cosmopolitaness (55.83 per cent), medium level of innovativeness (49.16 per cent), medium level of risk orientation (51.67 per cent), medium market orientation (63.34 per cent), medium area under pomegranate crop (60.84 per cent) and medium pomegranate yield index (65.00 per cent). The nearly three fourth (72.50 per cent) of the farmers were in medium knowledge level followed by high (16.67 per cent) and low (10.83 per cent) level. More than two third (69.16 per cent) of the pomegranate growers were medium adopters of the pomegranate production practices. Whereas, 17.50 per cent were to and 13.34 per cent were high adopters. From the selected pomegranate production practices, it was observed that land preparation (97.40 per cent), selection of bahar for production (93.40 per cent), improved variety (91.20 per cent), time of harvesting (83.34 per cent) time of planting (81.72 per cent), FYM and nutrient management (80.24 per cent), pruning of trees (79.85 per cent) and spacing (71.41 per cent) were highly adopted by the respondents.

The practices like type of soil suitable for pomegranate production (69.10 per cent), filling of pit (62.06 per cent), bah, management (60.10 per cent), making ring around tree (59.76 per cent) agement adopted by the pomegranate (53.42 per cent) were moderately Whereas, preparation of seedling (17.78 per cent) and type of grafting (9.57 per cent); had very low adoption in pomegranate production practices. There was positive and significant association observed between knowledge and education, social participation, annual

income, mass media exposure innovativeness, risk orientation, market orientation, cosmopolitanism and yield index. Whereas, negative and non-significant association between knowledge and age was observed. There was positive and significant association observed between adoption and education, social participation, annual income, mass media exposure, innovativeness, risk orientation, market orientation, cosmopolitanism and yield index. Whereas, positive and non-significant association was observed with size of land holding and area under pomegranate crop. Age of the respondents was negatively and non-significantly associated with the extent of adoption of pomegranate production practices.

The most important constraints in adoption of pomegranate production practices were; non-availability of labour during peak season, lack of skilled labour for doing farm operation, high labour charges, lack of electricity and pest and disease management. The most important suggestions offered by pomegranate growers were. skilled training should be given to the pomegranate growers so they can perform management operation, there should be association of fruit growing farmers. so they can meet labour demand, required quantity of fertilizers and nutrient spray should be made available in time at subsidized rate.

132. TECHNOLOGICAL GAP IN PLANT PROTECTION PRACTICES OF GROUNDNUT AND COTTON IN RAJKOT DISTRICT OF SAURASHTRA REGION

YEAR : 2018

NAME OF STUDENT

A. D. Saradhara

MAJOR ADVISOR

Dr. N. B. Jadav

Abstract:

Groundnut (*Arachis hypogaea* L.) is an important crop grown worldwide and cultivated in more than 100 countries. Groundnut is considered as the world's fourth largest source of edible oil and third most important source of vegetable protein. Cotton is one of the important commercial crop grown in the country. It plays a vital role in the national economy by contributing to 29.80 per cent of India's agricultural gross domestic production.

Plant protection plays an important role in crop production. Adoption of plant protection recommendation is one of the important aspects of controlling pests and diseases. In spite of this fact, farmers are not adopting the recommendations properly and hence, the importance of systematic use of plant protection measures to control pests and diseases can not be neglected. Looking to the importance and urgency of the problem, a study entitled "Technological gap in plant protection practices of groundnut and cotton in Rajkot district of Saurashtra region" is planned.

In order to realize the objective of the study, 180 farmers were selected from 12 villages of the 2 talukas of Rajkot district of South Saurashtra agro climatic zone by employing multistage purposive and random sampling technique.

Majority of the groundnut growers fall in medium category with respect to age, size of land holding, annual income, social participation, extension participation, mass media exposure, innovativeness, risk orientation, cropping intensity and knowledge. Whereas, there was primary and secondary level of education and using well for irrigation. While majority of the cotton growers fall in medium category with respect to age, size of land holding, social participation, extension participation, mass media exposure, innovativeness, risk orientation, cropping intensity and knowledge. Whereas, there was high and very high annual income, primary and secondary level of education and using bore

well for irrigation.

The groundnut growers had medium technological gap 63.33 per cent about plant protection practices of groundnut. While cotton growers had medium technological gap 68.89 per cent about plant protection practices of cotton.

The characteristics of the respondents like education, social participation, extension participation, mass media exposure, innovativeness, risk orientation and knowledge had negative and highly significant relationship with the technological gap of plant protection practices of groundnut. Age was positively and highly significantly related with the technological gap of plant protection practices of groundnut. Where as the characteristics of the respondents like education, social participation, mass media exposure, innovativeness, risk orientation and knowledge had negative and highly significant relationship with the technological gap of plant protection practices of cotton. Extension participation was negatively and significantly related with the technological gap of plant protection practices of cotton. Age was positively and highly significantly related with the technological gap of plant protection practices of cotton.

The most important constraints faced by the groundnut growers were: lack of adequate knowledge about groundnut plant protection practices, inadequate knowledge about proper use of insecticide, high price of plant protection chemicals, lack of knowledge regarding seed treatment, while the most important constraints faced by the cotton growers were: lack of adequate knowledge about groundnut plant protection practices, high price of plant protection chemicals, lack of knowledge about proper diagnosis of disease/pest.

The important suggestions offered by majority of groundnut growers were: knowledge about plant protection measures should be given to groundnut growers on field by scientists and extension workers, technical guidance should be provided regarding plant protection of groundnut crop, where as the important suggestions offered by majority of cotton growers were: knowledge about plant protection measures should be given to cotton growers on field by scientists and extension workers, more number of demonstrations on plant protection of cotton crop should be organized on farmers' field, quality bio pesticides should be made available.

133. KNOWLEDGE AND ATTITUDE OF CATTION GROWERS TOWARDS INTEGRATED PEST MANAGEMENT IN SURENDRANAGAR DISTRICT OF GUJARAT STATE

YEAR : 2019

NAME OF STUDENT

Y. H. Rathwa

MAJOR ADVISOR

Dr. B. C. Bochalya

Abstract:

Cotton is one of the most important commercial fibre crops of India. Today it continues to rule as the “King of Apparel Fibre”. It is playing a key role in economic, political and social affairs of the world. It is known as “white gold” due to its importance in agricultural as well as industrial economy. Apart from its value as fibre, the potential of cotton is used such as edible oil (seed oil) and cotton cake as cattle feed and hull meal. Cotton is one of the major *kharif* crop grown under both irrigated and rain-fed conditions in India. Cotton is widely grown in all districts of Gujarat state. The low yield of cotton could mainly be attributed to the fact that, the cotton growers have not still adopted Integrated Pest Management. With this consideration, the problem entitled “Knowledge and Attitude of Cotton growers towards Integrated Pest Management in Surendranagar District of Gujarat State” was under taken.

A study was conducted in Surendranagar district of Gujarat state. Three talukas from Surendranagar district were selected randomly. Four villages from each selected taluka, thus twelve villages were selected. Ten cotton growers from each village and make a sample of 120 cotton growers who having highest area under cotton cultivation.

In respect to personal characteristics, 51.67 per cent of respondents belonged to middle age group, 28.34 per cent of respondents belonged to middle school level of education, 61.66 per cent of the respondents had medium farm experience and 45.83 per cent respondents had received one training. As regards to socio-economical characteristics, 34.18 per cent respondents had five to six members in family, 46.66 per cent respondents had Rs. 1,00,001 to Rs. 1,50,000 annual income, 56.66 per cent respondents had medium land holding and about 63.34 percent respondents had medium level of social participation. In respect to communicational characteristics, majority of the respondents (67.50 per cent) had medium level of mass media exposure. The respondents with relation to psychological aspects, majority of the respondents (45.00 per cent) had medium scientific orientation, 62.50 per cent of respondents belonged to medium risk orientation group and 54.84 per cent respondents had medium level of innovativeness.

Majority of cotton growers (75.00 per cent) had medium level of knowledge, followed by 14.16 per cent and 10.84 per cent of cotton growers were in low and high level of knowledge about Integrated Pest Management. About 55.00 per cent of the cotton growers had favourable attitude, while 24.16 per cent and 20.84 per cent had most favourable and less favourable attitude towards Integrated Pest Management.

Out of thirteen independent variables, education, annual income, mass media exposure, scientific orientation, risk orientation and innovativeness had positive and highly significant relationship and farm experience, training received and social participation were positively and significantly related with knowledge about Integrated Pest Management. Whereas, age, size of family and land holding had non-significant relationship with knowledge about Integrated Pest Management.

The independent variables were correlated with attitude viz., mass media exposure, scientific orientation and risk orientation were positive and highly significant relationship and education, farm experience, training received, social participation and innovativeness were positive and significant relationship. Whereas, age, size of family, annual income and land holding were non-significant relationship with attitude towards Integrated Pest Management.

The important constraints faced by respondents were; non-availability of tricho-cards, trichoderma, pheromone traps and light trap at local market, inadequate demonstration on IPM, lack of training on IPM.

In case of suggestion, trichoderma, tricho-cards, pheromone traps, light trap should be available at local market, more trainings on IPM technologies should be conducted and more demonstrations on IPM technologies should be conducted.

134. CAPACITY BUILDING OF FARM WOMEN THROUGH TRAINING IN RELATION TO CLEAN MILK PRODUCTION

YEAR : 2019

NAME OF STUDENT

Khunt Krimpal Ratilal

MAJOR ADVISOR

Dr. P. R. Kanani

Abstract:

Agriculture is the basis of village life in India. About seventy per cent of the Indian population depends on it for their livelihood. In India, keeping milch animals has been

never a separate occupation from agriculture. Thus, rural economy is closely tied up with milch animals. Livestock keeping has been practiced as a way of life by the farmers of our country from generation to generation. Dairy farming has thus been recognized only next to agriculture as a source of income to the dairy farm women. Hence, the present investigation entitled "Capacity building of farm women through training in relation to clean milk production" was envisaged with objectives viz., profile of respondents, knowledge and adoption level of respondents regarding clean milk production practices, relationship between attributes of respondents and their level of knowledge and adoption, find out the optimal size of group, appropriate time season for the training and effectiveness of extension teaching methods for capacity building by imparting training as medium of information, constraints faced by respondents and suggestions of respondents towards clean milk production.

In order to realize the objective of the study, 120 trained and 120 untrained farm women were selected from 12 different villages of 6 talukas of Amreli and Rajkot districts by applying multistage simple purposive sampling technique.

Majority (69.17 per cent) of the trained farm women were from medium level of knowledge regarding clean milk production practices, while 18.33 per cent and 12.50 per cent of the trained farm women had high and low level of knowledge regarding clean milk production practices respectively. In terms of untrained farm women majority (57.50 per cent) of the farm women had medium level of knowledge regarding clean milk production practices, while 28.33 per cent and 14.17 per cent of the untrained farm women had low and high level of knowledge regarding clean milk production practices respectively. Majority (65.83 per cent) of the trained farm women had medium level of adoption. Remaining 19.17 per cent and 15.00 per cent of them had high and low extent of adoption, respectively. In case of untrained farm women result indicated that 55.00 per cent were found with medium level of adoption, whereas 23.33 per cent and 21.67 per cent had low and high level of adoption of clean milk production practices.

There was positive and highly significant relationship between education, experience in dairy farming, extension participation and risk orientation and their knowledge and adoption of trained farm women and also positively and significant relationship between annual income, social participation, mass media exposure, innovativeness, market orientation and their knowledge and adoption of trained farm women. While, in case of untrained farm women education, experience in dairy farming, extension participation, risk orientation had positive and significant relationship with knowledge and adoption. The remaining variables annual income, social participation, mass media exposure, innovativeness and market orientation had non-significant relationship with knowledge and adoption about clean milk production practices. There was negative and significant association of the knowledge of both trained and untrained farm women with their age.

Out of eleven extension teaching methods five methods secured 70.00 per cent and above scores. According to the score, the ranks were assigned all the eleven methods. The methods which secured 70.00 per cent or above score were lecture with discussion and demonstration with I rank followed by lecture with discussion and A.V. aids (rank II), lecture with computer based presentation and discussion (rank III), lecture with A.V. aids (rank IV) and method demonstration (rank V). Time for training should be during slack season (50.00 per cent) followed by crop season (30.00 per cent). Size of group for training should be of 25 women (73.33 per cent).

The major constraints faced by dairy farm women in adoption of clean milk production were; high construction cost of cattle shed was ranked I (75.00 per cent), unavailability of

artificial insemination facility was ranked II (70.83 per cent), lack of availability of KMnO_4 solution for cleaning and washing purpose was ranked III (69.16 per cent). Valuable suggestions given by dairy farm women were KMnO_4 solution should be made available at village level ranked I (85.84 per cent) subsidy should be provided for purchasing tools and equipments required for clean milk production ranked II (82.50 per cent), veterinary doctor should visit timely in the village ranked III (67.50 per cent) to overcome the constraints faced by them in adoption of clean milk production practices.

135. KNOWLEDGE AND ADOPTION OF FARMERS ABOUT CHICKPEA PRODUCTION TECHNOLOGY IN JUNAGADH DISTRICT

YEAR : 2019

NAME OF STUDENT

K. D. Tankodara

MAJOR ADVISOR

Dr. G. R. Gohil

The area under the cultivation of chickpea is increasing every year as it is one of the most important pulse crops of India due to its qualitative as well as quantitative importance. However, its average yield on farmer's field is low than its potential yield on research station. The main reason for low production is lack of knowledge and adoption of improved or recommended chickpea production technology. Therefore, it was worthwhile to study entitled "Knowledge and Adoption of Farmers about Chickpea Production Technology in Junagadh District". This study was carried out with specific objectives: to study the personal, socio-economic, communicational, psychological and situational characteristics of chickpea growers as well as to study the extent of knowledge and adoption of them about recommended chickpea production technology, to study the association between chickpea growers' knowledge and adoption about chickpea production technology with their selected characteristics, to find out constraints and seek suggestion from the respondents to overcome constraints faced by them.

A study was conducted in Junagadh district of Gujarat state. In order to realize the objectives of the study, 4 talukas were selected purposively for the study where areas of cultivation of chickpea were higher as well as familiar area for researcher. 3 villages from each talukas were selected randomly and 10 respondents from each selected villages were selected randomly as sample. Hence, total 120 chickpea growers were studied. The data were collected by personal interview method. The data so collected were coded, classified and tabulated analyzed in order to make meaning conclusions.

The result of the study revealed that more than half (53.33 per cent) of the chickpea growers were in middle aged, 43.33 per cent were educated up to middle school or secondary school level; whereas majority of the respondents had medium farm experience (60.00 per cent), medium social participation (70.00 per cent), medium size of land holding (46.67 per cent), medium annual income (38.33 per cent), medium extension participation (61.67 per cent), medium mass media exposure (62.50 per cent), medium innovativeness (65.84 per cent), medium scientific orientation (54.17 per cent), medium risk orientation (57.50 per cent), medium irrigation potentiality (47.50 per cent), medium cropping intensity (50.83 per cent) and medium yield index (54.17 per cent).

Majority (71.67 per cent) of the respondents had medium knowledge level, followed by 15.83 per cent and 12.50 per cent of the respondents had high and low knowledge level, respectively. Majority (64.14 per cent) of the respondents had medium level of adoption, followed by 21.67 and 14.16 per cent of respondents had low and high level of adoption about recommended chickpea production technology.

The data on practice wise adoption revealed that the level of adoption was found highest in practice like preparation of land and it secured rank 1st, followed by spacing (rank II), time of sowing (rank III), weeding and inter culturing (rank IV), seed rate (rank V), harvesting (rank VI), storage (rank VII), seed treatment (rank VIII), chemical fertilizer application (rank IX), irrigation (rank X), improved variety (rank XI), disease control (rank XII), pest control (rank XIII), bio fertilizers (rank XIV) and micronutrients and plant growth regulators (rank XV).

Out of fourteen independent variables, extension participation and yield index had positive and highly significant association, whereas education, farm experience, social participation, annual income, mass media exposure, innovativeness, scientific orientation, risk orientation, irrigation potentiality and cropping intensity had positive and significant association, while age and size of land holding had positive and non-significant association with knowledge as well as adoption of farmers about chickpea production technology.

Major constraints faced by respondents were; high cost of farm inputs, non-availability of appropriate market price on farm produce, low production due to pest and disease infection, high cost of labor, lack of appropriate knowledge about improved varieties and destruction of seedbed by hazardous animals.

Major suggestions offered by respondents were; production inputs should be supplied at subsidize rate, produced should be purchased by government at reasonable price, provide technical knowledge about insecticide, fungicide and weedicide, water harvesting projects should be developed and more numbers of training program should be arranged at village level.

136. KNOWLEDGE AND UTILIZATION PATTERN OF INFORMATION AND COMMUNICATION TECHNOLOGY SERVICES BY POSTGRADUATE STUDENTS IN JUNAGADH AGRICULTURAL UNIVERSITY

YEAR : 2019

NAME OF STUDENT

Jyothi

MAJOR ADVISOR

Dr. B. N. Kalsariya

Abstract:

Information and Communication Technology (ICT) is global term that incorporates all advancements that provide access to the information through telecommunications. ICT tools and services have been considered as powerful services that enable the educational change and reform. They are being not only used in administrative duties in education but also in the instruction of students. Within the classroom, ICT services are used for creative, communicative, collaborative and task-based activities during instruction and also in evaluating the students. Use of ICT services in education management is becoming compelling necessity throughout the world. Considering this, the present study was taken out for the measure of knowledge and utilization pattern of ICT services including their association with different selected characteristics of the respondents. The study was conducted in the six different colleges of JAU, Junagadh and JAU, Veraval. A total of 170 postgraduate students studying in Junagadh Agricultural University were selected for the investigation. The data was collected by the personnel interview method through the developed and pre-tested schedule. The data collected was further classified, tabulated, analyzed and interpreted in order to make findings meaningful. Statistical tools such as frequency, percentage, mean, standard deviation and correlation co-efficient were used for the study.

The results of the research indicated that 74.12 per cent of the postgraduate students were

in the age group of 23 to 24 years, about 56.47 per cent were male respondents, 51.76 per cent had Gujarati as their medium education, 28.24 per cent of the student's parents had education up to middle school and 38.82 per cent of had 8.1 to 8.5 of OGPA in respect to personnel characteristics. Regarding socio-economic characteristics, 40.59 per cent of the students had low family income, 55.29 per cent had monthly expenditure of 2501 to 5000, 79.41 per cent belonged to medium sized family and 50.00 per cent were from rural background. Corresponding to the communicational characteristics, ICT services such as Wikipedia and YouTube were known to the students by 'themselves'. While, Email, MOOCs, WhatsApp, Facebook and Janvani FM were known through friends, parents and relatives. Online thesis repositories, CeRA, MS–software, Google, statistical packages, Kiosk and agricultural web portals were known through teaching and learning process. ICT services such as Email, MOOCs, Wikipedia, WhatsApp, Facebook, YouTube, MS–software, Google, Janvani FM, statistical packages and agricultural web portals were accessible through the self owned facility. Online thesis repositories, CeRA and Kiosk were accessible through the facility provided by the departmental or college or university. In relation to psychological characteristics, the preferred job by the students is academic teaching.

The 58.24 per cent of the postgraduate students were found in the category of medium level of knowledge regarding ICT services and 57.06 per cent of them belonged to the category of medium utilization of ICT services. Out of 12 variables, 7 variables namely age, parent's education, academic performance, family annual income, monthly expenditure pattern, source of information regarding ICT and accessibility to the selected ICT services had a positive and significant relation with their knowledge level and utilization pattern of ICT services and the rest 5 variables had non-significant relationship.

The major constraints faced by the postgraduate students in utilization of ICT services were limited accessibility and network connection, hardship in finding the relevant content and cannot download full articles in time. The important suggestions offered by the respondents to overcome the constraints were workshops and specialised training on statistical packages should be organised, full length research paper should be made accessible to students and internet facility should be ensured in the hostel (Wi-Fi) with adequate strength.

137. PERCEPTION OF FIG FARMERS TOWARDS USEFULNESS OF ATMA PROJECT IN SAURASHTRA REGION

YEAR : 2019

NAME OF STUDENT

H. S. Hothi

MAJOR ADVISOR

Dr. N. B. Jadav

Abstract:

The Agricultural Technology Management Agency (ATMA) is an autonomous organization registered under the society's registration act of 1860 with considerable operational flexibility. It is registered society of stakeholders involved in agricultural activities for sustainable agricultural development in the district. It is focal point for integrating research and extension activities and decentralized day to day management of the Public Agricultural Technology System (ATS). As a society, it receives and expands project funds, entering into contracts, agreements and maintaining revolving accounts that can be used to collect fees and thereby recovering operating cost. Hence, the present investigation entitled “Perception of FIG farmers towards usefulness of ATMA project in Saurashtra region” was envisaged with objectives viz., profile of respondents, perception level of FIG farmers towards usefulness of

ATMA project, relationship between attributes of respondents and their level of perception, problems faced by FIG farmers in availing advantages of ATMA and suggestions of FIG farmersto get maximum advantages of ATMA.

In order to realize the objectives of the study, 120 FIG farmerswere selected from 12 different villages of 6 talukas of Amreli, Junagadh and Jamnagar districtsby applying multistage simple purposive sampling technique.

In respect to personal characteristics, slightly more than three- fifth (62.50 per cent) of respondents belonged to middle age group, 35.83 per cent of respondents belonged to primary school level of education, 58.33 per cent of the respondents had more training received, slightly less than two-fifth (39.17 per cent) had 3-4 family members and 53.33 per cent of the respondents had occupation as farming with allied occupation.As regards to socio-economic characteristics, majority (60.83 per cent) of the respondents were under the category of medium level of annual income, followed by 65.00 per cent of the respondents were with medium size of land holding and 64.17 per cent of respondents had medium level of social participation.In respect to communicational characteristics, 55.83 per cent of the respondents belonged to medium extension participation and 65.00 per cent of respondents had medium mass media exposure. The respondents with relation to psychological aspects, 57.50 per cent of the respondents were from medium level of risk orientation and 65.00 per cent of the respondents had medium level of innovativeness.

More than half (53.33 per cent) of FIG farmers had medium level of perception towards usefulness of ATMA Project followed by 27.50 per cent and 19.17 per cent of respondents had high and low level of perception towards usefulness of ATMA Project, respectively. The characteristics of FIG farmers i.e. education, training and extension participation had positive and highly significant relationship with their perception towards usefulness of ATMA project. The characteristics of the respondents like occupation, annual income, social participation, mass media exposure, risk orientation and innovativeness were positively and significantly related with their perception towards usefulness of ATMA project. There was non-significant relationship between perception towards usefulness of ATMA project and size of family and size of land holding of FIG farmers. While age was positively and significantly related with their perception about usefulness of ATMA project.

Out of 12 problems identified in availing advantages of ATMA, the most important constraints faced by the FIG farmers were: Non-availability of production inputs at the farmer's doorstep, Lack of training on improved technologies, Exposure visits to research stations of Gujarat are not organized for all members, The knowledge and information gain during the exposure visit to other states are not applicable in local situation, Political hindrance affecting the selection of beneficiaries

Out of 12 suggestions given by FIG farmers to get the maximum advantages of ATMA, the most important suggestions expressed by respondents were: Make the required inputs available at the farmers convenience, Offer training on improved technologies, Need more number of exposure visits, Training on ICT tools should be given for farmers, Focused on need based trainings should be arranged, The number of training programs should be increased.

138. KNOWLEDGE AND ADOPTION OF FARMERS ABOUT GRAIN STORAGE PRACTICES IN JUNAGADH DISTRICT OF GUJARAT STATE
YEAR : 2019
NAME OF STUDENT

S. G. Rathava

MAJOR ADVISOR

Dr. J. V. Chovatia

Abstract:

Grain storage is a site or physical structure regularly used to store grain for producers or to store grain acquired from producers for resale. Storage is method of storing grain for human consumption. Food is the symbol of life and prosperity. Food grain comprising of cereals, millets and pulses is the primary and staple food of majority of the population in India. For fetching higher prices to the food grains in the market not only production of grains is important but storage of grains is very important. But farmer's multiple roles especially in storage are generally underestimated and undervalued and they are kept away from the reach of advanced improved grain storage technologies. Therefore, it was worthwhile to study entitled "Knowledge and Adoption of Farmers about Grain Storage Practices in Junagadh District of Gujarat State". This study was carried out with specific objectives: to study the personal, socio-economic, communicational, psychological characteristics of farmers as well as to study the extent of knowledge and adoption of them about grain storage practices; to study the association between farmers' knowledge and adoption about grain storage practices with their selected characteristics, to find out constraints and seek suggestion from the respondents to overcome constraints faced by them.

A study was conducted in Junagadh district of Gujarat state. In order to realize the objectives of the study, 4 talukas were selected randomly for the study where generally farmers store grain as well as familiar area for researcher. 3 villages from each taluka were selected randomly and 10 respondents from each selected village were selected randomly as sample. Hence, total 120 farmers were studied. The data were collected by personal interview method. The data so collected were coded, classified and tabulated analyzed in order to make meaning conclusions.

The results of the study revealed that more than half (56.67 per cent) of the farmers were in middle aged, (51.66 per cent) were educated up to middle school or secondary school level, (35.00 per cent) were five to six member in family; whereas majority of the respondents had medium experience in grain storage (60.00 per cent), medium size of land holding (63.33 per cent), medium annual income (51.67 per cent), medium social participation (55.83 per cent), medium level quantity of grain stored (70.83 per cent), medium extension participation (63.33 per cent), medium mass media exposure (66.67 per cent), medium scientific orientation (70.83 per cent), medium risk orientation (63.33 per cent).

Majority (73.33 per cent) of the respondents had medium knowledge level, followed by 17.50 per cent and 9.17 per cent of the respondents had high and low knowledge level, respectively. Majority (65.83 per cent) of the respondents had medium level of adoption, followed by 20.00 and 14.17 per cent of respondents had low and high level of adoption about grain storage practices, respectively.

The data on practice wise adoption revealed that the level of adoption was found highest in practice like appropriate method of sun drying for grains and it secured rank 1st, followed by use of castor oil (rank II), fumigation (rank III), use of different structure of grain storage (rank IV), use of galvanized iron bin and RCC structure (rank V), use of custard apple seed powder (rank VI), use of wood ash (rank VII), use of cow dung slurry or mud for plug of the earthen pot (rank VIII), use of gunny bag (rank IX), use of stand and ventilator (rank X).

Out of twelfth independent variables, education, size of family and mass media exposure had positive and highly significant association with knowledge as well as adoption of farmers, whereas experience in grain storage, annual income, social participation, quantity of grain storage, extension participation, scientific orientation and risk orientation had positive and significant association, while age had negative and significant association, and size of land holding had positive and non-significant with knowledge as well as adoption of farmers about grain storage practices.

Major constraints faced by respondents were; non availability of modern storage structures for grain storage, lack of information about chemical control of stored grain pest, lack of knowledge about improved technology of stored grains. Major suggestions offered by respondents were; subsidy should be provided by government to construct new storage structure, storage facilities should be created by government, guidance should be made available by extension agency regarding management of stored grains.

139. ICT EXPOSURE OF EXTENSION PERSONNEL IN SAURASHTRA REGION

YEAR : 2019

NAME OF STUDENT

Rose Mathews

MAJOR ADVISOR

Dr. N. B. Jadav

Abstract:

India is an agro based developing country with about 68.84 per cent population living in rural area. Agricultural extension is a service or system which assists farmers through educational procedures in improving farming methods and techniques, increasing production efficiency and income, bettering their levels of living and lifting the social and educational standards of rural life. In recent times however, there has been revolution with regards to ICT in agriculture particularly in extension service delivery. ICT has potential to respond to a number of challenges that confront public extension systems. With this consideration, the problem entitled 'ICT exposure of extension personnel in Saurashtra region' was undertaken.

The study was conducted in Saurashtra region of Gujarat. Six districts were selected randomly out of eleven districts and a total of 120 respondents were selected proportionately from each six districts.

In respect to characteristics majority (53.33 per cent) of the extension personnel were middle aged, more than three-fourth (80.00 per cent) were males, majority (60.83 per cent) had M.Sc. degree as educational status, more than half (64.17 per cent) had medium work experience, exactly three-fourth (75.00 per cent) belonged to rural area, majority (62.50 per cent) had medium achievement motivation, majority (65.84 per cent) had medium level of innovation proneness, majority (60.84 per cent) had medium job commitment, more than half (59.17 per cent) had medium attitude, slightly more than half (55.00 per cent) had medium level of knowledge about ICT, 53.34 per cent had medium level of mass media liveliness, majority (43.34 per cent) had low level of professional zeal, majority (61.67 per cent) had not undergone any training on ICT and 63.33 per cent had medium level of infrastructure facilities. Majority (65.00 per cent) of the extension personnel had medium level of ICT utilization followed by 20.00 per cent and 15.00 per cent with high and low level of utilization respectively.

Out of fifteen independent variables; social participation, mass media liveliness, training undergone and infrastructure facilities had positive and significant relationship with ICT utilization of extension personnel. Educational status, innovation proneness,

attitude, knowledge about ICTs had positive and highly significant relationship with ICT utilization of extension personnel. Age had highly significant and negative association with ICT utilization of extension personnel. The characteristics *viz.*, gender, work experience, native place, achievement motivation, job commitment and professional zeal had non-significant association with ICT utilization of extension personnel.

The important constraints faced by the extension personnel were lack of training on ICT, high cost and lack of fund for equipments, lack of farmers interest in ICT based transfer of technology, poor infrastructure facilities, poor technical know-how, lack of motivation to use ICT based extension, difficulty in developing content in local language, slow internet connectivity, adverse effect on eyesight and back ache/headache/ hand pain.

The suggestions offered by extension personnel to overcome the constraints were adequate and timely training on ICT, maintenance of already installed equipments should be regular, awareness about the uses and effectiveness of ICT among various stakeholders, enough fund should be provided for ICT facilities and services, uninterrupted power and internet facilities should be ensured and selection of ICT tools should be proper, location specific and need based.

140. EVALUATION OF CAMPUS FARM WOMEN TRAINING PROGRAMMES CONDUCTED BY FARMER TRAINING CENTRE JUNAGADH

YEAR : 2020

NAME OF STUDENT

Khushboo Bhati

MAJOR ADVISOR

Dr. B. N. Kalsariya

Abstract:

The importance of training to farm women is progressively realized all over the world. It is observed that, farm women play a significant role in agriculture and allied activities. Training is a systematic attempt to develop the human resource individual, group and organizational competencies required to manage some present tasks and situations as well as in future. No training programme could be said to have been organized completely without training evaluation. To evaluate it is to determine the worth, or more precisely, the effectiveness of training programme. Keeping this in view, present study was thought to be taken out with measure the knowledge level, impact of training programme, resource use efficiency, analyse the training programme indifferent aspects of training courses, relationship between the selected characteristics and their knowledge level, constraints faced by and their suggestions offered by trained farm women with respect to training programme.

The study was conducted in Junagadh district of Gujarat state which is under the jurisdiction of Farmer Training Centre, Junagadh. Out of ten talukas of Junagadh district, four talukas were selected purposively for the study due to maximum number of farm women are got training and two villages from each taluka were selected. Thus, eight villages from selected talukas were selected. Fifteen trained farm women were selected by random sampling method from each selected village. Thus, total 120 trained farm women were selected as sample for the study. The equal numbers of untrained farm women also were randomly selected from the same villages.

Regarding personal, socio economic, communicational and psychological characteristics of farm women, it was found that majority of trained farm women belonged to middle age group (68.00 per cent), educated middle to high school level (53.34 per cent), medium size of family (51.67 per cent), small size of land holding i.e. 1.01-2.00 ha. (47.50 per cent), income group of ` 1,00,001/- to 1,50,000/- (47.50 per cent) and medium social participation (75.00 per

cent), medium mass media exposure (61.68 per cent), medium cosmopolitanness (59.16 per cent) and medium extension contact (45.83 per cent), medium risk orientation (60.83 per cent), medium innovativeness (60.00 per cent) and medium economic motivation (57.50 per cent). Whereas, untrained farm women were in the middle age group (45.83 per cent), primary to middle level education (40.83 per cent) and medium size of family (48.33 per cent), marginal size of land holding i.e. 0.01-1.00 ha. (35.00 per cent), income group of up to ₹ 1,00,000/- (59.17 per cent) and low social participation (51.67 per cent), low mass media exposure (52.50 per cent), medium cosmopolitanness (45.00 per cent), medium extension contact (67.50 per cent) which are pertaining to communicational characteristics, medium risk orientation (47.50 per cent), medium innovativeness (61.67 per cent) and medium economic motivation (46.67 per cent).

Majority of trained farm women had high level of knowledge (45.00 per cent). Whereas, untrained farm women had medium level of knowledge (49.17 per cent) Only 37.5 per cent trained and 23.33 per cent untrained farm women were empowered. Trained farm women preferred participatory discussion and decision on training need for analyzing training need. They highly agreed for cooperativeness of staff, off campus training, training was fixed as per plan, content was as per present problem, demonstrations, evaluation after training and good basic facilities of FTC, Junagadh.

Out of twelve independent variables, nine variables viz. education, size of land holding, annual income, social participation, mass media exposure, extension contact, risk orientation, innovativeness and economic motivation had positive and highly significant correlation with knowledge level of trained and untrained farm women about improved farm practices. Age had no significant correlation in case of trained farm women and negative and significant correlation with knowledge level of untrained farm women about improved farm practices. Family size and localite cosmopolitevalue orientation had non-significant correlation with knowledge level of trained and untrained farm women about improved farm practices.

The major significant constraints faced by farm women during training programme were; complex technologies were difficult to understood, theory of training was not applicable in farm reality and no pre-training contact. The major suggestions offered by farm women were, more practical classes, field visit and more demonstration should be organized.

141. TECHNOLOGICAL KNOWLEDGE AND ATTITUDE OF INPUT DEALERS TOWARDS AGRO SERVICES OF JUNAGADH DISTRICT

YEAR : 2020

NAME OF STUDENT
Khambhala Kishan A.

MAJOR ADVISOR
Dr. V. N. Chavda

Abstract:

Input dealers are expected to serve as providers of basic extension services to farmers, creating an invaluable source of knowledge and advice to farmers. Agro-input dealers are sellers of agricultural inputs that include seeds, fertilizer, crop protection chemicals, farm equipment and machines, veterinary products and animal feeds at right time and right place with affordable price and quality. Agro-input dealers play a major role in ensuring that farmers access some of the important agricultural inputs required to improve agricultural productivity in their respective farms. Agro input dealers provide technical advice regarding farming techniques, the correct use of inputs and in some cases additional services such as output purchasing, equipment rental and soil testing to the farmers. The input dealers are not

always aware about the recent technologies like new varieties, insecticides, fungicides, weedicides and machineries. For that the present study entitled “Technological knowledge and attitude of Input Dealers towards Agro Services of Junagadh District” was undertaken.

The study was conducted in Junagadh district of Gujarat state. From the Junagadh district five talukas *viz.*, Junagadh, Keshod, Mendarda, Vanthali and Maliya Hatina were selected randomly. From each taluka, thirty input dealers selected randomly. Thus, a sample of total 150 input dealers was considered for the study. With respect to characteristics, nearly one-half (49.34 per cent) of input dealers belonged to middle age group, about (46.00 per cent) of input dealers were having graduation/post-graduation level of education, about one-half (48.67 per cent) of input dealers had medium social participation, majority (69.34 per cent) of input dealers had high to very higher level of annual income, that more than half (60.00 per cent) of input dealers had used sources of information at medium level, more than half (51.34 per cent) of the input dealers had medium level of mass media exposure, only (16.64 per cent) of input dealers received training, majority of (61.34 per cent) input dealers had medium extension contact, majority (58.67 per cent) of input dealers had medium level of risk orientation, majority (62.00 per cent) of input dealers were having medium level of management orientation, slightly more than three fourth (75.34 per cent) of the agro-input dealers had medium level of economic motivation and more than half (58.67 per cent) of input dealers had medium level of progressivism.

More than half (51.34 per cent) of input dealers had medium level of knowledge regarding agro services followed by (30.00 per cent) and (18.66 per cent) of input dealers who had high level and low level of knowledge, respectively. More than half (58.00 per cent) of the input dealers had moderately favourable attitude towards the agro services followed by (24.67 per cent) and (17.33 per cent) of input dealers who had highly favourable and less favourable attitude, respectively.

The results of correlation analysis indicated that out of the twelve independent variables, seven variables *viz.* education, social participation, annual income, sources of information, mass media exposure, extension contacts and training received of input dealers had positive and significant relationship with their knowledge regarding agro services. The characteristics of input dealers *viz.*, risk orientation, management orientation, economic motivation and progressivism had positive and highly significant relationship with their knowledge regarding agro services. Age of input dealers had negative and significant relationship with their knowledge regarding agro services.

The important constraints faced by the input dealers in providing agro services were; inadequate training for the input dealers regarding agro services, debit behavior of farmers in purchasing of various agro inputs, insufficient loan facility to the agro input dealers by government, short supply of inputs in critical time by the private company, non-availability of quality seeds, inadequate extension officer support to the agro input dealers, lack of need based technical knowledge regarding agro services, diversification in agriculture, high initial investment in agro input dealing business, high cost of agro inputs, lack of government support to the agro input dealers, incompetent private agency, negative attitude of farmers towards agro input dealers, insufficient marketing facility and small land holding of farmers.

Major suggestions given by the input dealers to overcome the constraints were; training should be given to license holder agro input dealers by the government, farmers should always buy agro input in cash, loan facility should be provided for agro input dealers by government, price should be fixed for different agro inputs by government, need based technical knowledge should be provided through university, integrated training programme should be organized at regular interval, good quality agro inputs should be provided with affordable price and support should be provided to agro input dealers by government.

142. PERCEPTION OF MANGO GROWERS ABOUT REJUVENATION TECHNOLOGY IN GIR SOMNATH DISTRICT OF GUJARAT STATE
YEAR : 2020
NAME OF STUDENT

Padaliya Dhaval N.

MAJOR ADVISOR

Dr. M. K. Jadeja

Abstract:

The area under the cultivation of mango is increasing every year as it is one of the most important fruit crops of India due to its qualitative as well as quantitative importance. The decline of productivity has been attributed to various factors. The most of the problems are due to faulty management i.e. unsuitable site and climate, cultivation of intercrops, inadequate nutrition, improper planting, undesirable planting materials, incidence of insect, pest and disease and other biotic and abiotic stress. The growers do not adopt the proper management practices in terms of plant protection, manuring, irrigation, mulching, pruning and the orchards become sick. Therefore, it was worthwhile to study entitled "Perception of mango growers about mango rejuvenation technology in Gir Somnath district of Gujarat state".

This study was conducted in Gir Somnath district of Gujarat state. In order to realize the objectives of the study, 4 talukas were selected purposively for the study where areas of cultivation of mango were higher as well as familiar area for researcher. 3 villages from each taluka and 10 respondents from each selected village were selected. Hence, total 120 mango growers were as sample. The data were collected by personal interview method. The data so collected were coded, classified and tabulated analyzed in order to make meaning conclusions.

The result of the research study revealed that more than half (51.67 per cent) of the mango growers were in middle aged, 41.67 per cent were educated up to middle school or secondary school level; whereas majority of the respondents had medium farm experience (60.00 per cent), medium social participation (70.83 per cent), medium size of land holding (40.84 per cent), medium annual income (37.50 per cent), medium yield index (57.50 per cent), medium extension contact (54.17 per cent), medium mass media exposure (60.83 per cent), medium innovativeness (64.17 per cent), medium scientific orientation (56.67 per cent), medium risk orientation (58.33 per cent), medium achievement motivation (49.17 per cent) and medium economic motivation (52.50 per cent).

Majority (65.00 per cent) of the respondents had full adoption of shoot management, followed by 50.00 per cent and 46.67 per cent of respondents had full adoption of care after pruning and high intensity pruning, respectively. Majority (37.50 per cent) of the respondents had partial adoption of care after pruning, high intensity pruning and plant protection. The greater percentage (90.83 per cent) of respondents had non adoption of center opening, followed by 18.33 per cent and 15.83 per cent of respondents had non adoption of plant protection and high intensity pruning, respectively.

Out of fourteen independent variables, extension contact had positive and highly significant association, whereas education, farm experience, social participation, annual income, yield index, mass media exposure, innovativeness, scientific orientation, risk orientation, achievement motivation and economic motivation had positive and significant association, while age and size of land holding had positive and non-significant association with perception about mango rejuvenation technology.

Major constraints faced by respondents were; heavy stem borer attack on the pruned plant, difficulty in handling some of the pruning equipments on heightened trees,

unavailability of skilled labours in time, high labour wages during peak period and lack of proper knowledge about rejuvenation technology.

Major suggestions offered by respondents were; supply of Integrated Pest Management tools should be at subsidize rate, pruning equipments should be easily available, government should provide technical knowledge about insecticide, fungicide and weedicide, more emphasis should be given on practices for developing skills in canopy management and more number of training programme should be arranged at on and off campus.

143. IMPACT OF CLUSTER FRONTLINE DEMONSTRATIONS ON GROUNDNUT GROWERS UNDER THE SCHEME OF NATIONAL MISSION ON OIL SEED AND OIL PALM (NMOOP) IN SAURASHTRA REGION

YEAR : 2020

NAME OF STUDENT

Jalu Swati

MAJOR ADVISOR

Dr. Minaxi K. Bariya

Abstract:

The lack of transfer of technology from research system to the client system is the main problem in increasing agricultural production in the developing world. Still there is a wide gap between attained technical know-how and its utilization in the field of common farmers. The present rate of agricultural production can be doubled if the available groundnut production technologies are brought to bear with production process and programme. This require the steady flow of information from the scientist to the millions of farmers. Moreover, inputs are needed to be used scientifically. This is possible through the demonstration as it is an important and appropriate extension method which make it possible to disseminate technology to the user farmers. Keeping this fact in view with the government of India launched front line demonstration programme for oilseed crop under auspicious of oilseed mission. It has played significant role in increasing the knowledge and adoption of recommended groundnut production technologies by the groundnut growers. Considering this, the present investigation entitled "Impact of Cluster Frontline Demonstrations on Groundnut Growers under the Scheme of National Mission on Oilseed and Oil palm (NMOOP) in Saurashtra Region". This study was carried out with specific objectives: to study the personal, socio-economic, communicational, psychological and situational characteristics of groundnut growers as well as to study the extent of knowledge and adoption of them about recommended groundnut production technology, to study the association between groundnut grower's knowledge and adoption about groundnut production technology with their selected characteristics, to find out constraints and seek suggestion from the respondents to overcome constraints faced by them.

A study was conducted in Saurashtra region of Gujarat state. In order to realize the objectives of the study, a sample of 160 groundnut growers, representing 16 villages of 12 talukas of five districts were drawn by multistage, purposively, proportionate and random sampling technique. The data were collected by personal interview method. The data collected were compiled, analyzed and interpreted in the light of specific objective.

The result of study revealed that majority of demonstrator (68.75 per cent) and non-demonstrator (58.75 per cent) farmers had medium level of knowledge about the recommended groundnut production technology. Whereas, 17.50 per cent of demonstrator and 13.75 per cent of non-demonstrator farmers had high levels knowledge about recommended groundnut production technology. While 13.75 per cent and 27.50 per cent of demonstrator and non-demonstrator farmers had low level of knowledge about recommended

groundnut production technology and majority of the demonstrator (63.75 per cent) and non-demonstrator (56.25 per cent) farmers had medium adoption of recommended groundnut production technology. Whereas, 20.00 per cent of demonstrator and 15.00 per cent of non-demonstrator farmers had high extent to fad option about recommended groundnut production technology, respectively. While 16.25 per cent of demonstrator and 28.75 per cent of non-demonstrator farmers had low extent of adoption about recommended groundnut production technology. The data revealed that in case of demonstrator farmers, it was observed that the first rank was occupied by plant protection measures (96.42 per cent), followed by chemical fertilizer (91.09percent), preparatory tillage (89.38percent), seed rate (86.40 per cent), improved variety (86.04percent), were ranked second, third, fourth and fifth, respectively. In case of non-demonstrator farmers, it was observed that the first rank was occupied by plant protection measures (95.91 per cent), followed by sowing time (91.20 per cent), chemical fertilizer (86.30 per cent), improved variety (84.88 per cent), weed control (81.20%), were ranked second, third, fourth and fifth respectively.

There was positive and highly significant relationship between education, social participation and extension participation with their knowledge and adoption of demonstrator farmers and positive and significant relationship between size of land holding, annual income, mass media exposure, extension contact, innovativeness, scientific orientation, risk orientation, economic motivation and yield index and their knowledge and adoption of demonstrator farmers. While in case of non-demonstrator farmers' education, social participation and extension participation had positive and significant relationship, whereas size of land holding, annual income, mass media exposure, extension contact, innovativeness, scientific orientation, risk orientation, economic motivation, yield index had positive and non-significant relationship with their knowledge and adoption. While size of family had positive and non-significant relationship and age had negative and significant relationship with knowledge and adoption of farmers about groundnut production technology.

Major constraints faced by respondents were; High price of improved seeds, Low production due to pest and diseases infestation, Non-availability of appropriate market price on farm produce, Shortage and high wages of labour, Lack of knowledge about critical stages, Non-availability of finance in time, lack of irrigation water (Irregular rainfall), high price of herbicide, high price of chemical fertilizer etc.

Major suggestions offered by respondents were; Inputs should be made available at subsidized rate, Produce should be purchased by government at a reasonable price, Provide technical knowledge about insecticide, fungicide and pesticide, farmer should be protected by crop insurance, if crops fail, Remunerative price should be made available to the groundnut growers for their products, Village level workers should be frequently contacting the farmers to make them aware about the new farm technology.

144. TECHNOLOGICAL GAP IN ADOPTION OF RECOMMENDED PIGEON PEA PRODUCTION TECHNOLOGY UNDER NATIONAL FOOD PROGRAMME IN SECURITY MISSION AMRELI DISTRICT

YEAR : 2020

NAME OF STUDENT

Maheta Sachin

MAJOR ADVISOR

Dr. P. S. Gorfad

Abstract:

The low yield of pigeon pea could be attributed to the fact that the farmers have not still adopted production technology of the crop to the desired extent, in spite of continuous efforts

of the extension functionaries. Adoption or rejection of any recommended technology depends upon personal, socio-economic, communicational, psychological and situational factors which act as a carriers or stimulant for new technology. It may thus be emphasized that there may be several factors related with individual which affect the rate of adoption of recommended crop production technology measures. Therefore, it was worthwhile to study entitled “Technological Gap in Adoption of Recommended Pigeon Pea Production Technology under National Food Security Mission Programme in Amreli District”. This study was carried out with specific objectives: To study the personal, socio-economic, communicational, psychological and situational characteristics of the pigeon pea beneficiaries of NFSM programme as well as to assess the knowledge level of beneficiaries of NFSM programme about recommended pigeon pea production technology, to determine the technological gap in adoption of recommended pigeon pea production technology of beneficiaries of NFSM programme, to ascertain the relationship between selected characteristics of beneficiaries of NFSM programme and their technological gap in adoption of recommended pigeon pea production technology, to find out constraints and seek the suggestions from respondents to overcome constraints faced by them.

Centrally Sponsored Scheme, National Food Security Mission (NFSM), was launched in October 2007. The Mission met with an overwhelming success and achieved the targeted additional production of rice, wheat and pulses. The major objective of this scheme is to increase production and productivity of wheat, rice and pulses on a sustainable basis so as to ensure food security of the country.

A study was conducted in Amreli district of Gujarat state. In order to realize the objectives of the study, 3 talukas were selected purposively because number of frontline demonstrations on pigeon pea crop have been conducted under NFSM by KVK, Amreli, during last three years. Four villages were selected purposively from each selected taluka and 10 respondents from each selected village was selected purposively as sample. Hence total 120 beneficiaries were studied. The data were collected by personal interview method. The data so collected were coded, classified and tabulated analyzed in order to make meaningful conclusions.

The result of the study revealed that more than half (52.50 per cent) of the respondents belonged to middle age group, 42.50 per cent of respondents were educated up to middle school or secondary school level whereas majority of the respondents had medium farm experience (60.83 per cent), small size of land holding (35.00 per cent), low annual income (50,001 to 1,00,000)(30.00 per cent), medium social participation (47.50 per cent), medium level of extension participation (63.33 per cent), medium level of mass media exposure (65.00 per cent), medium innovativeness (68.33 per cent), medium risk orientation (67.50 per cent), medium economic motivation (62.50 per cent), medium irrigation potentiality (66.67 per cent) and medium level of knowledge (64.17 per cent).

Majority (65.83 per cent) of the respondents had medium technological gap in adoption of recommended pigeon pea production technology. Out of thirteen independent variables, education, social participation, extension participation, mass media exposure, innovativeness, risk orientation, knowledge had negative and highly significant relationship, whereas age had positive and highly significant relationship, while size of land holding, annual income and irrigation potentiality had non-significant relationship, in case of farm experience had positive and significant relationship and economic motivation had negative and significant relationship with technological gap of respondents in adoption of recommended pigeon pea production technology under NFSM programme.

Major constraints faced by respondents were lack of adequate knowledge about pigeon pea production technology, lack of irrigation facility, non-availability of appropriate market price on farm produce, lack of knowledge about plant based botanical insecticides, genuine

problem of damage caused by *Neelgay* and lack of constant availability of electricity at the time of irrigating crops.

Major suggestions offered by respondents were; knowledge about pigeon pea production technology should be given to farmers on field by scientists and extension workers, water harvesting projects for increasing availability of irrigation water should be developed, produce should be purchased by government at reasonable price, fencing facilities should be provide at subsidize rate, regular electricity should be supplied, provide market facilities at village level and market information should be made available at right time at village level.

145. PERCEPTION OF GROUNDNUT GROWERS TOWARDS MODERN COMMUNICATION MEDIA IN SAURASHTRA REGION

YEAR : 2020

NAME OF STUDENT

Shaktiranjan Das

MAJOR ADVISOR

Dr. N. B. Jadav

Abstract

India is an agro based developing country with about 68.84 per cent population living in rural area. Agricultural extension is a service or system which assists farmers through educational procedures in improving farming methods and techniques, increasing production efficiency and income, bettering their levels of living and lifting the social and educational standards of rural life. In recent times however, there has been revolution with regards to ICT in agriculture particularly in extension service delivery. ICT has potential to respond to a number of challenges that confront public extension systems. With this consideration, the problem entitled 'Perception of Groundnut Growers towards Modern Communication Media in Saurashtra Region' was undertaken.

The study was conducted in Saurashtra region of Gujarat. Four districts were selected purposively out of eleven districts and a total of 160 respondents were selected randomly. Majority of the respondents belonged to middle age group(65.62 per cent), about 25.00 per cent of respondents belonged to primary school level of education, more than half (45.00per cent) of the respondents had medium size of land holding and 40.62 per cent of respondent belongs to medium level of annual income.

Whereas in respect to characteristics of respondents more than half (58.75 per cent) of the respondents had medium social participation, 53.75 per cent of the respondents had medium extension participation, majority of the farmers have not received any training. It is also evident that duration of utilization of mobile advisory service topped in 1-5 hrs./week category followed by television use (53.12 per cent) of the groundnut growers under this category

Majority (58.75 per cent) of the respondents had medium level of perception about ICT technology. Whereas, 21.87 per cent and 19.38 per cent groundnut growers had low and high level perception about ICT technology, respectively.

The characteristics of the respondents' viz. education, annual income, extension participation, training received, mass media exposure, infrastructure facilities had positive and significant relationship with the perception of the respondents about ICT technology. The characteristics of the respondents like social participation, innovativeness and risk orientation were positively and highly significantly related with the perception of the respondents about ICT technology. Theage of the respondents was negative and significantly related with the perception of the respondents about ICT technology.

There was non-significant relationship with the perception of the respondents about ICT technology with their size of land holding. 'Lack of training on ICT' ranked first among

the constraints faced by the groundnut growers while ICT utilization. The 66.87 per cent of the respondents faced this constraint. The most important suggestion given by the groundnut growers was that adequate and timely training on ICT should be given. It was suggested by 64.37 per cent of the respondents.

146. KNOWLEDGE AND ATTITUDE OF FARMERS TOWARDS SOIL HEALTH CARD SCHEME IN SAURASHTRA REGION

YEAR : 2021

NAME OF STUDENT

Ravi M. Patel

MAJOR ADVISOR

Dr. G. R. Gohil

Abstract

Soil is one of the elements compulsory for farming as it provides nutrients to the plant. Healthy soil holding all the elements for growth and development of crop. On the other hand soil having poor of one or more elements either reduces production or degrades quality of crops. Proportion and quantity of macro and micro nutrients refers to the soil health.

As far as agriculture production is concerned, soil health plays a dynamic role in ensuring sustainable production with optimizing the utilization of fertilizers and reducing its wastage. To avoid deterioration of soil in long run and picturing the importance of balance nutrient in crop production, government of India commenced soil health card programme. Soil health card can be used to optimize the use of fertilizers in the integrated nutrient management (INM) systems. The Soil Health Card System carries together the scientific community in the field of agriculture, the information repository of latest tools, techniques and cropping practices, the farmers and the Government for the economic upliftment of the people at large. Therefore, it was worthwhile to study entitled "Knowledge and attitude of the farmers towards soil health card scheme in Saurashtra region". This study was carried out with specific objectives: to study the personal, socio-economic, communicational, psychological and situational characteristics of farmers as well as to study the extent of knowledge and attitude of them about recommended soil health card, to study the association between farmers attitude towards soil health card with their selected characteristics, to find out constraints and seek suggestion from the respondents to overcome constraints faced by them.

A study was conducted in Saurashtra region of Gujarat state. In order to realize the objectives of the study, three district Junagadh, Amreli and Bhavnagar were selected purposively for the study as familiar area for researcher and from each district two talukas selected for study. From each talukas four villages were selected. From each village respondents were selected randomly from twelve villages and 15 respondents from each selected villages were selected randomly as sample. Hence, total 180 farmers were studied. The data were collected by personal interview method. The data so collected were coded, classified and tabulated analyzed in order to make meaning conclusions.

The result of the study revealed that (41.66 per cent) of the farmers were in middle aged, 33.33 per cent were educated up to middle school or secondary school level; whereas majority of the respondents had two to four family members (33.33 per cent), farming plus allied occupation (47.22 per cent), medium size of land holding (25.55 per cent), medium annual income (28.89 per cent), fair cropping pattern (54.44 per cent), medium social participation (52.22 per cent), medium extension contact (53.89 per cent), medium use of source of information (62.22 per cent), medium innovativeness (52.78 per cent) and medium scientific orientation (54.44 per cent).

Majority (63.33 per cent) of the respondents had medium knowledge level, followed by

18.89 per cent and 17.78 per cent of the respondents had high and low knowledge level, respectively. Majority (77.78 per cent) of the respondents had favorable attitude, followed by 13.89 and 08.33 per cent of respondents had more favorable and less favorable level of attitude about soil health card scheme.

Out of twelve independent variables, the characteristics of the respondent i.e. education and extension contact had positive and highly significant relationship with the attitude of respondents towards soil health card scheme. The characteristics of the respondents like occupation, annual income, land holding, cropping pattern and social participation, use of source of information, innovativeness and scientific orientation were positively and significantly associated with the attitude of farmers towards soil health card scheme while size of family had non-significant relationship with attitude and age had negative association with the level of the respondents.

Major constraints faced by respondents were; unavailability of micro nutrient status of soil, followed by difficulty in calculating fertilizer dose on the basis of nutrient status of soil, unable to operate internet, received soil health cards after crop harvest, time gap between soil samples taken and issuing cards is too high, unavailability of internet facility, collection of soil sample was not done in presence of farmers.

Major suggestions offered by respondents were; availability of micro nutrient status should be displayed, crop wise recommended dose of fertilizer should be given, SHC should be issued prior to crop season, Farmer should be trained to take soil sample of its own soil, internet facility should be provided at village level, soil sampling procedure should be done in presence of farmer, soil testing laboratory should be established at talukas level with highly qualified supporting staff.

147. ASPIRATION AND PRECEPTION OF GRADUATES FROM GUJARAT AGRICULTURAL UNIVERSITIES TOWARDS AGRICULTURE AS A PROFESSION

YEAR : 2021

NAME OF STUDENT

Laveti Mohini Devi

MAJOR ADVISOR

Dr. M. K. Bariya

Abstract

The main aim of agricultural universities is to provide agricultural students with the necessary skills and knowledge required for serving the farming community. But the public sector had hired almost all the agricultural graduates in the past. So, the job opportunities had been decreasing gradually which further increased the unemployment among the agricultural graduates. So, they should be willing to take up agriculture as an occupation. But the issue of 'farm readiness', *i.e.*, the interest among agricultural graduates in taking up farming as an occupation after their graduation, continues to be a major question. Thus, an attempt has been made in the present study to gain first-hand knowledge about the aspirations of agricultural graduates and then their perception towards agriculture to attract and sustain the agricultural graduates in choosing agriculture as their profession by considering the constraints faced by them in taking up agriculture. This study also helped in getting the suggestions from the graduates which further helps in overcoming the constraints faced by them in taking up farming as a profession. Considering this, the present study entitled "Aspiration and Perception of Graduates from Gujarat Agricultural Universities Towards Agriculture as A Profession" was undertaken.

A study was conducted in all the four State Agricultural Universities of Gujarat. One college from each university was selected randomly for the study and thus, a total of four

colleges were selected. The study was conducted on a sample of 120 agricultural graduates who have passed out in the last two years from the respective colleges. Thirty respondents were selected randomly from each agricultural college. Thus, a total of 120 respondents were selected for the study.

With respect to profile, more than half of the agricultural graduates (54.17 per cent) belonged to above 22 years and up to 24 years age group, more than three-fifth of them (65.83 per cent) were in first class category of academic performance, more than two-third of them (70.00 per cent) were from rural areas, more than two-third of them (72.50 per cent) belonged to the nuclear family, slightly more than two-fifth of them (41.67 per cent) had medium family size, slightly more than one-third of their parents (33.33 per cent) had farming plus service as their main occupation, slightly more than one-third of them (35.83 per cent) had small size of land holding, nearly half of them (49.17 per cent) had above Rs. 2,00,000 of annual income, more than two-fifth of them (44.17 per cent) were having medium mass media exposure and a majority of them use WhatsApp and internet with a mean score of 2.97 and 2.95, respectively, achievement motivation (60.00 per cent), agricultural business anxiety (70.00 per cent), economic motivation (74.17 per cent), risk orientation (63.33 per cent) and self-confidence (66.67 per cent) of the agricultural graduates were found in medium level category.

The most preferred aspirations of the agricultural graduates were to pursue their higher studies (Rank I), followed by central government job (Rank II), state administrative job (Rank III), agricultural scientist (Rank IV) and to become a professor at State Agricultural University (Rank V). More than two-third of the agricultural graduates (65.00 per cent) had medium level of aspiration.

More than two-third of the agricultural graduates (71.67 per cent) had medium level of perception, followed by 15.83 per cent had high level of perception and 12.50 per cent had low level of perception towards agriculture as a profession.

The independent variables like academic performance, mass media exposure, achievement motivation, economic motivation and risk orientation had a positive and highly significant relationship; parental occupation, annual income and self-confidence had a positive and significant relationship; age, place of residence, size of land holding and agricultural business anxiety had a positive and non-significant relationship, whereas family type and family size had a negative and non-significant relationship with the aspirations of agricultural graduates.

The independent variables like age, academic performance, parental occupation, size of land holding, annual income, mass media exposure, achievement motivation, economic motivation, risk orientation and self-confidence had a positive and highly significant relationship; place of residence and agricultural business anxiety had a positive and significant relationship, whereas family type and family size had a positive and non-significant relationship with the perception of agricultural graduates towards agriculture as a profession.

The major constraints faced by the agricultural graduates in adopting agriculture as a profession were; high cost of cultivation and low returns, high cost of agricultural inputs and farm machinery and fluctuations in market price.

The major suggestions to overcome the constraints as given by the agricultural graduates were; fixation of remunerative prices for agricultural produce by the government, agricultural inputs and farm machinery must be provided at subsidized rates by the government and timely provision of crop loan by the government.

148. ASSESSMENT OF LIVELIHOOD SECURITY OF FARMERS IN COASTAL AREA OF SAURASHTRA REGION
YEAR : 2021
NAME OF STUDENT

D. S. Gajera

MAJOR ADVISOR

Dr. J. V. Chovatia

Abstract

India is one of the developing countries, where majority of the people depend on agriculture for their livelihood. Livelihood is the means that the people use to support themselves, to survive and to prosper. Livelihood is an outcome of how and why people organize to transform the environment to meet their needs through technology, labour, power, knowledge, and social relations. Coastal salinity is and would continue to be the great menace to sustainable crop production in the Gujarat state. Soil and water salinity problems are the major factors that are responsible for attaining better livelihood security. What's more, their living options and conditions are getting from bad to worse. Hence, the present investigation entitled "Assessment of livelihood security of farmers in coastal area of saurashtra region" was envisaged with following objectives: profile of respondents, livelihood security of respondents, relationship between attributes of respondents and their livelihood security, SWOT analysis of the respondents, constraints faced by the respondents for attaining livelihood security and suggestion of the respondents.

In order to realize the objectives of the study, 120 respondents were selected from 12 different villages on the basis of 5 km from the coastal belt of three districts Porbandar, Junagadh and Gir-somnath by applying multistage purposively random sampling technique.

With respect to characteristics, 47.50 per cent of respondents were from middle age group, 37.50 per cent respondents had education up to middle school level, 37.50 per cent respondents were having joint family and had 5 to 6 members in their family, 50.00 per cent of respondents was small size of land holding and 58.33 per cent of coastal area farmers had farming + allied as an occupation, 35.00 per cent of respondents had medium annual income, 48.33 per cent of the respondents belongs to OBC caste. Whereas, with respect to social participation (63.33 per cent), economic motivation (63.33 per cent), management orientation (56.67 per cent), credit orientation (65.00 per cent) and resource use management behavior (77.50 per cent), coastal area farmers were in the group of medium level.

The majority (61.67 per cent) of the farmers had medium level of over all livelihood security index, followed by 20.00 per cent of them had low level of livelihood security index and 18.33 per cent of them were with high level of livelihood security index.

There was positive and highly significant relationship between education, size of land holding, occupation, annual income, economic motivation, resource use management behavior and their livelihood security and also had positively and significant relationship between management orientation and credit orientation with their livelihood security.

The characteristics of the respondents like age, family size, caste and social participation were non-significant relationship associated with the livelihood security.

Major constraints faced by coastal area farmers for attaining better livelihood security in sequential order were: lower productivity due to high salinity in their soil and saline water, unavailability of drinking water facility, unavailability of social structure for education and health facilities, lack of guaranteed employment and irregularity in rainfall.

Major suggestions from the respondents to attain better livelihood security in sequential order were: Government should provide assistance and support for salinity management of their soil, they should have access to assured supply of basic living amenities like drinking

water, basic education facilities should be made available at village level, appropriate insurance cover should be met in case of crop failures and government should help in creation and development of assets like land, house, tractor etc.

149. KNOWLEDGE AND ATTITUDE OF JUNAGADH AGRICULTURAL UNIVERSITY STUDENTS TOWARDS EXPERIENTIAL LEARNING PROGRAMME (ELP)

YEAR : 2021

NAME OF STUDENT

K. R. Kakadiya

MAJOR ADVISOR

Dr. B. N. Kalsariya

Abstract

Agriculture education existed in India even during the medieval period. The importance of the application of science and technology for agriculture development was realized as early as in the beginning of century. The prevailing syllabus of agricultural education produces graduates seeking white-collar jobs in government departments and private sectors. They also lack confidence and competence to undertake self-employment ventures leading to sustainable development of agriculture or setup agribusiness to support rural based services. Present day, agricultural education produces degree holders and not hard core professionals who, analyse field problems and provide solutions on their management. Neither they are confident enough to pursue self-employment. For cultivating professionalism, it is necessary to build practical skills and entrepreneur spirit by making appropriate shifts in course curricula and emphasizing hands on training in life-size situations. Keeping this in view, present study was thought to be carried out with selected characteristics of under graduate students undertaking ELP, knowledge level, attitude of students towards ELP, relationship between selected characteristics of students and their attitude towards ELP programme, constraints faced and suggestion offered by students while attending ELP.

A study was conducted in Junagadh Agricultural University, Junagadh. Three agriculture colleges at Junagadh, Amreli and Khapat were selected for study. ELP was conducted at college of agriculture, Junagadh. Last semester of B. Sc. (Hons.) agriculture students of year 2019-20 were purposively selected for study. ELP programme of colleges are conducted in three clusters and each cluster covers two subjects. Sixty per cent students were selected from each college and they were divided into 3 groups which making 120 students sample size.

The result of the research revealed that majority (58.34 per cent) of students belonged to rural area, 45.83 per cent students first class with distinction, 58.34 per cent students had small size of family land holding. Whereas, parental occupation was agriculture (43.34 per cent), low parental annual income (33.33 per cent) and high innovativeness (53.34 per cent). Majority of the under graduate students had very high management orientation (55.00 per cent), leadership ability (46.67 per cent) and achievement motivation (47.50 per cent). They were also having medium participation in extra-curricular activity (55.84 per cent), decision making ability (42.50 per cent), self confidence (66.66 per cent), agribusiness anxiety (52.50 per cent) and aspiration (60.00 per cent). and medium.

Majority (54.15 per cent) of under graduate students had very high level of overall knowledge about ELP, while 63.34 per cent students had high favourable attitude towards ELP.

Out of fourteen independent variables viz.; innovativeness, leadership ability, agribusiness anxiety and achievement motivation had positive and highly significant relationship with their attitude towards ELP. While, management orientation, self confidence and aspiration had positive and significant relationship with their attitude towards ELP.

The major constraints face by under graduate students while attending ELP were; lack of preference to students in choice their interest cluster, no proper earning as per working and students are feeling the ELP work like labourer. The major suggestions offered by under graduate students for improving ELP were; students should be given preference to choose their interest subject, complete orientation of all cluster should be arranged in one time in a week so, it improves practical knowledge to students, time schedule should be change as per requirement in cluster therefore, all students get equal chance to experience and cooperation and coordination among the students should be enhanced.

150. IMPACTASSESSMENT OF NATIONAL INNOVATIONS ON CLIMATE RESILIENT AGRICULTURE (NICRA) PROJECT ON FARMERS OF NORTH SAURASHTRA AGRO-CLIMATIC ZONE

YEAR : 2021

NAME OF STUDENT

D. M. Bodsa

MAJOR ADVISOR

Dr. V. N. Chavda

Key words: Impact, NICRA, Climate resilient technologies

National Innovations on Climate Resilient Agriculture (NICRA) is a network project of the ICAR launched on 2nd February, 2011 by the Honourable Union Minister for Agriculture and Food Processing Industries Shri Sharad Pawarji. Project aims to enhance resilience of Indian agriculture to climate change and climate vulnerability through four module technological demonstration. So, in this study, an attempt was made for measure the impact of NICRA project on rural livelihood securities. This study was carried out with specific objectives: to study the profile of the respondents, the impact of NICRA project on rural livelihood securities of beneficiary and non-beneficiary farmers, relationship between profile of beneficiaries and impact of NICRA project, document the success stories of NICRA project, constraints faced by the respondents for adoption of climate resilient technologies and suggestions to overcome the constraints.

The study was conducted in Rajkot and Amreli districts of North Saurashtra Agro-climatic Zone of Gujarat state. One taluka was selected from each of the selected two districts, from each of talukas one village was selected purposively because of functioning of the NICRA project only in these villages. Besides these villages, another one village was selected randomly near NICRA villages for comparison. Thus, total two talukas and four villages were selected. Thirty respondents were selected randomly from each of the NICRA villages and another thirty respondents were selected randomly from each of the non-NICRA villages. Thus, total of 120 respondents were selected randomly from four villages for the study.

NICRA farmers were belonged to middle age group (56.67 per cent), were educated up to middle school (33.33 per cent), belonged to nuclear family (83.33 per cent), had medium level of farming experience and medium size of land holding (30.00 per cent). Whereas, had medium level of social participation (43.33 per cent), medium level of mass media exposure (48.33 per cent), medium level of economic motivation (50.00 per cent), medium level of risk orientation (51.67 per cent) and medium level of innovativeness (58.34 per cent).

Whereas, non-NICRA farmers belonged to middle age group (53.34 per cent), educated up to primary level (38.33 per cent), belonged to nuclear family (73.33 per cent), had medium level of farming experience (38.33 per cent) and small size of land holdings (46.67 per cent). Whereas, had low level of social participation (46.67 per cent), medium level of mass media exposure (43.34 per cent), medium level of economic motivation (43.33 per cent), low level of risk orientation (43.33 per cent) and low level of innovativeness (45.00 per cent).

Nearly half of the NICRA farmers (48.34 per cent) had medium level of impact of NICRA project, followed by 33.33 per cent had high and 18.33 per cent had low level of impact of NICRA project, respectively. In case of the non-NICRA farmers, more than two-fifth of the respondents (41.67 per cent) had medium level of impact of NICRA project, followed by 33.33 per cent had low and 25.00 per cent had high level of impact of NICRA project, respectively.

The characteristics of the NICRA farmers like education, social participation, mass media exposure, economic motivation, risk orientation and innovativeness had positive and highly significant relationship with impact of NICRA project. The characteristics like farming experience and size of land holding had positive significant relationship with impact of NICRA project. The characteristics like age and family type had positive and non-significant relationship with impact of NICRA project.

While in case of the non-NICRA farmers, farming experience, size of land holding and mass media exposure had positive and significant relationship with impact of NICRA project. The characteristics like age, education, family type, social participation, economic motivation, risk orientation and innovativeness had positive and non-significant relationship with impact of NICRA project.

The major constraints faced by the respondents for adoption of climate resilient technologies; uneven rainfall distribution in the area, lack of financial support, lack of knowledge about climate resilient practices, lack of technical guidance regarding NICRA project, lack of resources owned by farmers *etc.*

The suggestion given by the respondents to overcome the constraints for adoption of climate resilient technologies were; provision of technical guidance regarding NICRA project, training programmes should be conducted on different climate resilient technologies under NICRA project, technology demonstrations should also be given on need based problems, easy provision of loans by government agencies/institutions at low interest rates, required implements and machinery should be provided on time *etc.*

151. COMPARATIVE ANALYSIS OF FIG AND NON-FIG FARMERS OF AGRICULTURAL TECHNOLOGY MANAGEMENT AGENCY (ATMA) PROJECT IN JUNAGADH DISTRICT

YEAR : 2021

NAME OF STUDENT

P. D. Sadavrti

MAJOR ADVISOR

Dr. M. K. Jadeja

Abstract

Agricultural Technology Management Agency (ATMA) envisages paradigm shift bottom-up approach in planning and implementation. As the farmer is focus for development in this project, and hence its success totally depends upon the participation and performance of the members in the activities carried out by ATMA project. ATMA represents a unique institutional platform that aims to integrate at the district level. ATMA giving trainings, demonstrations about different agricultural enterprises. So in this study, an attempt was made for finding impact and knowledge of ATMA project on FIGs (Farmers Interest Groups) member and compare their economic status with non-FIG farmers. Also, profile characteristics of FIG and non-FIG including their association with dependent variable were studied. This study was carried out with specific objectives: to study the profile of the FIG and non-FIG farmers, knowledge level of FIG and non-FIG farmers, impact of ATMA on FIG farmers and compare with non-FIG farmers, relationship between knowledge level about ATMA of FIG farmers and their profile, constraints faced by FIG farmers and suggestions from the farmers for better implementation of ATMA project.

The study was conducted in three talukas of Junagadh district of Gujarat state. Two villages were selected randomly from each selected taluka. Ten FIG farmers and ten non-FIG farmers from each selected village were selected purposively. Thus, 60 FIG farmers and 60 non-FIG farmers, making a sample of 120 farmers for the study.

FIG farmers were belonged to middle age group (51.67 per cent), having education up to middle school (33.33 per cent), dependent on agriculture and allied enterprise as occupation (53.33 per cent), belonged to nuclear family (58.33 per cent) and semi medium size of land holding (31.67 per cent). Whereas, trained (55.00 per cent), social participation (56.67 per cent), source of information (48.33 per cent), risk orientation (60.00 per cent), innovativeness (60.00 per cent), scientific orientation (45.00 per cent) were having medium level.

Whereas, non-FIG farmers were belonged to middle age group (46.67 per cent), educated up to primary level (36.67 per cent), low trained (68.33 per cent), dependent only on farming (43.33 per cent), belonged to nuclear family (55.00 per cent) and small size of land holding (31.67 per cent). While, social participation (53.33 per cent), source of information (40.00 per cent), risk orientation (43.33 per cent), innovativeness (53.34 per cent) and scientific orientation (40.00 per cent) were having medium level.

Majority of the FIG farmers (56.66 per cent) had medium level of knowledge, followed by 26.67 per cent high and 16.67 per cent low level of knowledge regarding ATMA project. While in case of non-FIG farmers, less than half of the respondents (48.33 per cent) had medium level of knowledge, followed by 30.00 per cent low and 21.67 per cent high level of knowledge regarding ATMA project.

Nearly three fifth of the FIG farmers (58.33 per cent) had medium level of impact of ATMA, followed by 26.67 per cent high and 15.00 per cent low level. In the case of the non-FIG farmers, slightly less than half of the farmers (48.33 per cent) had medium level of impact of ATMA, followed by 30.00 per cent low and 21.67 per cent high level.

The characteristics of the FIG farmers like education, training received, social participation, source of information, innovativeness and scientific orientation had positive and highly significant relationship with knowledge level. Age, occupation, family type, size of land holding and risk orientation were non-significantly correlated with knowledge level regarding ATMA project.

With respect to non-FIG farmers, source of information and scientific orientation had positive and highly significant relationship with knowledge level. Education, size of land holding, social participation and innovativeness had positive and significant relationship with knowledge level. Whereas, training received had negative and significantly and occupation had negatively and non-significantly correlated with knowledge level regarding ATMA project. The variables like age, family type and risk orientation had non-significantly correlated with knowledge level.

The most important constraints faced by FIG farmers in accessing information through ATMA project were; sufficient literature is not provided and training activities are not organized for all FIG members, there is lack of demonstrations on new farming system, exposure visits to various research stations of SAUs and other states are not organized for all the members of FIGs, seasonal trainings on the latest improved technologies are not organized, common interested members are not selected in all FIGs were the major constraints faced by FIG farmers were the major constraints faced by FIG farmers.

The important suggestions express by farmers were; there should be provided more number of exposure visits organized by ATMA, training programmes should be organized according to the need of FIG members, interested youth should be selected as FIG members, online and printed materials regarding location specific technologies should be provided to all the FIG members, required inputs should be made available according to the farmers' convenience by ATMA.

152. KNOWLEDGE OF FARMERS TOWARDS INTEGRATED FARMING SYSTEM IN SAURASHTRA REGION
YEAR : 2021
NAME OF STUDENT

Sanjana Dervaliya

MAJOR ADVISOR

Dr. P. S. Gorfad

Abstract

Agriculture provides employment to the vast population of our country but its share in the GDP contribution is continuously declining. This leads to need of human resource development in the farming sector which seeks the policy makers attention towards their knowledge level towards integrated farming system. Training helps to bring desirable changes in knowledge and attitude of an individual. These changes develop curiosity and motivation among farmers for integrated farming system. Keeping this in view, present study was thought to be taken out to measure the knowledge level, relationship between the selected characteristics of trained and untrained farmers and their knowledge level, constraints and suggestions given by the respondents for effective implementation of IFS model.

The study was conducted in Amreli and Rajkot districts of Saurashtra region because KVK, FTC and ATMA project of respective districts were imparting training to the farmers on integrated farming system. Two talukas from each selected districts were selected on the basis of highest number of farmers attended training on integrated farming system and two villages were selected randomly from each selected taluka. Thus, total eight villages were selected. From each selected village eight trained farmers were selected randomly from the list and eight untrained farmers were selected from same village for the study. Thus, total 64 trained and 64 untrained respondents were selected from eight villages for the study. Hence, total sample size of the study was 128.

Regarding personal, socio economic, communicational and psychological characteristics of farmers, it was found that majority of trained farmers belonged to middle age group (56.25 per cent), educated middle to high school level (42.19 per cent), medium size of family (50.00 per cent), small size of land holding i.e., 1.01-2.00 ha. (46.88 per cent), income group of 1,00,001/- to 1,50,000/- (48.44 per cent) and medium social participation (75.00 per cent), medium mass media exposure (60.94 per cent) and medium extension participation (50.00 per cent), medium risk orientation (60.93 per cent), medium innovativeness (65.62 per cent) and medium economic motivation (57.81 per cent).

Whereas, untrained farmers were in the middle age group (45.31 per cent), primary to middle level education (46.88 per cent) and medium size of family (48.44 per cent), marginal size of land holding i.e. 0.01-1.00 ha. (34.38 per cent), income group of up to 1,00,000/- (59.38 per cent) and low social participation (51.56 per cent), medium mass media exposure (51.56 per cent), medium extension participation (67.19 per cent) which are pertaining to communicational characteristics, medium risk orientation (46.88 per cent), medium innovativeness (62.50 per cent) and medium economic motivation (46.88 per cent).

Majority of trained farmers had high level of knowledge (45.31 per cent). Whereas, untrained farmers had medium level of knowledge (50.00 per cent).

Calculated Z (9.084*) was less than table value of Z (2.81). So, there was significant difference in knowledge level of trained and untrained farmers.

Out of eleven teaching methods five methods secured 70.00 per cent and above scores. Time for training should be during slack season (50.00 per cent) and size of group for training should be 25 farmers (73.43 per cent).

Out of eleven independent variables, nine variables viz. education, size of land holding, annual income, social participation, mass media exposure, extension contact, risk orientation, innovativeness and economic motivation had positive and highly significant correlation with knowledge level of trained and untrained farmers about integrated farming system. Age had non-significant correlation in case of trained farmers and negative and significant correlation with knowledge level of untrained farmers about integrated farming system. Family size had non-significant correlation with knowledge level of trained and untrained farmers integrated farming system.

The major significant constraints faced by farmers were; lack of information on type and size of enterprises related to IFS model, inadequate market facilities and accessibility to market and lack of information and knowledge regarding different farming systems. The major suggestions offered by farmers were, live demonstrations on IFS, timely sanctioning of high quality of agricultural inputs and implements through subsidized prices and training programmes about integrated farming systems.



Ph.D. Thesis



1. CRITICAL ANALYSIS OF SUGARCANE GROWERS' KNOWLEDGE AND ADOPTION OF SUGARCANE PRODUCTION TECHNOLOGY

YEAR : 1986

NAME OF STUDENT

A. O. Kher

MAJOR ADVISOR

Dr. K. G. Halyal

The gap between the know-how already attained and their application in the fields, is still quite large, despite of considerable advances in sugarcane production technology. There is a wide scope for increasing the sugarcane production per unit area. Sugarcane is the most thrived age-old cash crop of the Kodinar taluka. However, majority of the sugarcane growers did not know and adopt the improved sugarcane production technology. Knowledge of the farmers plays an important role in adoption of improved agricultural technology. Adoption is a mental process in which an individual possess from awareness knowledge to continued use of a practice in his farming situation, but at the same time, various constraints also come in the way of its application. Keeping the above fact in view, the study entitled, "Critical analysis of Sugarcane Growers' Knowledge and Adoption of Sugarcane Production Technology" was undertaken with the following specific objective:

1. To develop a standardised knowledge test on sugarcane production technology to measure the sugarcane growers' knowledge.
2. To study the characteristics of contact and non-contact sugarcane growers.
3. To assess the level of knowledge of contact, non-contact and pooled sample of sugarcane growers with respect to sugarcane production technology.
4. To ascertain the association of contact, non-contact and pooled sample of sugarcane growers' knowledge about sugarcane production technology with their selected characteristics.
5. To explore the inter-correlation of selected variables of contact, non-contact and pooled sample of sugarcane growers.
6. To predict the extent of variation in the level of knowledge of contact, non-contact and pooled sample of sugarcane growers caused by selected variables.
7. To assess the level of adoption of contact, non-contact and pooled sample sugarcane growers with respect to sugarcane production technology.
8. To identify the constraints perceived by contact, non-contact and pooled sample of sugarcane growers pertaining to the adoption of sugarcane production technology.
9. To seek suggestions from contact, non-contact and pooled sample of sugarcane growers to overcome the constraints in adoption of sugarcane production technology.

In order to realize the above objectives, a sample of 150 (i.e. 75 contact and 75 non-contact) sugarcane growers, representing 12 villages of Kodinar taluka of Amreli district was drawn by using multistage random sampling technique. To measure the sugarcane growers' knowledge about sugarcane production technology, a knowledge test was standardised. Responses were collected with the help of structured schedule by way of personal interview. The data were analysed in the light of specific objectives.

Findings:

Salient findings of the study were:

1. A standardized knowledge test consisted of 50 items was developed to measure the sugarcane growers' extent of knowledge about sugarcane production technology.
2. There was a significant difference between the characteristics such as; age,

- knowledge index, innovation proneness and extension participation index of contact and non-contact sugarcane growers.
3. As many as 69.34 per cent of the contact, 69.34 per cent of the non-contact and 67.34 per cent of the pooled sample of sugarcane growers had medium level of knowledge about sugarcane production technology.
 4. Contact, non-contact and pooled sample of sugarcane growers possessed more knowledge with respect to the practices of sugarcane production technology such as; seed selection, earthing up, improved varieties, intercrops, irrigation and planting period while they possessed less knowledge with respect to the practices like plant protection, jaggery preparation, chemical fertilizers, seed treatment and weed control.
 5. There was a positive and significant association between contact sugarcane growers level of knowledge about sugarcane production technology and their characteristics like education, social participation, innovation proneness, extension participation index and localite cosmopolite value orientation. They were jointly contributing significantly to 33.39 per cent of the variation in the extent of knowledge of contact sugarcane growers. Among these five variables, only two variables, education and localite cosmopolite value orientation were jointly contributing significantly to 29.05 per cent of the variation. The order of contribution of these variables from highest to lowest was education, localite cosmopolite value orientation, extension participating index, social participation and innovation proneness.
 6. There was a positive and significant association between non-contact sugarcane growers level of knowledge about sugarcane production technology and their characteristics such as; irrigation potentiality, education, social participation, farm mechanization index, adoption index, innovation proneness, extension participation index and localite cosmopolite value orientation. They were jointly contributing significantly to 43.40 per cent of the variation in the extent of knowledge about sugarcane production technology of non-contact sugarcane growers. Among these eight variables, only one variable i.e. extension participation index was individually contributing significantly to 26.91 per cent of the variation. The order of contribution of these variables from highest to lowest was extension participation index, irrigation potentiality, localite cosmopolite value orientation, social participation, adoption index, farm mechanization index, education and innovation proneness.
 7. There was a positive and significant association between pooled sample of sugarcane growers level of knowledge about sugarcane production technology and their characteristics like education, social participation, farm mechanization index, adoption index, innovation proneness, extension participation index and localite cosmopolite value orientation. They were jointly contributing significantly to 36.36 per cent of the variation in extent of knowledge about sugarcane production technology of pooled sample of sugarcane growers. Among these seven variables, only three variables such as; education, extension participation index and localite cosmopolite value orientation were jointly contributing significantly to 32.17 per cent of the variation. The order of contribution of these seven variables from highest to lowest was extension participation index, localite cosmopolite value orientation, education, social participation, farm mechanization, adoption index and innovation proneness.
 8. The education, social participation and localite cosmopolite value orientation in

- case of all the categories of sugarcane growers while operation size of farm holding, farm mechanization index and adoption index in case of non-contact and pooled sample of sugarcane growers, whereas, knowledge index and innovation proneness in case of contact and pooled sample of sugarcane grower were positively and significantly associated with their extension participation index.
9. The knowledge index and extension participation index in case of all the categories of sugarcane growers while social participation, farm mechanization index and innovation proneness in case of contact and pooled sample of sugarcane growers, whereas, education in case of non-contact and pooled sample of sugarcane growers as well as age of non-contact and adoption index of pooled sample of sugarcane growers were significantly associated with their localite cosmopolite value orientation.
 10. The age, social participation, knowledge index and extension participation index in case of all the categories of sugarcane growers, while irrigation potentiality, adoption index and localite cosmopolite value orientation in case of non-contact and pooled sample of sugarcane growers, whereas, operation size of farm holding of non-contact sugarcane growers were significantly associated with their education.
 11. As many as 77.34 per cent of the contact, 81.34 per cent of the non-contact and 72.66 per cent of the pooled sample of sugarcane grower were medium adopters.
 12. Contact, non-contact and pooled sample of sugarcane growers' adoption was more with respect to the practices of sugarcane production technology such as; improved varieties, preparatory tillage, planting period, irrigation, seed rate, farm yard manure, interculturing and period of application of chemical fertilizers. Their adoption was less with respect to the practices of earthing up, doses of chemical fertilizers, intercrops, seed treatment, soil testing, plant protection, green manuring, weed control and planting distance.
 13. Some of the most important constraints in adoption of improves sugarcane production technology as perceived by sugarcane growers were: 1. Irregular and insufficient electricity supply 2. Small holding for green manuring 3. Intercrop not convenient due to weeds 4. High cost of farm fuel and 5. Scarce irrigation facilities. 6 to 16 point
 14. Some of the most important suggestions to overcome the constraints in adoption of sugarcane production technology were: 1. Regular supply of electricity for irrigation purpose should be insured 2. Soil testing facilities should be available at least at taluka level 3. Method demonstration on how to take soil sample, seed treatment etc. should be conducted 4. Drought resistant varieties should be evolved and 5. Technical guidance on improved varieties, fertilizer etc. should be extended. 6 to 11 point

2. GROUNDNUT GROWERS' KNOWLEDGE, ADOPTION AND CONSTRAINTS IN DRY FARMING TECHNOLOGY OF GROUNDNUT

YEAR : 1987

NAME OF STUDENT
V. V. Mayani

MAJOR ADVISOR
Dr. K. G. Halyal

In spite of lot of technologies of groundnut crop being developed, the gap between the know how already attained and there is lot of scope for increasing the groundnut production per hectare. However, the yield of groundnut growers does not know and adopt the latest dry farming technology of groundnut. The knowledge of the farmers plays a vital role in adoption of agricultural technology. Adoption is a mental process in which an individual possess from awareness knowledge to continued use or practices in his farming situation, but at the same

time some constraints also come in the way of its application.

Considering this, a study entitled 'Groundnut Growers' knowledge, Adoption and constraints in Dry Farming Technology of Groundnut was under taken with the following objectives:

1. To develop a standardized knowledge test for measuring the knowledge level of groundnut growers, with respect to day farming technology of groundnut crop.
2. To study the characteristics of groundnut growers.
3. To measure the extent of knowledge of groundnut growers with respect to dry farming technology of groundnut.
4. To ascertain the association of groundnut growers' knowledge about dry farming technology of groundnut with their selected characteristics.
5. To determine the extent of adoption of groundnut growers with respect to dry farming technology of groundnut.
6. To find out the extent of variation in the level of groundnut growers' knowledge about dry farming technology of groundnut caused by independent variables.
7. To explore the practice wise association of groundnut growers' extent of knowledge with their practice wise adoption of dry farming technology of groundnut.
8. To identify the constraints as perceived by the groundnut growers in adoption of dry farming technology of groundnut.
9. To seek suggestions from the groundnut growers to overcome the constraints in adoption of dry farming technology of groundnut.

In order to achieve the above objectives, a sample of 180 groundnut growers (115 large and 65 small) representing 6 villages of Rajkot Taluka (Gujarat) was drawn by using multistage random sampling techniques. The study was undertaken during March-April 1987. To measure the groundnut growers' knowledge test was standardized. The data were collected with the help of structures schedule by personal interview method. The data were compiled, analysed and interpreted in the light of objectives.

Findings:

Salient findings of the study were:

1. A standardized knowledge test consisted of 34 items was developed to measure the groundnut growers' extent of knowledge pertaining to dry farming technology of groundnut.
2. The large and small groundnut growers differed significantly with respect to operational size of farm holding, groundnut crop intensity, farm mechanization index, adoption index and knowledge index.
3. Majority of the large (66.09 per cent), small (63.08 per cent) and pooled sample (67.78 per cent) of the groundnut growers had medium level of knowledge about dry farming technology of groundnut.
4. The majority of the groundnut growers (pooled) possessed more knowledge with respect to the practices of dry farming technology of groundnut such as; cultivation across the slope (93.00 per cent), conservation of moisture (78.00 per cent), mid-season correction (77.67 per cent), supplementary irrigation (69.00 per cent) and improved varieties (63.00 per cent).
5. There was a positive and significant association of large groundnut growers level of knowledge about dry farming technology of groundnut with their characteristics such as; operational size of farm holding, education, groundnut yield index, farm

mechanization, adoption index, risk orientation, extension participation and extension contact. At the same time, the level of knowledge of large groundnut growers was significantly associated with their age, through the direction was negative.

The adoption index had largest direct (0.489) effect on knowledge level of large groundnut growers about dry farming technology of groundnut. At the same time education (0.241), operational size of farm holding (0.149), extension participation (0.146) and farm mechanization index (0.128) had substantial direct effects on knowledge level of large groundnut growers.

6. The level of knowledge of small groundnut growers about dry farming technology of groundnut crop was positively and significantly associated with their characteristics such as; education, adoption index, risk orientation, extension participation and extension contact. Through the level of knowledge was significantly associated with their age but the direction was negative.

The adoption index was the most important (0.523) variable contributing the direct effects on the level of knowledge of small groundnut growers followed by education (0.184) and extension contact (0.130).

7. There was positive and significant association of the level of knowledge of pooled sample of groundnut growers about dry farming technology of groundnut with their characteristics, such as operational size of farm holding, education, farm mechanization index, adoption index, risk orientation, extension participation and extension contact. Though the association of level of knowledge of pooled groundnut growers was significant and negative with their age.

The adoption index had maximum direct effect (0.511) on knowledge level of pooled groundnut growers followed by education (0.206) and operational size of farm holding (0.172).

8. Most of the large (75.65 per cent) and pooled sample (70.56 per cent) of groundnut growers were medium adopters of dry farming technology of groundnut. The mean adoption scores of large and small groundnut growers differed significantly. The large groundnut growers adopted more dry farming technology of groundnut as compared to small groundnut growers.
9. The highly significant relationship between knowledge level (high, medium and low) of groundnut growers about dry farming technology of groundnut and their respective adoption level (high, medium and low) was observed.
10. The practice wise extent of knowledge of dry farming technology of groundnut growers was found highly associated with practice-wise extent of adoption in following practices; seed treatment, control of pests, improved varieties, sowing distance, cultivation across the slope and inter cropping.
11. The major constraints in adoption of dry farming technology of groundnut as perceived by groundnut growers were: 1. Lack of awareness about advantage of soil testing, 2. Soil testing report not received in time, 3. Scarcity of FYM / compost, 4. Lack of awareness of improved varieties, 5. Poor yield of gap/filled plants and 6. Lack of availability of irrigation water.
12. The major important suggestions to overcome the constraints in adoption of dry farming technology of groundnut crop as offered by the groundnut growers were: 1. Soil testing report should reach in time, 2. Timely guidance about soil testing, 3. local availability of seeds, 4. Timely guidance about recommended seed rate, 5. Economics of gap filling and 6. Need based implements should be fabricated.

3. COMMUNICATION EFFECTIVENESS UNDER TRAINING AND VISIT SYSTEM OF AGRICULTURAL EXTENSION IN RAJKOT DIVISION OF GUJARAT STATE

YEAR : 1987

NAME OF STUDENT

D. H. Dave

MAJOR ADVISOR

Dr. K. G. Halyal

The Training and Visit system of extension developed by Daniel Benor has been introduced in Gujarat State since 1978. The system is based on the principles of management by making best use of the available resources. It provides for periodical trainings to the extension personnel working at different levels and links research in a two-way communication for assisting the farmers to adopt the research recommendations. Concentrated efforts are made on limited number of contact farmers through regular visits, who in turn are expected to be imitated by other sub-contact farmers.

The present study was taken up to judge the effectiveness of communication under this system in one of the divisions, viz., Rajkot Division of Gujarat State. The respondents selected from two districts (Rajkot and Junagadh districts) of the Division included two District Agricultural Officers, three sub divisional Agricultural Officers, twelve subject Matter Specialists, twenty-six Agricultural Extension Officers, fifty-six Village Extension Workers, thirty-seven contact farmers and forty-two sub contact farmers.

The objectives of the study were as under :

1. To study the levels of knowledge and skills about the technical farm recommendations communicated to the extension personnel working at different levels.
2. To assess the methods and materials used and facilities available for communication at different levels.
3. To know the attitudes and accessibility of the extension personnel and response and feedback received by them at different levels of communication.
4. To assess communication effectiveness at different levels of communication.
5. To identify the situational factors such as supervision and guidance, job satisfaction, incentives and aspirations of the respondents at different levels of communication.
6. To study the personal variables such as age, education, experience and training of the respondents at different levels.
7. To identify gaps in communication of the technical recommendations at different levels including gaps in adoption by the farmers.
8. To study the relationship of effectiveness of communication and selected variables at different levels.
9. To predict the extent of variation in communication effectiveness caused by the independent variables at different levels of communication.
10. To seek suggestions from the respondents for improvement of communication.

Ten technical recommendations for groundnut production communicated by the research scientists of the Gujarat Agricultural University were selected for the study. Weighted scores were assigned to judge the knowledge and skills of the extension personnel regarding the recommendations along with the communication methods followed by them and materials, equipments and physical facilities provided to them. For other variables also weighted scores were assigned on rating scales. Gaps in adoption of the

recommendations by the contact and sub contact farmers were worked out and their significance with gaps in communication at different levels were determined.

The major findings are as under

1. The knowledge level of the district sub divisional officers was significantly higher than those of AEEOs and VEWs, but the skill part at all the three levels was below average, showing no significant difference among them. The overall, attitudinal levels were favorable, showing no significant difference among the respondents.
2. The facilities, equipments and materials available were significantly superior at the district subdivision level than those at the taluka and village levels. The communication methods used by the district sub divisional officers were more vivid and significantly better than those used by the AEOs and VEWs.
3. The accessibility of the district sub divisional officers in field visit AEOs inadequate, the response received by them was also of medium level and the feedbacks received from the AEOs and VEWs were much less.
4. The communication effectiveness at the district subdivision level was significantly higher over both those at the taluka and village levels. The differential communication effectiveness showed that there was lacking in commonness of understanding among the three levels of communications.
5. Supervision and guidance provided by the district sub divisional officers was inadequate.
6. The job satisfaction of the respondents at the three levels of communication differed significantly, the district sub divisional officers were at the low level of job satisfaction, whereas AEOs were at the high level of job satisfaction.
7. The aspiration level of the AEOs were significantly lower than both that of the district sub divisional officers and VEWs as they perceived no chance of further promotion.
8. The district sub divisional officers and AEOs were older in age. There was no significant difference in educational levels between the AEOs and VEWs.
9. The district sub divisional officers were significantly superior in professional experience in extension than the AEOs and VEWs.
10. The training for specific job performance were least provided at the taluka and village levels.
11. There existed significant differential gaps in communication of the recommendations for groundnut production at all the three levels of communications. These gaps were significantly wider regarding the use of weedicides, selecting alternate crops of groundnut, inter cropping with groundnut and plant protection measures in descending order at all the three levels. Besides these, the gap in communication of proper dose of manures and fertilizers for groundnut was also significant at both taluka and village levels.
12. There existed significant differential gaps In adoption of the selected recommendations for groundnut production by the contact farmers, which were even wider with the subcontact farmers.
13. The total gaps in communication of all the recommendations showed no significant differences mutually among the three levels of communication, viz., district, taluka and village levels, but they differed significantly with the total gaps in adoption of the recommendations by both the categories of farmers. The gaps in adoption of the

recommendations also differed significantly between the contact and subcontract farmers. This showed that the link of communication under the T and V system has not been established as expected.

14. The independent variables having positive and significant association with the communication effectiveness at different levels were as under
- (i) At the district subdivision level, only two variables viz; communication methods and skill teaching together contributed towards 68.17 per cent of variation.
 - (ii) At the taluka level, communication methods, skill teaching, materials equipment's facilities, response feedback accessibility and job satisfaction respectively in descending order together contributed towards 96.58 per cent of variation.
 - (iii) At the village level communication methods, materials-equipment-facilities, knowledge, response-feedback-accessibility and skill teaching respectively in descending order together contributed towards 95.13 per cent of the variation.

The reset of the variables had no significant contribution towards the communicative

4. ROLE EXPECTATION, ROLE PREFERENCE AND TRAINING NEEDS OF SUBJECT MATTER SPECIALISTS WORKING UNDER TRAINING AND VISIT SYSTEM IN GUJARAT STATE

YEAR : 1988

NAME OF STUDENT

V. B. Sakaria

MAJOR ADVISOR

Dr. K. G. Halyal

After independence, India launched so many programmes for increasing agricultural production. Due to lack of well organized extension services, growth of agricultural development was slow. As a remedial measure, the T & V system of agricultural extension has been introduced since 1978 in Gujarat State with aims to build up professionalism in extension SMSs are the key persons in T & V system. They act as a bridge between research station and peasants in diffusing agricultural technology. Benor and Baxter suggested 3 major roles-field activities, training duties and contact with research for SMSs. Role performance is the actual behaviour of the incumbent, but at the same time, various constraints also come in the way of its application. Keeping the above fact in view, the study entitled "Role expectation, Role Preference, Role Performance and Training Needs of Subject Matter Specialists Working under Training and Visit System in Gujarat State" was undertaken with the following specific objectives :

1. To study the personal characteristics of SMSs.
2. To identify the role expectation of SMSs for diffusing agricultural technology.
3. To assign the relative importance of expected role.
4. To find out the role performance by SMSs in diffusing agricultural technology.
5. To determine association of personal characteristics of SMSs with their role performance.
6. To explore the inter-correlation of selected variables of SMSs.
7. To predict the extent of variation in the level of role performance by SMSs caused by selected variables.
8. To determine the training needs of SMSs as perceived by them for their role performance.

9. To identify the constraints faced by the SMSs in performing their roles.
10. To seek suggestions from SMSs for improving the efficiency of their role performance.

In order to realize the above objectives, 65 SMSs of Gujarat State were selected as respondents, who were present on the day of monthly workshop. Role items were sent to a panel of Judges, for standardization. Paired comparison technique was used for role preference. For role performance, three point scale was used. Responses were collected with the help of structured schedule by way of personal interview. The data were analysed in the light of specific objectives.

Findings:

Salient findings of the study were:

1. There was a significant association between SMSs role performance and their characteristics like rural/urban background, experience of working on own farm, distance from native place and job satisfaction. They were jointly contributing significantly to 39.59 per cent of the variation in the extent of role performance in diffusing agricultural technology. Among these four variables, only two variables, experience of working on own farm and job satisfaction were jointly contributing significantly to 38.39 per cent of the variation. The order of contribution of these variables from highest to lowest was job satisfaction, experience of working on own farm, distance from native place and rural/urban background.
2. Nearly one-half (46.15 per cent) of the SMSs had medium level of role performance.
3. More than one half (52.31 per cent) of the SMSs had medium training needs.
4. Majority (60.00 per cent) of the SMS had high job satisfaction.
5. Majority (67.69 per cent) of the SMSs had least social obligation.
6. Great majority (80.00 per cent) of the SMSs had rural background.
7. Most (86.15 per cent) of the SMSs possessed experience of working on their own farm.
8. Slightly more than one half (50.77 per cent) of the SMSs were away from the native place.
9. Some of the most important constraints in role performance as perceived by SMSs were (1) lack of transport facility for field visit (2) No information provided by contact farmers to non contact farmers (3) lack of facilities needed for training, (4) inadequate field and farmers problem oriented researches (5) high tension due to mental and physical work load.
10. Some of the most important suggestions offered by the SMSs to overcome the constraints in role performance (1) there must be more opportunities for promotion (2) training opportunities should be extended to join the state level training courses (3) opportunity to visit the other state where T & V system is being implemented (4) posting must be kept at the same place (less frequent transfer of SMS) for long time in T & V system for effective work.

5. DIFFERENTIAL INFORMATION GAPS UNDER TRAINING AND VISIT SYSTEM WITH RESPECT TO GROUNDNUT PRODUCTION TECHNOLOGY

YEAR: 1994

NAME OF STUDENT

O. D. Vanpariya

MAJOR ADVISOR

Dr. A. O. Kher

The main problem as it exists today is that of effective dissemination of adequate agricultural information to the consumer farmers. Effective communication system occupies a place of pride in the rapid growth of agriculture. Despite the considerable advance in groundnut production a unit area never majority of the groundnut growers did not know and adopt the improved groundnut production technology the gap between the know-how already attained and their application in the fields, is still quite large. There is a wide scope for increasing groundnut production technology. This gap exists at various levels of the administrative or extension hierarchy but the gap existing at the operational level i.e. between the grass root extension workers and the farmers is vital.

Taking this in view, the study entitled, "Differential Information Gaps under T and V system with Respect to Groundnut Production Technology" was undertaken with the following specific objectives:

1. To study the selected characteristics of the VLWs and the contact as well as the non-contact groundnut growers,
2. To explore the information gap at VLW and the contact as well as the non-contact groundnut growers levels with respect to groundnut production technology.
3. To assess the level of knowledge of VLWs and the contact as well as the non-contact groundnut growers with respect to groundnut production technology
4. To ascertain an association between the information gaps and the selected characteristics of the VLWs and the contact as well as the non-contact groundnut growers
5. To predict the extent of variation regarding information gaps at various levels of communication caused by independent variables
6. To identify the constraints faced by the VLWs and the contact as well as the non-contact groundnut growers in communicating groundnut production technology
7. To seek suggestions from the VLWs and the contact as well as the non-contact groundnut growers to overcome the constraints in communicating effectively the groundnut production technology.

Result:

1. Majority (64.29 per cent) of the VLWS belonged to middle age group, were Agricultural Diploma holders (90.48 per cent), had medium level of service experience (85.71 per cent), were found to be from low to medium trained group (88.10 per cent), belonged to joint family (54.76 per cent) and rural background (83.33 per cent), physical facilities available with them were average (59.52 per cent) and were satisfied with their job (71.42 per cent). Moreover majority (78.57 per cent) of the VLWS were much committed to their job, had preferred their job under the T and V system (90.47 per cent), were found to be from low to medium level of communication behaviour (85.72 per cent) and had medium level of knowledge about groundnut production technology (59.52 per cent).
2. The contact and the non-contact groundnut growers differed significantly with

respect to education, operational size of farm holding, groundnut yield index, social participation, extension participation, localite cosmopolite value orientation, innovation-proneness, communication behaviour, adoption index and knowledge index.

3. As many as 50.52 per cent of the VLNS, 66.67 per cent of the COGS, 70.24 per cent of the NCGGS and 66.07 per cent of the pooled sample of groundnut growers had medium level of information gaps about groundnut production technology.
4. There was a significant difference between the VLWS and the contact as well as the non-contact, pooled sample of GGS and their information gaps with respect to GPT such as VLWS and CGGS, VLWS and NCGGS, CGGS and NCOGS, and VLWS and pooled sample of GGS.
5. The overall information gap in the area of groundnut production technology was observed at VLWS level (20.47 per cent), CGGS level (24.90 per cent) NOGGS level (41.16 per cent) and pooled sample of the groundnut growers level (32.97 per cent).
6. VLWS had more information gap in the practice of groundnut production technology such as chemical weed control, fertilizers and plant protection, measures.
7. The contact, the non-contact and the pooled sample of groundnut growers had higher information gap in the practice of groundnut production technology such as chemical weed control, fertilizers, plant protection measures, spacing and sowing time, and seed rate.
8. The ranks for the practice wise information gaps. of the VLWs and CGGS, VLWS and NCGGS, and VLWS and pooled sample of GGS were more or less same but in case of CGGS and NCGGS were entirely different.
9. Majority of the VLWS (59.52 per cent), CGGS (69.05 per cent) and equal number of NCGGS, pooled sample of the groundnut growers (63.10 per cent) had medium level of knowledge about groundnut production technology.
10. There was negative and significant association between VLWs extent of information gap about GPT and their characteristics like education, experience, training acquired by them and communication behaviour. They were jointly contributing significantly 68.89 per cent of the variation in the extent of information gap of VLWS.
11. There was negative and significant association between contact groundnut growers' extent of information. gap about GPT and their characteristics such as:extension participation index and adoption index. They were jointly contributing significantly to 69.90 per cent of the variation in the extent of information gap about groundnut production technology.
12. The selected characteristics of the non-contact groundnut growers namely education, operational size of farm holding, groundnut yield index, localite-cosmopolite value orientation and adoption index had negative and significant association with their information gap about groundnut production technology. They were jointly contributing significantly to 61.75 per cent of the variation in extent of information gap of non-contact groundnut growers.
13. There was negative and significant association between pooled sample of groundnut growers' extent of information gap with respect to groundnut production. technology and their characteristics like education, operational size of

farm holding, groundnut yield index, extension participation, localite cosmopolite value orientation, innovation. proneness, communication behaviour and adoption index. They were jointly contributing significantly to 76.83 per cent of the variation in extent of information gap of the pooled sample of groundnut growers.

- 14 Some of the most important constraints in communicating groundnut production technology as perceived by VLWS are:
1. No separate facility of office.
 2. Travelling allowances were not received in time.
 3. Supplies and services for inputs were not arranged in time and vacant posts were not filled in time.
15. Majority of the groundnut growers faced constraints. such as: (1) un-availability of required improved seeds of groundnut crop at a time, (2) custom hire services are not provided for spray pump/tractor, (3) pre-seasonal training programme/one day camps are not organised at village level, (4) inputs are not subsidised and (5) farmers' days are not organised at groundnut research station, Junagadh.
16. The more important suggestions to overcome constraints in communicating effectively the groundnut production technology as offered by the VLWS were: (1) loans for purchase of moped or Motor-cycle should be provided, (2) number of contact farmers under VLWS should be reduced (3) economic incentives should be provided to CFS for arranging demonstrations and (4) as per recommendations about practices of new varieties, arrangement of supplies and services should be done.
17. Some of the most important suggestions to overcome the constraints in communicating effectively the groundnut production technology as offered by groundnut growers were: (1) improved seeds of groundnut crop should be made available timely at cheaper rate directly from research station/seed corporation depot in required quantity, (2) VLWS should be technically sound, (3) providing inputs in subsidized rate, (4) farmers' days should be organised on groundnut research station at Junagadh and (5) co-ordination with research, extension, inputs agencies and other local organisation should be strengthened.

6. COMMUNICATION PATTERNS UTILIZED BY VILLAGE LEVEL WORKERS WORKING UNDER TRAINING AND VISIT SYSTEM

YEAR: 1994

NAME OF STUDENT

B. B. Patel

MAJOR ADVISOR

Dr. A.O. Kher

It is no hyperbole that agricultural modernization is the pre-requisite to effecting rural development in India. Rural development in itself is a complex phenomenon and modernizing agriculture too is not just a walk-over, because surfeit of factors, interacting in all possible permutations and combinations interdict incorporation of the latest farm technology into the farmers' fields, to the extent and with the speed envisaged. Of the factors identified so far, communication gap is one which affects all the well-meaning endeavours adversely. Inter position of Extension system between the Research system and the client system, was to bridge this gap by maintain constant inflow of the latest farm technology and ensuring its far and wide penetration and permeation in the client system. But with all its heavy past, the gap is still exist. Extension system, to live up to the expectation, reposed therein, has to have more frequent communication with the farmers to ensure change, both cognitive and

behavioral, with regard to acceptance of farm innovation.

Some studies in the past have pointed out that village level worker is an important source of agricultural information for the farmers and also reported high adoption rates of agricultural innovations among farmers who had more contact with village level workers. Therefore, there is a need to know about how competent he is in communicating farm information. Patel (1967) studied the communication patterns and procedures used by the village level workers in Gujarat State and noted that such a study would help in identifying the strong and weak points to make suggestions to improve their communication effectiveness. With a similar purpose in view a more intensive study was planned and conducted in the Junagadh district of Gujarat to analyse the communication patterns used by village level workers in communication of farm information with the following specific objectives:

1. To study the characteristics of village level workers (VLWs) working under T and V system
2. To identify and analyse the information receiving patterns and procedures of VLWs in farm information
3. To analyse the individual communication patterns of VLWs with regard to information processing procedures (evaluation, storage and transformation).
4. To find out the information communicating patterns and procedures used by the VLWs to communicate to the consumer farmers,
5. To analyse the inter-system communication patterns of VLWs with researchers and farmers
6. To ascertain the association between communication patterns of VLWs and their selected characteristics
7. To know the direct and indirect effect of independent variables on communication patterns of VLWs
8. To find out the subject matter training needs of VLWs,
9. To identify the constraints faced by the VLWs in communicating agricultural technology
10. To seek suggestions from VLWs to overcome the constraints and for making the communication patterns more effective.

Result:

1. Majority of the VLWS (70.69 per cent) were from middle age group
2. A great majority (96.56 per cent of the VLWS had minimum formal education upto Diploma in Agriculture with matric or non-matric
3. Majority (75.86 per cent of the VLWS had medium level of total service experience i.e. from 9 to 23 years
4. Almost all the VLWS had acquired training in different subjects related to communication and agriculture
5. Majority (60.34 per cent of the VLWS had joint family
6. A great majority of the VLWS (84.48 per cent) had rural background.
7. Majority (55.17 per cent) of the VLWS expressed that the physical facilities available with them were average.
8. Majority of the VLWS (62.93 per cent) had favourable attitude towards the T and V system.
9. Majority of the VLWS (71.55 per cent) had medium level of job satisfaction.
10. As far as job commitment is concerned, the activity 'Field Visit' ranked first while,

- 'Doing office Work"ranked last among all the nine job activities performed by the VLWS.
11. Nearly three-fifth (59.48 per cent) of VLWS were much committed to their job.
 12. Farm and home visit ranked first among ten job activities preferred by the VLWS. Whereas, job activity "Doing office work ", preferred by least number of respondents.
 13. Most of the VLWS (71.55 per cent) had preferred their job under T and V system.
 14. The most commonly used sources and channels for information input by the VLWS were farm visit, fortnightly training, package of practices booklets, group discussion, whereas, least used channels were personal visit to researchers, correspondence with researchers and professional meetings.
 15. Extension Personnel-Researchers Communication (EP-RC) and Extension Personnel-Farmers Communication (EP-FC), both equally found to be of medium level with 70.69 per cent of the VLWS
 16. While EP-RCS and EP-FCS, both were observed to be of medium level with 62.93 and 56.03 per cent of respondents, respectively.
 17. Majority (72.41 per cent) of the VLWS fell into medium level of information input pattern category.
 18. Most of the VLWS were considered "Socio-economic and agro-climatic conditions " as main characteristics of information evaluation and ranked first among all the nine criteria of judging the acquired information.
 19. The most commonly used methods of information storage were: study the useful information carefully and take note in a diary, while the least used methods were storage of actual specimens and preparation of visual aids.
 20. Translate into local dialects and leaflets/handouts were the most important methods most commonly used. by the VLWS for transformation of acquired information while news story, success story, transparency and slides were the least used methods.
 21. Majority (75.86 per cent) of the VLWS were in medium level of information processing pattern category.
 22. Majority of the VLWS (62.93 per cent) had medium level of information output pattern.
 23. The information input of the VLWS had positive. and significant association with job commitment, job activity preference, EP-RC, EP-FC, EP-RCS, EP-FCS, information processing and information output
 24. The information processing pattern of VLWS had significantly positive association with age, experience, attitude towards the T and V system, job satisfaction, job commitment, job activity preference, EP-RC, EP-FC, EP-RCS, EP-FCS, information input and output.
 25. The information output of the VLWS had significantly positive association with EP-RC, EP-FC, EP FCS, information input and processing. It did not establish significant association with age, attitude towards the T and V system, job commitment, job activity preference and EP-RCS.
 26. The maximum direct effects on information input were exerted by information processing and EP-FC independent variables of VLWS, whereas, information processing of EP had lower positive indirect effect on thei: information input.
 27. The variables, EP-FCS and information input were the most important variables in contributing direct\ effects on information processing pattern.

28. The maximum direct effects on information output were exerted through EP-FCS and information input variables of VLWS, whereas, EP-FCS had exerted moderate indirect effect on information output category.
29. The study revealed that VLWs preferred the subject areas viz., New package of practices for groundnut cultivation, plant protection, communication techniques, programme planning, Dry farming and extension methods as training. the most needed areas for training.
30. Majority of the VLWS faced the administrative difficulties such as vacant posts were not filled in time, travelling allowances were not received in time and supplies and services for inputs were not arranged in time, technical difficulties such as solution of reported problems were not received in time by higher official, useful literature was not provided, complete information was not announced in advance of the programme while personal difficulties such as vehicle facility was not provided for the official duties, no recognition for good extension work and children's education suffered due to stay in villages in descending order.
31. Majority of the VLWS suggested that there should be recognition for good extension work, Loan for purchase of moped or motor-cycle should be provided, there should be less area of jurisdiction, economic incentives should be provided to CFS for arranging demonstrations and separate office should be provided to them as top most important suggestions.

7. IMPACT OF FRONTLINE DEMONSTRATION ON GROUNDNUT GROWERS' KNOWLEDGE, ADOPTION AND YIELD WITH RESPECT TO GROUNDNUT PRODUCTION TECHNOLOGY

YEAR: 1995

NAME OF STUDENT

B. M. Patel

MAJOR ADVISOR

Dr. A. O. Kher

The lack of transfer of technology from research system to the client system is the main problem in increasing agricultural production, in the developing world. Still there is a wide gap between attained technical know-how and its utilization in the field of common farmer. The present rate of agricultural production can be doubled if the available groundnut production technologies are brought to bear with production process and programmes. This requires the steady flow of information from the scientists to the millions of farmers. Moreover, inputs are needed to be used scientifically. This is possible through the demonstrations as it is an important and appropriate extension method which make it possible to disseminate the technology to the user farmers. Keeping this fact in view the Government of India launched Frontline Demonstration programme for oilseed crops under auspicious of oilseed mission. It has played significant role in increasing the knowledge, adoption and yield of groundnut growers.

Considering this, the present investigation entitled "Impact of Frontline Demonstrations on groundnut growers' knowledge, adoption and yield with respect to groundnut production technology" was undertaken with the following specific objectives:

1. To analyse the procedure followed in conducting frontline Demonstrations
2. To study the selected characteristics of demonstrator and non-demonstrator groundnut growers.
3. To assess the level of knowledge of demonstrator and non-demonstrator groundnut growers with respect to GPT

4. To determine the extent of adoption of DGGs and NDGGs with respect to GPT
5. To workout the level of groundnut yield of DGGs and NDGGs with respect to GPT
6. To ascertain the association between level of knowledge and selected independent variables of DGGs and NDGGs with respect to GPT
7. To assess the association between extent of adoption and selected independent variables of DGGs and NDGGs with respect to GPT
8. To determine the association between level of groundnut yield and selected independent variables of DGGs and NDGGs with respect to GPT
9. To predict the extent of variation in dependent variables caused by selected independent variables
10. To find out the difficulties faced by DGGs in conducting Frontline Demonstrations.
11. To seek suggestions from DGGs to overcome the difficulties faced by them.

The Frontline demonstrations were conducted by Research Scientists (Oilseeds) G.A.U., Junagadh. so, the selection of 58 DGGs was done by them during 1991-92 to 1993-94. All the 58 DGGs on whose fields FDs were conducted and randomly selected 58 NDGGs representing 56 villages of 21 talukas in 4 districts namely Junagadh, Amreli, Rajkot and Jamnagar were considered for the study. The level of knowledge, extent of adoption of the respondents about GPT were measured by administering different standardized test and scale. The yield of groundnut of the respondents was measured on per cent basis. Based on past researches and discussion with extension experts, the independent variables were selected. The responses were collected with the help of structured schedule by way of light of personal interview. The data were analysed in the light of specific objectives. The various statistical measures like percentages, indices, mean score, coefficient of variation, 't' test, 'z' test, coefficient of correlation, multiple regression and beta weight were used.

Result:

1. while conducting FDs the DOs had covered remote places for conducting demonstrations. The DOs were the main source of information for DGS about FDs. All the DGGs were growing spreading or bunch type of groundnut in kharif season. The DOs had involved the VEWS and local functionaries in selection of the DGGs. Majority of the DGGs (93.10 per cent) had conducted FDS to know and do something new. Selection of F.D. plots (79.31 per cent) was done by mutual understanding of DGGs and DOS. Selection of F.D. plots was found appropriate. Oral as well as practical guidance was provided to the DGGs. Inputs for FDS (100 per cent) were provided well in advance. Farm and home visit was the main extension method used by DOS. Field day was not organised. DGGs had communicate the message of Ds to their neighbours. Majority of the visits of Dos were aid at planning, harvesting and farmers' meeting. Majority (93.10 per cent) of the DSGS had weighed the yield of F.D. plots. More than half (53.45 per cent) of the DGGs were in favour of extending the coverage under FDP. Majority (86.21 per cent) of the DGGs had consulted the DOs to solve their problems related to FDS. Majority (82.75 per cent) of the DGGs were contacted by DOs after completion of demonstrations.
2. The DGGs and NDGGs differed significantly in their characteristics like education, groundnut crop intensity, extension participation index, risk preference, knowledge index, adoption index and groundnut yield index, while they were found similar in age, family size, size of land holding, irrigation potentiality, social participation and far- mechanization index.
3. Majority of the DGGs (65.52 per cent) and the NDGGs (74.14 per cent) were

belong to medium level of knowledge category with 66.43 and 48.05 mean knowledge index respectively. Even though they were differing significantly in their level of knowledge.

4. Majority of the DGGS (65.52 per cent) and the NDGGS (72.42 per cent) were medium adopters of GPT with 60.01 and 43.25 mean adoption index respectively. Even though they differed significantly in their extent of adoption.

The practices like improved varieties, gap filling, sowing distance, seed rate, inter-culturing, FYM/compost manuring, chemical fertilizers, weeding, seed treatment and moisture conservation were more adopted by the DGGS. In case of the NDGGS, the practices like: FYM/compost manuring, gap filling, improved varieties, weeding, supplementary irrigation and inter-culturing were more adopted. The DGGS and NDGGS were found similar in adoption of majority of the groundnut cultivation practices.

5. Majority of the DGGS (77.58 per cent) and the NDGGS (67.24 per cent) were medium producers of groundnut. The mean groundnut yield index was 117.74 and 92.06 per cent respectively. Even though they were differ significantly in their groundnut yield Index.
6. There was a positive and significant association between DGGS level of knowledge about groundnut production technology and their characteristics like education, irrigation potentiality, groundnut crop intensity, social participation, farm mechanization index, risk preference, adoption index and groundnut yield index. They were jointly contributing significantly to 91.67 per cent of the variation in the level of knowledge of DGGS. The order of contribution of these eight variables from highest to lowest was adoption index, groundnut yield index, farm mechanization index, groundnut crop intensity, risk preference, education, social participation and irrigation potentiality.
7. There was positive and significant association between NDGGS' level of knowledge about GPT and their characteristics like: education, irrigation potentiality, groundnut crop intensity, adoption index and groundnut yield index. Significant but negative association was observed between level of knowledge and age. They were jointly contributing significantly to 74.03 per cent of variation in the level of knowledge of NDGGS. The order of contribution of these six variables from highest to lowest was, adoption index, groundnut yield index, irrigation potentiality, education, groundnut crop intensity and age.
8. There was a positive and significant association between DGGS extent of adoption of GPT and their characteristics like: education, social participation, extension participation index, farm mechanization index, risk preference, knowledge index and groundnut yield index. They were jointly contributing significantly to 90.91 per cent of variation in extent of adoption of DGGS. The order of contribution of these seven variables from highest to lowest was knowledge index, extension participation index, social participation, education, groundnut yield index, risk preference and farm mechanization index.
9. There was a positive and significant association between NDGGS extent of adoption of GPT and their characteristics like education, groundnut crop intensity, knowledge index and groundnut yield index. They were jointly contributing significantly to 69.44 per cent of variation in the extent of adoption of NDGGS. The order of contribution of these four variables from highest to lowest was: knowledge index, groundnut yield index, education and groundnut crop intensity.

10. There was a positive and significant association between DGGs' groundnut yield level and their characteristics like knowledge index, irrigation potentiality, education, size of land holding, risk preference and adoption index. They were jointly contributing significantly to 69.31 per cent of variation in groundnut yield level of the DGGs. The order of contribution of these six variables from highest to lowest was: knowledge index, irrigation potentiality, education, size of land holding, risk preference and adoption index.
11. There was a positive and significant association between NDGGs' groundnut yield level and their characteristics like knowledge index, adoption index, education, groundnut crop intensity, social participation and risk preference. They were jointly contributing significantly to 61.04 per cent of variation in groundnut yield level of NDGGs. The order of contribution of these six variables from highest to lowest was; groundnut crop intensity, knowledge index, adoption index, risk preference, social participation and education.
12. Some of the important difficulties faced by the DGGs in conducting FDS were: (1) Labour problem during peak period of agricultural operations. (2) Lack of finance to purchase inputs (3) procuring inputs for control plot (4) More labour requirement specially for harvesting (5) Attending unorganised visits of DOS.
13. Important suggestions made by the DGSS to overcome the difficulties faced in conducting FDS were: (1) Purchase of plots' produce as seed stock (2) Optimum visits of the scientists should be scheduled (3) Plot size for demonstration should be increased (4) More price be available for the produce (5) Number of demonstrations be increased in the village.

8. INDIGENOUS PRACTICES OF GROUNDNUT CULTIVATION FOLLOWED BY THE FARMERS OF SOUTH SAURASHTRA ZONE IN GUJARAT STATE

YEAR : 1998

NAME OF STUDENT

P. R. Kanani

MAJOR ADVISOR

Dr. A. O. Kher

Agriculture and environment are, of late, threatened irreversibly by the indiscriminate use of modern technologies. From time immemorial man has been dependent on nature for survival. This dependency has led the primitive people living in close harmony with nature to evolve a unique system of indigenous knowledge or traditional wisdom about the utilization and conservation of resources by way of trial and error. Thus, recording indigenous knowledge become important which would otherwise be lost soon not to be regained at any cost in the future: Research and extension can extract benefit out of local knowledge to tune the process of innovation development and diffusion to more realistic ones. Gujarat accounts for about one third of the country's production and cropped area under groundnut. About 75 per cent of this production is confined in Saurashtra. South Saurashtra zone is characterized by rainfed agriculture, high risk and low yield. The attention should be drawn not only on developing suitable cropping systems but also on supplementing natural resources, high level management and alternate uses and systems with due emphasis on indigenous knowledge. The existing knowledge of traditional agriculture should be consolidated and put together and the advantages of these practices should be brought to light. When many of the imported modern agricultural technologies were found to have adverse effects on soil, plant and atmosphere and in the long run, on the eco system balances, our research started to look back for our old farm. farmer and eco-

friendly system of traditional agriculture.

Considering this existence a study entitled “Indigenous practices of groundnut cultivation followed by the farmers of South Saurashtra Zone in Gujarat State” was undertaken with the following objectives :

1. To identify and document the various indigenous practices of groundnut with their rationale as perceived by farmers as well as by subject matter specialists.
2. To document the contemporary innovations prevailing at grass root level of the zone.
3. To study the selected characteristics of groundnut growers.
4. To examine the level of knowledge of farmers, researchers and extension personnel about indigenous practices of ground crop.
5. To construct the attitude scale and assess the attitude of farmers, researchers and extension personnel towards indigenous practices of groundnut crop.
6. To determine the extent of adoption of groundnut growers about indigenous practices of groundnut production technology.
7. To ascertain the association between level of knowledge towards indigenous practices and selected characteristics of groundnut growers.
8. To study the association between attitude towards indigenous practices and selected practices of groundnut growers.
9. To Predict the extent of variation in the dependent variables caused by selected independent variables.
10. To find out the constraints in the adoption of indigenous practices of groundnut crop.

In order to achieve the above objectives, a sample of 120 respondents representing 8 villages from 4 talukas was drawn by using random sampling technique. The study was conducted during August – September 1997. To study attitude of the respondents towards indigenous practices of groundnut crop, a standardized attitude scale was developed. The data were collected with the help of structured interview schedule by personal interview method. The data were analyzed in the light of specific objectives. The various statistical measures like percentage, indices, mean score, 't' test, co-efficient of variation, co-efficient of correlation, multiple regression, path co-efficient analysis and principal component were used.

Result :

The salient findings of the study were:

1. A standardized attitude scale consisted of 20 items was developed to measure the respondents' attitude towards indigenous practices of groundnut crop.
2. In all 50 indigenous practices were identified, documented and found out their rationality as perceived by farmers as well as by subject matter specialists.
3. Totally 6 contemporary innovations were documented as developed by farmers as well as by artisans prevailing at grass root level of the zone.
4. Great majority of the groundnut growers (90.33 per cent) belonged to middle and old age group, three fourth of the respondents (78.34 per cent) were illiterate and educated upto primary level, one third of the respondents possessed 26 to 50 per cent irrigation facility. Majority of the respondents had medium social participation (66.67 per cent), medium extension orientation (64.17 per cent). middle income group (84.10 innovativeness (46.67 per cent). per cent), medium rational orientation (47.50 per cent) and medium risk orientation. (59.17 per cent) While great majority of the respondents had high groundnut yield index (85.83 per cent) and had medium level of crop index (60.00 per cent).
5. Majority of the farmers (65.00 per cent) had medium level of knowledge where extension personnel (60.00 per cent) and research personnel (40.00 per cent) had

- medium level of knowledge about the indigenous practices of groundnut crop Two out of twenty practices viz; use of groundnut decorticator and groundnut thresher were the cent per cent known practices to all the three categories of the respondents regarding the selected indigenous practices of groundnut crop.
6. Majority of the farmers (61.67 per cent) extension personnel (76.66 per cent) and research personnel had favourable attitude towards indigenous practices of groundnut crop.
 7. Majority of the groundnut growers (67.50 per cent) were medium adopters of indigenous practices in groundnut crop. Six practices out of twenty were adopted by more than 70 per cent of the groundnut growers. Groundnut thresher and groundnut decorticator were the practices adopted by most of the groundnut growers. While use of almanac for storage of groundnut was least adopted.
 8. Age and crop index were significantly and positively associated with knowledge level of groundnut growers. Education and yield index were highly significant and positively (education negative) associated with knowledge level of groundnut growers. Irrigation index, social participation and risk orientation were non-significantly and negatively associated with knowledge level of groundnut growers.
 9. The age was highly significant and positively related with groundnut growers' attitude towards indigenous practices of groundnut crop. Education was significant and negatively associated, yield index was significant and positively related with groundnut growers towards indigenous practices of groundnut crop. Irrigation index, social participation, extension orientation, annual income and risk orientation were non-significantly and negatively associated with groundnut growers attitude towards indigenous practices of groundnut crop.
 10. Four significantly correlated variables (age, education, yield index and crop index) contributed towards 31.62 percent of variation in the level of groundnut growers' knowledge about indigenous practices of groundnut crop. The calculated 't' values for partial regression co-efficient were significant in case of age and yield index. The order of contribution of these four variables in descending order was age, yield index, education and crop index.
 11. Three significantly correlated variables (age, education and yield index) contributed towards 33.65 per cent of variation in the degree of attitude of groundnut crop The calculated values for partial regression co-efficient were significant in case of age and yield index The order of contribution of these three variables in descending order was age, yield index and education.
 12. The variable age was the most important in contributing direct effect (0.404), followed by groundnut yield index (0.232) and groundnut crop index (0.115) while education (-0.192) contributed direct negative effect on the knowledge of groundnut growers about indigenous practices.
 13. The variable age was the most important in contributing direct effect (0.610) followed by groundnut yield index (0.144) and education (0.041) while education had total indirect negative effect (-0.235) on the degree of groundnut growers' attitude towards indigenous practices of groundnut crop.
 14. The results of principal component analysis revealed that out of twelve variables seven variable had relatively higher loading on the first dimension which explain nearly 40 per cent of the total variation. The key variables in this dimensions were age, education and social participation.
 15. The major constraints in adoption of indigenous practices of groundnut growers were:
 - i) Lack of sound research and development on ecological farming

- ii) Illiteracy of respondents
- iii) Lack of special incentives or awards for adoption of the indigenous practices
- iv) Controversy among family members regarding indigenous practices
- v) Lack of awareness about indigenous practices
- v) Poor return as compared to modern technologies
- vi) Lack of awareness about indigenous practices

9. IMPACT OF NATIONAL WATERSHED DEVELOPMENT PROJECT FOR RAINFED AREAS ON FARMERS' KNOWLEDGE AND ADOPTION OF RAINFED AGRO TECHNOLOGY

YEAR : 1998

NAME OF STUDENT

B. R. Karkar

MAJOR ADVISOR

Dr. M. A. Munshi

Watershed and its management has great significance in conserving soil and water which are very vital natural resources in order to sustain the agricultural productivity. Watershed is inevitable, especially for conserving the water rather than soil in dryland and rainfed areas of Gujarat. In Gujarat State, out of 196 lakh hectares of total geographical area, 96 lakh hectares area is under cultivation. Out of this cultivated area, 78 per cent is rainfed. A most common problem of this area is quite irregular, erratic and inadequate rainfall. Similarly most of the districts of the State has been delineated as drought prone for many years. Considering the problems, during the Seventh plan period, Government of India has launched the National Watershed Development Project for Rainfed Areas (NWDPPRA) to increase and stabilize the agricultural production and narrowing down regional socio-economic imbalance in rainfed areas, But, merely formulating the policies and introduction of programmes will not serve the purpose unless the technical know-how reaches to its ultimate users in an effective way. At present, wide gap exists between attained technical know-how and its utilization in the field of a common farmer. The extent of adoption is a major problem in the effort of increasing agricultural production in the country. The extent of adoption itself affected by level of knowledge of farmers. It is, therefore, worthwhile to investigate the level of knowledge and extent of adoption of respondents with respect to rainfed agro technology. Keeping these points in view, the study entitled "Impact of National Watershed Development Project for Rainfed Areas on Farmers' knowledge and adoption of Rainfed agro Technology" was undertaken with following specific objectives :

1. To study the selected characteristics of the respondent farmers.
2. To develop a standardized knowledge test and to assess the level of knowledge of beneficiary farmers and non-beneficiary farmers of NWDPPRA with respect to rainfed agro technology.
3. To determine the extent of adoption of beneficiary farmers and non beneficiary farmers of NWDPPRA with respect to rainfed agro technology.
4. To ascertain the association between level of knowledge and selected independent variables of beneficiary farmers and non-beneficiary farmers of NWDPPRA with respect to rainfed agro technology.
5. To ascertain the association between the extent of adoption and selected independent variables of beneficiary farmers and non-beneficiary farmers of NWDPPRA with respect to rainfed agro technology.
6. To predict the extent of variation in dependent variables caused by selected independent variables.

7. To identify the constraints faced by beneficiary farmers in adoption of rainfed agro technology.
8. To seek suggestions from beneficiary farmers to overcome the constraints faced by them in adoption of rainfed agro technology.

In order to achieve the above objectives, a sample of 90 beneficiary farmers and 90 non beneficiary farmers representing eight villages viz., four from watershed area and four from adjoin watershed area of Junagadh district, Gujarat State were drawn by using multistage random sampling technique. The study was undertaken during September-October, 1997. To measure the farmers level of knowledge and extent of adoption of rainfed agro technology, a standardized knowledge test and adoption index were developed for the study. Based on past researches and discussion with extension experts, the independent variables were selected. The data were collected with the help of structured schedule by personal interview method. The data were analysed in the light of specific objectives. The various statistical measures like percentage, arithmetic mean, standard deviation, 'z' test correlation coefficient 'r', multiple regression and path coefficient analysis were used.

Result :

1. The BFs and NBFs differed significantly in their characteristics like; size of land holding, social participation, employment status, irrigation potentiality, cropping intensity, production, overall modernity, extension participation index, level of attitude, knowledge index and adoption index.
2. Majority of the BFs (60.11 %) and NBFs (74.45 %) belonged to medium level of knowledge category with 70.25 and 59.72 mean knowledge index, respectively. Even though they differed significantly in their level of knowledge of RAT.
3. Majority of the BFs (58.89 %) and NBFs (71.11 %) were medium adopters of RAT with 67.43 and 52.86 mean adoption index, respectively. Even though they differed significantly in their extent of adoption.

The practices like use of short duration crops and their varieties, timely sowing, optimum plant population, interculturing, use of organic manure, opening of furrow in summer season, weeding, supplementary irrigation, use of chemical fertilizers and plant protection measures were adopted by more than 74.00 per cent BFs. In case of the NBFs, the practices like: use of organic manure, opening of furrow in summer season, optimum plant population, timely sowing use of short duration crops and their varieties, mid-season correction, supplementary irrigation, weeding interculturing and use of chemical fertilizers were adopted by more than 55.00 per cent respondents. The BFs and NBFs were found similar in their rank order correlation for adoption of rainfed agro technology. However, they differed significantly in their aggregate extent of adoption.

4. There was a positive and significant association between BFs level of knowledge about rainfed agro technology and their characteristics like: education, social participation, employment status, Irrigation potentiality, cropping intensity, production, extension participation index, training received, level of attitude and adoption Index. They were jointly contributing significantly to 85.15 per cent of the variation in the level of knowledge of BFs. The order of contribution of these ten variables from highest to lowest was adoption index, employment status, level of attitude, Social participation, education, irrigation potentiality training received, Extension participation index, cropping intensity and production. Adoption index exerted highest direct effect on level of knowledge followed by employment status.
5. There was a positive and significant association between NBFs' level of knowledge

about RAT and their characteristics like: Size of land holding, employment status, education, herd size, social participation, irrigation potentiality, production, extension participation index, training received and adoption index. They were jointly contributing significantly to 53.74 per cent of variation in the level of knowledge of NBFs. The order of contribution of these ten variables from highest to lowest was adoption index, extension participation index, training received, employment status, social participation, education, herd size, irrigation potentiality, size of land holding and production. Adoption index was exerted highest direct effect on level of knowledge of NBFs.

6. There was a positive and significant association between BF's extent of adoption of RAT and their characteristics like education, social participation, irrigation potentiality, cropping intensity, production, extension participation index, training received, level of attitude and adoption index. They were jointly contributing significantly to 76.21 per cent of variation in extent of adoption of BF's. The order of contribution of these nine variables from highest to lowest was knowledge index, irrigation potentiality, cropping intensity, social participation, production, training received, extension participation index, level of attitude and education. The knowledge index exerted highest positive direct and substantial indirect effects on change in extent of adoption of BF's.
7. There was a positive and significant association between NDF's extent of adoption of RAT and their characteristics like education, social participation, production and knowledge index. They were jointly contributing significantly to 45.69 per cent of variation in the extent of adoption of NBF's. The order of contribution of these four variables from highest to lowest was knowledge Index, education, production and social participation. The knowledge index contributed highest direct effect on extent of adoption of NBF's followed by production.
8. Some of the important constraints faced by the BF's in adoption of RAT were: (1) lack of knowledge (71.11 %), (ii) lack of technical guidance (66.67%), (iii) lack of training (63.33 %), (iv) non availability of inputs at local level (58.89 %), (v) high cost of inputs (52.22 %) and (vi) lack of finance to purchase inputs (48.89 %).
9. The important suggestions made by the BF's to overcome the constraints in adoption of RAT were (1) training should be given to the farmers in relation to rainfed agro technology (78.89 %), (ii) easy and time availability of agricultural inputs (74.44 %), (iii) organisation of need based demonstration (72.22 %), (iv) easy and timely availability of credit facility (65.56%), (v) written material on rainfed agro technology should be published (63.33%) and (vi) extension system should be streamlined to disseminate latest rainfed/dryland technology (50.00 %).

10. WELL RECHARGERS' ATTITUDE TOWARDS WELL RECHARGING

YEAR : 1998

NAME OF STUDENT

D. M. Thakrar

MAJOR ADVISOR

Dr. A. O. Kher

Groundwater as a source of supply of meeting the increasing needs receives a very high emphasis in India. In Saurashtra, Kutch, North Gujarat regions of the Gujarat State, Groundwater has already emerged as a signal most critical factor responsible in development. The pressure of increasing demand of water has resulted over exploitation of this vital resource. The groundwater availability being limited, Judicious management of

this resource is rapidly becoming key issue to solve the problem that have arisen due to over exploitation. The artificial groundwater recharge through existing wells is found to be technologically feasible approach to augment the depleted groundwater table and is widely accepted by the farmers of this region. The well recharging activities affected by Farmers' Attitude towards it. It is therefore, worthwhile to investigate the level of attitude towards well recharging and factors affecting to it. Keeping these points in view, the study entitled "Well rechargers' Attitude towards well Recharging was undertaken with the following specific objectives:

1. To develop a standardized attitude scale for assessing attitude of well rechargers towards well recharging.
2. To study the selected characteristics of the well rechargers
3. To measure the level of attitude of well rechargers towards well recharging.
4. To ascertain the association of well rechargers' attitude towards well recharging with their selected characteristics.
5. To predict the extent of variation in level of attitude of well rechargers caused by selected independent variables.
6. To know the well recharging patterns followed by the well rechargers to recharge their wells
7. To identify the constraints faced by the well rechargers in well recharging practice.
8. To seek the suggestions from the well recharger to overcome the constraints in well recharging practice.

In order to realize the above objectives, a sample of 200 well rechargers representing 10 villages and five talukas of Junagadh district of Gujarat State was drawn by using multistage random sampling technique. To measure the well rechargers attitude towards well recharging, a attitude scale was standardized. The responses were collected with the help of structured interview schedule by personal interview. The data were analysed and interpreted in the light of specific objectives.

Result:

1. A standardized attitude scale consisted of 22 items was developed to measure the well rechargers of attitude towards well recharging.
2. More than half (55.00 per cent) of the well rechargers belonged to middle age group.
3. About two-fifth (42.50 per cent) of the well rechargers were having education upto primary level.
4. About half of the well rechargers were observed having medium size of land holding (53.50 per cent).
5. More than half (56.00 per cent) of the well recharges had medium annual income (Rs 2001 to Rs 40,000)
6. Majority of the well rechargers (67.00 per cent) were observed having medium level of social participation.
7. 11 most all the well rechargers (99.00 per cent) were inspired and motivated by volunteers of SwadhyayParivar to recharge their wells.
8. More than half (55.00 per cent) of the well rechargers had medium extension participation.

9. Nearly half (50.50 per cent) of the well rechargers were found to have medium innovation proneness.
10. Majority (65.00 per cent) of the well rechargers medium irrigation index. had
11. As many as 64.00 per cent of the well rechargers were observed having medium level of localite-cosmopolite value orientation.
12. About three-fifth (62.00 per cent) of the well rechargers were found to have medium risk orientation.
13. Majority (69.50 per cent) of the well rechargers medium level of knowledge about well recharging.
14. Majority (65.50 per cent) of the well rechargers were having favorable attitude towards well recharging.
15. There was positive and significant association between level of attitude of well rechargers towards well recharging and their selected independent variables, such as; education, social participation, motivational sources, innovation proneness, extension participation, irrigation index, localite- cosmopolite value orientation and knowledge, whereas age had negative and significant association.
16. There was positive and highly significant association found between level of attitude towards well recharging and their independent variables such as: social participation, motivation sources, innovation proneness, irrigation index and knowledge. Positive and significant association was observed between education and Localite-cosmopolite value orientation, while positive and non-significant association was found between age and extension participation. The total contribution of these nine variables ($R^2 = 0.6746$) was 65.46 per cent. The order of contribution of these variables from highest to lowest was irrigation index, social participation, motivational sources, innovation proneness, knowledge, localite-cosmopolite value orientation.
17. As many as 58.00 per cent well rechargers diverted rain water directly through pipe to wells and used water of small stream/river to recharge their wells. Very few (9.50 per cent) well rechargers followed scientific technique of well recharging. Cent per cent well rechargers diverted whole possible water to the well throughout the monsoon. A great majority (93.50 per cent) of the well rechargers used pipe of required size by keeping it slant and opening end of the pipe in the well was adjusted 30 cms from the well wall.
18. Some of the most important constraints faced by rechargers in well recharging practice were : sedimentation of impurity at bottom of the well , lack of collective efforts reduce benefits, difficulties in getting technical know-how ,lack of training ,removal of deposited silt/clay from the bottom of the recharged well.
19. Some of the important suggestions offered by the well rechargers to overcome the constraints in well recharging practice were: training should be imparted to farmers regularly, collective efforts should be made for obtaining maximum benefits, ideal demonstration should be organized at each village and inner will should be created among farmers to follow well recharging practice.

11. YIELD GAP AND CONSTRAINTS ANALYSIS OF GROUNDNUT PRODUCTION IN SOUTH SAURASHTRA AGRO-CLIMATIC ZONE OF GUJARAT STATE

YEAR : 2000

NAME OF STUDENT

P. D. Verma

MAJOR ADVISOR

Dr. M. A. Munshi

The oilseed ground of crops, next to food crops hold a sizeable share of the country's gross cropped area (13%) and contributes 5 per cent of its GDP and 10 per cent of the value of all agricultural products. India is a paradise of oilseed crops. In addition to the annual oilseed crops (groundnut, rapeseed-mustard, soybean, sunflower, sesame, safflower, castor, linseed and niger), the country has distinction of having around 19 per cent of the total world's oilseed area and produces 10 per cent of the world oilseeds production.

Gujarat is a major groundnut producing state in the country. Out of which a lion share of groundnut production comes from Saurashtra region of Gujarat state. However, productivity of groundnut in this region is less (714 kg/ha) as compared to the state average (870 kg/ha) the country average (855 kg/ha). the Asia average (1417 kg/ha), and the world average (1244 kg/ha). Moreover, as per the analysis done from the Frontline demonstrations, the available technologies can increase the groundnut yield about 36.5 per cent. Even though the number of new technologies for groundnut cultivation are being developed, there is a big gap between its innovations and application on the farmers' fields. Therefore, there is great scope for increasing the groundnut productivity. The yield gap between potential yield and yield obtained by the farmers can be minimized by increasing the knowledge and adoption of groundnut growers about the new technical know-how of the crop. But at the same time some constraints also come in the way of achieving higher groundnut yield.

Hence, the present investigation entitled "Yield gap and constraints analysis of groundnut production in South Saurashtra Agro-Climatic Zone of Gujarat State" was undertaken with the objectives to find out the extent of yield gap and constraints in groundnut production.

In order to achieve the major objectives, a sample of 256 respondents was drawn representing 24 villages from 12 talukas of South Saurashtra agro-climatic zone of Gujarat state by using proportionate random sampling technique. The data were collected with the help of structured schedule by personal interview method for the period of 1997 – 98 and 1998-99 to know the extent of yield gap.

Major Findings:

The salient findings of the study were:

1. A constraint index consisted of 114 constraints was developed to measure the respondents 'constraints in groundnut production as perceived by progressive farmers as well as experts in the field.
2. Adoption index on 17 different recommended practices was also developed with the help of experts in the field.
3. Great majority (92.58 %) of the respondents belonged to middle and old age group, more than half (68.30) of the respondents were illiterate and educated up to primary level, about three-fourth (71.49%) of the respondents belonged to medium income group, 59.46 per cent of the respondents had small and medium size of land holding. Majority (80.47 %) of the respondents had medium to high cropping intensity, medium farm mechanization (75.56%), medium irrigation index

(64.06%), medium extension participation (73.83%), medium risk preference (64.45%), medium knowledge (69.92%) and had medium level of adoption (68.35%) of groundnut production technology.

4. The yield gap was 36.22 per cent for the average data of two years. However, a great majority (92.19%) of the respondents had yield gap ranging from 18.83 to 71.06 per cent.
5. The age, education, extension participation, risk preference were not significantly associated with the extent of yield gap, while income, size of land holding, cropping intensity, irrigation index, farm mechanization, knowledge and adoption had negative and significant relationship with the extent of yield gap.
6. Seven significantly correlated variables (income, size of land holding, cropping intensity, irrigation index, farm mechanization, knowledge and adoption) contributed towards 63.10 per cent of the variation in the yield gap in groundnut production of the respondents. The calculated 't' value for partial regression coefficient were highly significant in case of size of land holding, cropping intensity, farm mechanization, knowledge and adoption. The order of contribution of these seven variables in descending order was knowledge, adoption, size of land holding, farm mechanization, cropping intensity, irrigation index and income.

The knowledge had maximum direct effect, while farm mechanization had maximum indirect effect on yield gap of the respondents in groundnut crop.

7. The cultivation of groundnut was found non-remunerative to the farmers who had the yield gap more than 66 per cent, while average investment of one rupee farmers yielded Rs. 1.38.
8. Some of the most important constraints having mean score more than 12 out of 16 in groundnut production as perceived by the groundnut growers were:
 1. Difficulties in getting improved seed
 2. Lack of disease and pest resistance varieties
 3. Lack of availability of new generation varieties
 4. Lack of multipurpose resistance varieties
 5. Lack of knowledge about micro-nutrients
 6. Irregularity of sowing due to uncertainty of rainfall
 7. High wages of labour
 8. Non availability of suitable herbicides
 9. Insufficient water for irrigation
 10. Irregular electricity supply
9. Some of the important suggestions expressed by majority (more than 50%) of the respondents to overcome the constraints in groundnut production were:
 1. Groundnut should be purchased by the government at remunerative price.
 2. Inputs should be made available at subsidized rate.
 3. Multiple resistance varieties should be developed.
 4. Soil testing facilities should be made available.
 5. Subsidies should be given to increase farm mechanization.
 6. Production and availability of the seed of improved varieties should be increased.
 7. There must be regular electric supply at the time of critical irrigation.

12. MANAGERIAL ABILITY OF MANGO GROWERS ABOUT SCIENTIFIC CULTIVATION OF MANGE ORCHARD

YEAR : 2005

NAME OF STUDENT

N. B. Jadav

MAJOR ADVISOR

Dr. M. N. Popat

Mango (*Mangifera indica* L.) one of the ancient fruits of India, undoubtedly deserves to be 'national fruit' of India. In area, production, nutritive value and popularity of apple, no other fruit can compete with it. Agriculture being an enterprise is not an exception to this. The mango orchard growers as the manager of the enterprise are expected to bring about maximum profit with available resources. Mango growers perform many functions in carrying out the better production such as: preparing a plan of work, giving clear instructions, integrating the work, taking proper decision at right time, implementing the decision etc. in carrying out the management activity in mango orchard. All the above functions involve in one or the other way, many management components viz. planning, organizing, directing, controlling, human relation, leading, coordinating and decision making. Today farming enterprise is becoming more complex and complicated and therefore, management is a key to face these problems. To make mango orchard more productive, proper management of scientific mango orchard practices should be adopted by mango growers.

Therefore, the present study was designed to measure managerial ability of mango growers about scientific cultivation of mango orchard and find out the effect of selected variables on managerial ability with the following objectives:

1. To develop and standardize managerial ability scale of mango growers about scientific cultivation of mango orchard.
2. To measure the managerial ability of the mango growers about scientific cultivation of mango orchard.
3. To study the selected characteristics of mango orchard growers.
4. To explore the relational analysis of selected variables of mango growers.
5. To study the constraints faced by mango growers in adoption of scientific mango cultivation practices.
6. To elicit the suggestions to overcome the existing constraints for adoption of scientific mango cultivation practices.

In order to achieve the above objectives, a sample of 200 respondents representing 20 villages from 2 talukas of Junagadh district was drawn by using proportionate random sampling technique. To measure managerial ability of mango orchard growers, a scale was developed using Normalised Rank Approach. Other variables were measured using self-rating by the selected mango orchard growers. The findings of the study are summarized as below.

The major indicators of managerial ability scale in descending order as judged by the judges were: knowledge, planning, decision-making, budgeting, organizing, coordinating, controlling, human relationship and communication.

The managerial ability of mango orchard growers under study was found predominantly medium (60.00 per cent).

Three fourth (76.00 per cent) of the mango orchard growers belonged to middle and old age group, more than one half (50.50 per cent) of the mango growers were illiterate and educated up to primary level, more than one half (58.00 per cent) of the respondents had

medium adoption of scientific mango cultivation practices, more number (43.00 per cent) of the respondents were from 2.1 to 4 ha size of land holding group. Three fourth (74.00 per cent) of the respondents belonged to medium to high annual income group, more than one half (56.00 per cent) of the mango orchard growers had a medium experience as a mango growers, majority (72.50 per cent), of the respondents had medium extension participation, medium social participation (56.50 per cent), medium farm mechanization index (49.00 per cent), medium mango crop intensity (55.50 per cent), medium irrigation potentiality (67.00 per cent) and medium mango yield index (59.00 per cent).

Great majority of mango orchard growers were found in medium level of category with respect to borrowing of total credit (75.50 per cent) and level of farm wage (64.50 per cent). Majority (55.50 per cent) of mango orchard growers had extrovert personality. More number (47.50 per cent) of respondents were from less trained group. More than 60.00 per cent of mango orchard growers belonged to the medium achievement motivation and medium orientation toward competitions group. Majority (64.00 per cent) of the mango orchard growers lout favourable attitude towards modern agriculture. Further, majority of mango orchard growers were found in medium level of category with respect to mass media exposure (64.00 per cent), personal guidance on better farming (67.00 per cent), level of aspiration (75.00 per cent) and risk orientation (69.50 per cent).

Adoption index, education, annual income, experience as a mango grower, farm mechanization index, mango yield index, training received, attitude towards modern agriculture, mass media exposure and risk orientation were found positive and significantly correlated with managerial ability. While, age was negative and significantly correlated with managerial ability.

All the 23 selected independent variables put together explained 63.70 per cent total variation in managerial ability.

Adoption index alone accounted 34.10 per cent variation in managerial ability. Adoption index, education, experience as a mango grower, mass media exposure, risk orientation, age and level of aspiration put together explained 60.67 per cent variation in managerial ability.

The highest positive direct and indirect effects on managerial ability were exerted by education followed by adoption index. The first substantial indirect effect was exerted by most of the variables through the variable, education.

Major constraints faced by mango orchard growers in adoption of scientific mango cultivation practices were: irregular and insufficient electric power supply, lack of modern spraying equipment, lack of awareness about recommendations, high price of fertilizer, high price and ineffectiveness of fungicides, lack of improved agricultural implements, irregular rainfall and high price of insecticides pesticides.

The suggestions offered by mango orchard growers to overcome the major constraints faced were : regular electric power supply should be made available, crop insurance scheme should be introduce in mango, effective control measures of pests and diseases should be evolved, price of pesticides and fertilizers should be low, cooperative society for mango should be started, training should be given to the fruit growers in relation to the best orchard management, remunerative minimum prices should be fixed by the Government and agricultural inputs should be subsidized.

13. IMPACT OF INTEGRATED HORTICULTURAL DEVELOPMENT PROGRAMME IN JUNAGADH DISTRICT OF GUJARAT STATE

YEAR : 2006

NAME OF STUDENT

D. G. Kotadiya

MAJOR ADVISOR

Dr. M. N. Popat

Horticulture sector covering only 8.00 per cent of the total crop area in the country, contributes 24.50 per cent of GDP and 54.55 per cent to export earnings in the agriculture sector. Horticulture has become an integral part of food and nutritional security and an essential ingredient of economic security. Adoption of horticulture by small and marginal farmers has brought prosperity in many regions of the country.

Gujarat is one of the fruit producing states in the country. Taking in to consideration the importance of horticultural crops and for its rapid development, Government of Gujarat has started separate department of horticulture in 1991. Also the state government had launched a programme named "Integrated Horticultural Development Programme" in eighth five-year plan. The main theme behind the programme was to increase the area and production of horticultural crops.

In Junagadh district of Gujarat state Horticultural Development Programme is running successfully since 1991 to increase area and production of horticultural crops. But Junagadh district has major area under mango crop and farmers are interested to develop mango orchards and due to this, the scheme has introduced a new area for mango orchard development in Junagadh district.

The consequences impact of Integrated Horticultural Development Programme is reflected in terms of the level of knowledge and extent of adoption of mango production technology and attitude of beneficiaries towards Integrated Horticultural Development Programme. Therefore, it is felt worthwhile to investigate the "Impact of Integrated Horticultural Development Programme" with respect to level of knowledge and extent of adoption of respondents about IMPT. Keeping these points in view, this investigation was undertaken with the following specific objectives:

1. To study the personal, socio-economic, psychological and extension communication characteristics of the respondents.
2. To develop a standardized knowledge test to measure the knowledge of respondents about mango production technology.
3. To assess the level of knowledge of the beneficiaries and non-beneficiaries of Integrated Horticultural Development Programme with respect to recommended mango production technology.
4. To develop a standardized adoption index to measure the adoption of respondents about mango production technology
5. To determine the extent of adoption of the beneficiaries and non-beneficiaries of Integrated Horticultural Development Programme with respect to recommended mango production technology.
6. To develop a standardized attitude scale to measure the attitude of respondents towards Integrated Horticultural Development Programme.
7. To determine the attitude of beneficiaries and non-beneficiaries towards Integrated Horticultural Development Programme.
8. To explore the relational analysis of the selected variables of beneficiaries and non-beneficiaries of the Integrated Horticultural Development Programme.

9. To determine the constraints faced by the beneficiary farmers in taking benefit of Integrated Horticultural Development Programme.
10. To seek the suggestions offered by the beneficiaries and non beneficiaries for making the Integrated Horticultural Development Programme more effective.

In order to realize the above objectives, total 128 beneficiary farmers were selected purposively from 22 villages of five selected talukas viz., Visavadar, Junagadh, Mendarda, Maliahatina and Una. Some number of non-beneficiary farmers was selected randomly from the respective villages. In order to measure the level of knowledge and extent of adoption of respondents, the standardized scales developed for the purpose were used. The selected independent variables were measured either with the help of developed scale or by developing schedules and indices. The data were collected by personal interview either at home or at farm. The data so collected were coded, classified, tabulated and analyzed in order to make the findings meaningful and are summarized as under:

1. There was a positive and significant difference between the characteristics of BFs and NBFs viz., area under orchard, yield index, annual income, social participation, extension participation, mass media exposure, opinion leadership, overall modernity, innovation proneness, farm mechanization, innovativeness, progressiveness, self-confidence, self-responsibility, market intelligence, level of attitude, level of knowledge, and adoption index. In case of education and size of land holding, negative and non-significant difference was found between BFs and NBFs. Two characteristics viz., age and occupation were found similar with the BFs and NBFs respondents.
2. Majority (70.31%) of the BFs had medium level of knowledge about IMPT followed by high (15.63%) and low (14.06%), respectively with mean knowledge score of 28.51. Whereas 68.75 per cent of the NBFs were belonged to medium level of knowledge category followed by low (18.75%) and high (12.50%), respectively with mean score of 19.23 about IMPT. Both the groups differed significantly with each other.
3. The practices like varieties, chemical fertilizers, planting distance, irrigation, disease control, tillage, organic manure, insect-pest control and use of hormones were adopted more than 60.00 per cent by BFs. The less than 60.00 per cent adopted practice was inter cropping. The higher (more than 60.00%) adopted practices of IMPT by NBF were: chemical fertilizers and variety. The less than 60.00 per cent. adopted practices by the NBFs were planting distance, tillage, organic manure, inter cropping, insect-pest control, irrigation, use of hormones and disease control. The adoption index of BFs was found significantly higher than NBFs.
4. Majority of the BFs (67.97%) and NBFs (64.06%) were medium adopters of IMPT with mean adoption index of 81.10 and 44.41, respectively. Both the groups differed significantly with each other.
5. Majority (71.10%) of the BFs had favourable attitude towards IHDP with 86.20 mean attitude score. Whereas 64.84 per cent of the NBFs had favourable attitude toward: IHPD with 56.20 mean attitude score Both the groups differed significantly with each other.
6. There was a positive and significant association between the knowledge level of BFs about IMPT and their education, yield index, extension participation, mass media exposure, innovation proneness, self-confidence, level of attitude and adoption index whereas, age of BFs had negative and significant association with their level of knowledge.

In case of NBFs, positive and highly significant association with the level of knowledge about IMPT was observed with extension participation, innovation proneness and adoption index.

7. A positive and significant association was observed between the extent of adoption of BFs about IMPT and their characteristics viz., education, yield index, extension participation, innovation proneness, farm mechanization, level of attitude and level of knowledge whereas, age of BFs had negative and significant association with their adoption index. In case of NBFs, innovation proneness, farm mechanization and level of knowledge were positively and significantly associated with their adoption index.
8. For BFs, nine independent variables contributed towards 61.32 per cent ($F = 0.6132$) of the variation in the level of knowledge of BFs about IMPT. The order of contribution of these nine variables in descending order was adoption index, education, self-confidence, mass media exposure, age level of attitude, innovation proneness, extension participation and yield index. In case of NBFs, three independent variables contributed towards 54.77 per cent ($r = 0.5477$) of the variation in the level of knowledge of NBFs about IMPT. The order of contribution of these three variables in descending order was adoption index, innovation proneness and extension participation.
9. For BFs, eight independent variables contributed towards 58.56 per cent ($R^2 = 0.5856$) of the variation in the extent of adoption of BFs about IMPT. The order of contribution of these nine variables in descending manner was level of knowledge, level of attitude, extension participation and yield index, innovation proneness, farm mechanization, education and age. In case of NBFs, four independent variables contributed towards 51.53 per cent ($R^2 = 0.5153$) of the variation in the extent of adoption of NBFs about IMPT. The order of contribution of these three variables in descending order was level of knowledge, extension participation, and farm mechanization and innovation proneness.
10. For BFs, the highest positive and direct effects on the knowledge of BFs about IMPT were exerted by variable adoption index, size of land holding, education and innovation proneness whereas, extension participation had highest total indirect effect followed by mass media exposure, education, level of attitude, occupation, yield index and self-confidence. For NBFs, the highest positive and direct effects on the knowledge of BFs about IMPT were exerted by variable adoption index, followed by the area under orchard, innovation proneness and extension participation.
11. The highest positive and direct effects on the extent of adoption of BFs about IMPT were exerted by variable level of knowledge followed by extension participation, level of attitude, occupation. The highest positive and direct effects on the extent of adoption of NBFs about IMPT were exerted by variable education followed by innovation proneness, yield index, size of land holding, farm mechanization, self-confidence and progressiveness. The area under orchard, innovation proneness and extension participation whereas, age had highest total indirect negative effect followed by area under orchard.
12. The important constraints faced by the BFs in taking benefit of IHDP were: lack of awareness about recent recommendations of IMPT; insufficient guidance about after care of orchard; lack of publicity about IHDP; lack of credit facility; insufficient staff of the state department to visit all the BFs; difficult process of getting subsidy; lack of awareness about scheme IHDP and delaying in providing subsidy which is granted.
13. The important suggestions made by the BFs for making IHDP more effective were: lack of awareness about recent recommendations of IMPT; timely guidance should be given about IMPT; there is need to establish market and remunerative minimum prices for horticultural produce by the government; costly horticultural technologies and inputs should be subsidized; extension system should be streamlined to disseminate latest production technologies; there is need of publicity of scheme IHDP for the farmers and credit facilities should be made available for establishment of new mango orchard.

14. FARMERS' PERCEPTION ABOUT USEFULNESS OF AGRICULTURE EXTENSION SYSTEM

YEAR : 2006

NAME OF STUDENT

V. N. Chavda

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Dr. M. N. Popat

The perception plays an important role in success or failure of extension system. At present various extension education programmes are being implemented by State and Central Government, non-Government Organizations, State Agricultural Universities and Private agencies. The success or failure of the extension system depends upon how far its clients perceived the same.

The options to achieve more agricultural production are limited because area under agriculture cannot be increased further. Increase in agriculture production would have to necessarily obtained by appropriate agricultural technology and its speedy transfer to farmers through efficient extension system. In the present context of globalization and liberalization a shift is taking place in in agriculture front more subsistence to commercial level. The liberalization of Indian economy made farmers to Compete at international level. The intensive cultivation of land without conservation of natural resources resulted into unbalancing of economy. This has also resulted into various atmospheric changes, leading to form item farming situations.

To meet these emerging issues, problems and challenges in agricultural sector, it is felt necessary to have a strong and efficient extension system. Therefore, to understand the usefulness of present extension system for its beneficiaries, the ' study "Farmers' perception about usefulness of extension system" was undertaken in Saurashtra Region of Gujarat State with following specific objectives:

1. To study the selected characteristics of farmers
2. To develop and standardize a scale to measure the perception of farmers about usefulness of extension system
3. To measure the perception of farmers about usefulness of extension system
4. To explore the relational analysis of selected variables of farmers
5. To know the short falls ill present extension system perceived by farmers
6. To study the expectations of the tanners about the future extension system

In order to achieve the objectives, a sample of 180 respondents, representing 14 villages of 7 talukas of 4 districts of Saurashtra region of Gujarat State was drawn by using random sampling technique. A scale was developed to measure the farmers' perception about usefulness of agriculture extension system by employing the methodology suggested by Likert (1932) with slight modifications. The selected independent variables were measured either with the help of developed scale or by developing schedules and indices. An interview schedule with questions on the dependent and independent variables was used for collecting the data from the respondents. The data were collected by personal interview method. The data so collected were coded, classified, tabulated and analyzed in order to make the findings meaningful. The findings of the study are summarized as below:

1. About more than half (53.89 per cent) of the respondents perceived the existing extension system as useful.
2. Slightly less than one-half (47.22 per cent) of the respondents were from the young aged group, majority (55.55 per cent) of the respondents were educated up to primary level of education, majority (61.11 per cent) of the respondents had medium size of

family, majority (65.00 per cent) of the respondents had medium level of reading habit, majority (76.11 per cent) of the respondents had medium decision making ability, two out of five (40.00 per cent) of the respondents were untrained, one-half (50.00 per cent) of the respondents had medium annual income (Rs. 15,000 to 25,000), more than half (56.50 per cent) of the respondents had medium social participation, two-fifth of the respondents (40.00 per cent) were from the medium size of land holding category, majority (72.78 per cent) of the respondents had medium irrigation potentiality, majority (72.22 per cent) of the respondents had medium level of scientific orientation, more than half (52.78 per cent) of the respondents had medium level of innovativeness, majority (80.56 per cent) of the respondents had medium risk orientation, majority (76.67 per cent) of the respondents were from medium economic motivation group, majority (75.00 per cent) of the respondents were from medium achievement motivation group, more than half (51.11 per cent) of the respondents were found to have medium level of credit orientation, majority (65.56 per cent) of the respondents were found to have medium level of market orientation, majority (72.22 per cent) of the respondents were found to have medium level of overall modernity, majority (60.65 per cent) of the respondents were found to have medium level of communication behavior, majority (69.44 per cent) of the respondents had medium level of mass media exposure, majority (61.11 per cent) of the respondents had medium extension participation and majority (58.89 per cent) of the respondents had medium level of localite-cosmopolite value orientation.

3. Education, reading habit, overall modernity, mass media exposure, communication behavior and extension participation were found positive and significantly correlated with perception about usefulness of extension system. While, age was negative and significantly correlated with perception about usefulness of extension system.
4. All the 22 selected independent variables put together explained 60.00 per cent ($R^2=0.60$) total variation in perception about usefulness of extension system.
5. Education alone accounted 50.00 percent variation in perception about usefulness of extension system. Education, localite-cosmopolite value orientation, communication behaviour, mass media exposure, overall modernity, reading habit and age put together explained 59.00 per cent variation in perception about usefulness of extension system.
6. Major shortfalls faced by the respondents in perception about usefulness of extension system were: unavailability of services of VEWs as and when required, lack of technical competence with grass root level extension functionaries, VEW s lacking information pertaining to location specific problem, latest technologies did not fulfill the farmers need and lack of timely information about latest technology.
7. Major expectations offered by the respondents to overcome the major shortfalls were: provision of VEWs' in each village, on the spot solution to farmers problem be made available, new technologies must be evolved as per needs of the farmers, before transmission of any new technologies it must adequately refine on farmers field under close supervision of researchers, extension personnel and farmers and appointment of grass root level extension personnel on the basis of their qualification, aptitude test and physical fitness.

15. MANAGERIAL ABILITY OF VETERINARY OFFICERS WORKING UNDER PANCHAYAT IN SAURASHTRA REGION OF GUJARAT STATE
YEAR : 2006
NAME OF STUDENT

H. B. Gardharia

MAJOR ADVISOR

Dr. M. N. Popat

Development of animal husbandry is envisaged in our national plans as an integral part of a sound system of diversified agriculture. Emphasis on integration of farming with animal husbandry is essential for making an efficient use of land, labour and capital. These two activities are needed to be dovetailed for fuller utilization of farm by-products, maintenance of soil fertility, meeting energy requirement and for generating additional income and employment in rural areas.

The economy of India is predominantly agrarian economy with more than 65-to 67% of its population living in villages and depending on agriculture and allied activities for their livelihood. Land and cattle have traditionally been two basic income-yielding assets of Indian farmers.

In Gujarat State the Department of Animal Husbandry is providing an animal health care and services upto village level through systematic organizational set-up. In this organizational set-up systematic chain of workers from top level to grass root level are involved in successful implementation of policies and development programme. The Veterinary Officers are important link in the hierarchy of different workers in the organization. They are the backbone to implement the different programmes as they work as a bridge between the Livestock Inspectors (LIs), cattle owners and higher authorities. Thus, the success of Animal Husbandry Department depends upon the managerial ability of VOs.

Present study was designed to measure "MANAGERIAL ABILITY OF VETERINARY OFFICERS WORKING UNDER PANCHAYAT IN SAURASHTRA REGION OF GUJARAT STATE" with following specific objectives:

1. To develop and standardize managerial ability scale for Veterinary Officers.
2. To measure the managerial ability of Veterinary Officers.
3. To study the personal, socio-economics, situational and psychological characteristics of Veterinary Officers.
4. To explore the relational analysis of dependent and selected independent variables of Veterinary Officers.
5. To study the constraints faced by Veterinary Officers in performing their job.
6. To elicit the suggestions to overcome the constraints to improve the managerial ability of Veterinary Officers.

In order to achieve the above objectives, a list of functioning veterinary dispensary centers were obtained from the office of all Deputy Directors of Animal Husbandry working under respective district of Saurashtra region. Total 100 VOs post were filled up at the time of study. Thus, all the 100 Veterinary Officers were selected as respondents for the study. To measure managerial ability of Veterinary Officers, a scale was developed and standardized. The structured interview schedule was used for data collection. The data were collected from the VOs at the time of monthly meeting and analyzed in terms of the specific objectives. The findings of the study are summarized as below.

1. The main indicators of managerial ability scale in descending order are, planning, communicating, organizing, human relation, controlling, leading, coordinating, supervising, directing-and decision making.

2. The managerial ability of Veterinary Officers under study was found predominantly medium (57.00 per cent).
3. Two out of five (46.00 per cent) of the Veterinary Officers belonged to middle age group, most (94.00 per cent) of the Veterinary Officers- possessed bachelor degree, more than three-fourth (84.00 per cent) of the Veterinary Officers belonged to medium family size. As regard to job related characteristics, majority (58.00 per cent) of the Veterinary' Officers were in medium level of total experience, 53.00 per cent o the Veterinary Officers were in medium level of experience on VD centre, 67.00 per cent of the Veterinary Officers were in medium level of total training received, 58.00 per cent of the Veterinary Officers had medium level training in management aspects.

The majority of the Veterinary Officers were found in medium level of span of control (52.00 per cent) and interpersonal communication (55.00 per cent). Majority (65.00 per cent), of Veterinary Officers were found in medium level of extension activities staff facility (63.00 per cent), infrastructural facility (66.00 per cent) and departmental climate (61.00 per cent). Majority (60.00 per cent) of the Veterinary Officers exhibited extrovert personality. Slightly less than one-half (48.00 per cent) of the Veterinary Officers possessed favourable attitude towards delegation of authority. Majority (61.00 per cent) of the Veterinary Officers had perceived heavy workload, 55.00 per cent of the Veterinary Officers had sufficient area of jurisdiction. Great majority (70.00 percent) of the Veterinary Officers had medium level of job satisfaction, (69.00. per cent) job stress, (62.00 per cent) achievement motivation and (73.00 per cent) job involvement. Majority (51.00 per cent) of the Veterinary Officers were found developmental style of supervision.

4. Interpersonal communication, departmental climate, job satisfaction, achievement motivation, job involvement, experience on VD centre, management training received, personality and area of jurisdiction were found significant and positive relationships with managerial ability. While, academic qualification and job stress were negative and significant relationships with managerial ability.
5. All the 22 selected independent variables put together explained 61.68 per cent total variation in managerial ability.
6. Achievement motivation alone accounted 26.70 per cent variation in managerial ability. Achievement motivation, departmental climate, job satisfaction, job stress, family size and staff facility put together explained 53.49 per cent variation in managerial ability.
7. The highest positive direct effects on managerial ability was exerted by total service experience followed by departmental climate and job satisfaction. While, highest indirect effects on managerial ability were exerted by age followed by interpersonal communication. The first substantial indirect effect was exerted by great number of the variables through the variable, total service experience.
8. Major constraints faced by Veterinary Officers were: insufficient technical staff facility, more reporting work, deteriorate quality of work due to excessive workload, lack of laboratory and laboratory equipments facility at VD centers, lack of latest instruments for diagnosis and treatment such as X-ray and sonography instrument, inadequate and non-availability of vehicle facility, insufficient supply of medicines, materials and other facility, lack of supporting staff like peon, a clerk and a dresser, lack of administrative staff facility, paucity of fund and excessive administrative work.

9. The suggestions offered by Veterinary Officers to overcome the constraints faced were; all the vacant post should be filled up, minimize the reporting work, one post of vaccinator at VD center should be filled up, supply of medicine should be timely and sufficient for better performance, the facility of latest instrument and material should be provided for diagnosis and emergency treatments, sufficient vehicle facility should be provided for emergency treatment and other extension work, modern laboratory facility should be provided for diseases investigation and treatment of animal is a risky work so that all the veterinarian should be provided insurance facility by the government.

16. FARMERS' PERCEPTION OF QUALITY AND AFLATOXIN CONTAMINATION OF GROUNDNUT

YEAR : 2006

NAME OF STUDENT

G. D. Statish Kumar

MAJOR ADVISOR

Dr. M. N. Popat

Groundnut (*Arachis hypogaea* L) is a major oil seed crop grown in 100 countries all over the World. India has largest area under groundnut (7.6 million hectares) in the world comprising 30 per cent of global area and 22 per cent (7.8 million tonnes) of World's production.

In India around 85 percent area of groundnut is grown under rain fed conditions in marginal lands. Gujarat has an area of 1.91 million hectares with a production of 1.47 million tonnes. Junagadh district of Gujarat has 0.37 million hectares under groundnut and produces 0.39 million tonnes of groundnuts. Groundnut cultivation in the district is constrained by inadequate, uncertain and erratic rainfall, infestation of pests and diseases including aflatoxin contamination. Farmer's perception of recommended management practices, level of knowledge, and a range of socio-economic factors influence the groundnut cultivation in the district.

Aflatoxins are considered as an important parameter in judging the quality of groundnut. Aflatoxins are the toxic substances produced by strains of fungi belonging to *Aspergillus flavus* and *A. parasiticus*. Groundnut can be contaminated with aflatoxin at various stages before harvest, during harvesting, field drying, stripping and in storage. As the future of groundnut lies in its use as a food crop by itself and in a variety of food products that are widely consumed, widens the health risks of aflatoxin contamination. Hence, the present investigation entitled "Farmers perceptions of quality and aflatoxin contamination of groundnut" was envisaged with the following objectives:

1. To study the profile of groundnut farmers of Junagadh district
2. To develop and standardize a scale to measure respondent's perception of quality of groundnut
3. To assess farmers, extension personnel and traders' perceptions of quality of groundnut
4. To assess farmer's level of knowledge on the recommended aflatoxin management practices of groundnut
5. To measure the extent of adoption of aflatoxin management practices by groundnut farmers
6. To estimate the relationship between profile of farmers, level of knowledge and extent of adoption of aflatoxin management practices of groundnut

7. To evaluate the relationship between profile of farmers with their perception of quality of groundnut.
8. To elicit the constraints in adoption of aflatoxin management practices by farmers and seek their suggestions to overcome the same

In order to realize the objectives of the study, 180 farmers were selected from 9 villages of 3 talukas of Junagadh district by employing multi-stage random sampling technique. In addition to this sample, 50 extension personnel and 50 groundnut traders were selected for assessing their perception of quality of groundnut.

Dependent (knowledge, adoption and perception) and independent variables (SES, age, farming experience, availability of farm labour, extension participation, market orientation, economic motivation and innovativeness) were selected based on review of literature and consultation with experts. The knowledge and adoption were measured by developing teacher made scales. Perception scale was developed and standardized for measurement of perception of quality of groundnut. The selected independent variables were measured either with the help of scales developed by other researchers or schedules developed for the purpose.

The data were collected by personal interview method with the help of structured interview schedule. The data so collected were coded, classified, tabulated and analyzed in order to make meaningful conclusions as under;

Majority of the farmers were in medium SES category, middle aged, medium labour availability, medium extension participation, medium market orientation, medium economic motivation, medium innovativeness, medium knowledge, medium adoption, and medium perception, whereas, majority of groundnut traders and extension personnel possessed high perception of quality of groundnut. There were significant differences between small and big farmers with regard to knowledge, adoption and perception.

Farmers did not possess required knowledge on avoiding mixing of immature and healthy/mature pods, supplemental irrigation, pre-monsoon sowing, time and dosage of FYM application, deep ploughing, harvesting diseased/stressed plants separately, time and dosage of application of Castor/ Neem cakes, fumigation, removal of stubbles, name and dosage of fumigating chemical, name of bio-control agent for seed treatment, damage to pods during harvesting leads to aflatoxin contamination, selection of healthy/disease free is essential for aflatoxin management, gypsum application, importance of application of Castor/ Neem cakes, timely harvesting, control of insects and diseases, name of seed treatment chemical, time of pre-monsoon sowing, and precautions during storage.

Farmers had required knowledge on frequency and time of weed control, identification of well dried pods, importance of seed treatment, names of short duration groundnut varieties, plant protection measures, proper drying of pods, weedicides and importance of application of FYM.

Few farmers adopted post-harvest management practices like proper storage, use of polythene, lined gunny bags, fumigation, application of FYM, gypsum, plant cakes, biological seed treatment, deep ploughing, pre-monsoon sowing and supplemental irrigation.

Most of the farmers had adopted short to medium duration groundnut varieties, timely harvesting, removed stubbles of previous crop. weed control, plant protection measures and avoided damage to pods during harvesting as routine practices of crop management. But they do not have the knowledge that these practices are useful for aflatoxin management of groundnut.

There was positive and significant association between knowledge and innovativeness,

adoption, perception, extension participation, market orientation, economic motivation, availability of labour, SES, whereas, age and farming experience has negative and significant association with level of knowledge.

There was positive and significant association between adoption and innovativeness, perception, extension participation, market orientation, economic motivation, SES, availability of labour whereas, age and farming experience has negative and non-significant association with extent of adoption.

There was positive and significant association between perception, innovativeness, economic motivation, extension participation, market orientation, SES and availability of labour, whereas, negative and non-significant association between perception and farming experience.

Ten variables contributed towards 74.95 per cent of variation in level of knowledge of respondents. Out of these, seven variables had contributed significantly towards the variation in level of knowledge. The order of contribution of these variables from highest to lowest is perception, adoption, innovativeness, SES, extension participation, market orientation, and availability of labour.

Eight variables contributed towards 57.64 per cent ($R^2=0.5764$) variation in extent of adoption. Out of these, only three variables had significantly contributed towards variation in extent of adoption. The contribution of these variables from highest to lowest is knowledge, innovativeness and market orientation.

Nine variables contributed towards 58.95 per cent ($R^2=0.5895$) variation in perception. Out of these, only four variables had significantly contributed towards variation in perception. The contribution of these variables from highest to lowest is knowledge, innovativeness, economic motivation and market orientation.

The most important constraint for adoption of aflatoxin management practices was lack of premium price for aflatoxin free groundnuts followed by lack of awareness on ill effects of consumption of aflatoxin contaminated groundnuts, non-availability of sufficient quantity of quality seed, lack of irrigation facilities, lack of awareness on aflatoxin contamination, inadequate knowledge on the use of biological control methods, delay/irregularity of rains affecting time of sowing, inability of farmers to identify aflatoxin contamination, lack of knowledge on grading, inadequate knowledge on drying and stacking of plants, non-availability of adequate quantity of plant cakes, shortage of labour, high cost of adoption of plant protection measures, lack of knowledge on fumigation, non-availability of required quantity of FYM, lack of efficient storage facilities, lack of adequate knowledge on gypsum application and storage methods, lack of adequate knowledge on plant protection measures, high cost of FYM, non-availability of timely credit and damage to pods due to mechanical threshing.

The most important suggestion offered by farmers was provision of sufficient quantity of quality seed in time followed by premium price for aflatoxin free groundnuts, education of farmers regarding the ill-effects of consumption of aflatoxin contaminated groundnut, creating awareness on aflatoxin problem, provision of timely and adequate credit, provision of credit for construction of storage facilities/structures, making timely availability of required inputs, strengthening existing water bodies & providing additional irrigation facilities, imparting training on biological control methods, education on water conservation practices, imparting training on plant protection methods, storage methods, grading, use of herbicides, and conducting demonstrations.

17. ENTREPRENEURIAL BEHAVIOR OF MANGO GROWERS OF GIR AREA OF GUJARAT STATE
YEAR : 2007
NAME OF STUDENT

N. B. Bharad

MAJOR ADVISOR

Dr. M. N. Popat

Entrepreneurship can take place in a variety of fields of social endeavor like Business, Agriculture, Horticulture, Dairy Industry, Education and Social Work etc. Advance and scientific Agriculture is based on capital investment and it's output. Therefore, it also requires entrepreneurship. The term entrepreneur can be defined as “creative and innovative response to the environment”, made by organizer of business enterprise. Hence, it can be said that doing new thing or doing things that are already done in a new way is a part of entrepreneurial behavior. Thus, the entrepreneurial is an economic man who strives to maximize his profit by adopting innovations and man with a will to act, assume risk and to bring a change through organization of human efforts.

The entrepreneurial behaviour is an indispensable and crucial factor for development of Horticulture farming. Looking to the production scenario mango is the most important fruit crop which will satisfy the fruit requirement of human being. Mango cultivation require higher capital investment were monetary output is uncertain due to the fluctuating wholesale price index. It is a highly risky crop considering natural hazards. All these aspects indicate that the mango growers are real horti-preneurs in comparison to other entrepreneurs and farmers. Only a few researches have been conducted in agriculture and dairy farming entrepreneurship, but not on mango entrepreneurs. Hence, the present study was designed to study “ENTREPRENEURIAL BEHAVIOUR OF MANGO GROWERS OF GIR AREA OF GUJARAT STATE”. with the following specific objectives :

1. To study the personal, socio-economic & situational, extension communication and psychological profile of mango growers.
2. To measure the entrepreneurial behaviour of mango growers.
3. To assess the extent of adoption of recommended mango production technologies by the mango growers.
4. To ascertain the relationship between the personal, socio-economic & situational, extension communication and psychological characteristics of mango growers and their entrepreneurial behaviour.
5. To predict the effect of independent variables on entrepreneurial behaviour.
6. To know the direct and indirect effect of independent variables on entrepreneurial behaviour of mango growers.
7. To study the constraints faced by the mango growers in adoption of mango production technologies.
8. To seek the suggestions to overcome the constraints faced by the mango growers.

The present study was carried out in Gir forest area which covers two district i.e. Junagadh and Amreli of Gujarat state. The multistage random sampling method was adopted to select the districts, talukas, villages and respondents. Junagadh and Amreli district having the largest area under mango cultivation were purposively selected. Two talukas (viz., Talala and Dhari) and ten villages (five villages from each talukas) were covered and the size of sample was kept 200. A structured interview schedule was used for data collection. The collected data were coded, classified, tabulated and analysed in order to make the findings meaningful. Various statistical measures were used to analyse the data. The important findings of the study are summarized as below.

- (1) Majority of the mango growers were found in medium to high level category. The indicators decision making was ranked first followed by market orientation (rank second) and economic motivation (rank third).
- (2) Majority of respondents (75.00 per cent) were observed in the medium entrepreneurial behaviour category. Thus, the entrepreneurial behaviour of the respondents was predominantly medium.
- (3) More than half (56.00 per cent) of the respondents were in middle age group, having (57.50 per cent) primary level of education and medium size of land holding (60.50 per cent). More than half of the (57.00 per cent) of the respondents possessed more than 75.00 percent of land under mango cultivation, 64.00 per cent of them had medium level of irrigation facility with small size of family (63.50 per cent), having medium level of income (51.50 per cent) and medium level of cropping intensity.

More than four fifth (84.50 per cent) of the respondents had medium social participation, more than three fourth (76.50 per cent) had medium level of awareness regarding value addition, 70.50 per cent of them had medium mango yield index and 82.00 per cent of them had medium employment generation. Half (50.00 per cent) of the mango growers had medium extension participation, 53.50 per cent of them had medium level of mass media exposure, 66.50 per cent had medium level of extent of adoption, 64.50 per cent were found in medium category of management orientation. More than half (55.00 per cent) of mango growers fall in best level of innovativeness, 86.00 per cent of them were in average level of progressiveness and 72.00 per cent of them had average level of knowledge regarding mango cultivation.

- (4) In case of the practice-wise adoption of improved mango production technology the practice, viz., variety, disease control and insects pests control were highly adopted by the mango growers.
- (5) Education, area under mango cultivation, annual income, social participation, awareness regarding value addition, mango yield index, employment generation, extension participation, mass media exposure, extent of adoption, management orientation, innovativeness, progressiveness and knowledge of mango growers had significant relationship with entrepreneurial behaviour of mango growers. Whereas age, land holding, irrigation facility, family size and cropping intensity had no association with entrepreneurial behaviour of mango growers.
- (6) All the 19 independent variables put together explained 76.38 per cent of the total variation in entrepreneurial behaviour. Eight variables viz., annual income, crop intensity, social participation, employment generation, extension participation innovativeness, progressiveness and knowledge of mango growers had significant contribution in entrepreneurial behaviour.
- (7) In stepwise regression analysis 75.32 per cent variation was accounted by a set of nine independent variables viz., employment generation, social participation, innovativeness, extension participation, knowledge of mango growers, mass media exposure, progressiveness, area under mango and extent of adoption put together in entrepreneurial behaviour. Employment generation alone accounted 46.52 per cent variation. The social participation, extension participation and innovativeness were also in highest order of magnitude.
- (8) The employment generation and social participation were the most important variables affecting directly and positively on entrepreneurial behaviour. In respect to total indirect effect on entrepreneurial behaviour, the key variables were

management orientation and extent of adoption for positive effect, while, education and age for negative effect and these also important in respect to first substantial indirect effect through the variable age and family size.

- (9) More number of mango growers faced the constraints of irregular and insufficient electric power supply, high price of insecticides and pesticides, unaware about export system, lack of remunerative price of mango and insufficient training and demonstration.
- (10) The important suggestions offered by majority of mango growers were; need for establishment of cold storage and mango processing plant, price of insecticides pesticides should be low, more information about storage and value addition and subsidies for agricultural inputs.

18. KNOWLEDGE AND ADOPTION OF POST HARVEST TECHNIQUES OF GROUNDNUT CROP IN SOUTH SAURASHTRA AGRO-CLIMATIC ZONE OF GUJARAT STATE

YEAR : 2007

NAME OF STUDENT

M. G. Chavda

MAJOR ADVISOR

Dr. M. N. Popat

Groundnut (*ArachishypogaeaL.*) is a major oilseed crop grown in 100 countries all over the world. India has largest area under groundnut (6.7 million hectares) in the world comprising 30.00 per cent of global area and 22.00 per cent (7.9 million tones) of world's production.

In India around 85.00 per cent area of groundnut is grown under rainfed conditions in marginal lands. Gujarat has an area of 1.85 million hectares with a production of 3.18 million tones. South Saurashtra Agro-Climatic Zone of Gujarat State has 0.71 million hectares under groundnut and produces 0.98 million tones.

There is a lot of scope for increasing the groundnut production per hectare. However, the yield of groundnut crop is very low, because majority of the groundnut growers do not know and adopt improved groundnut PHT. The knowledge of the farmers plays a vital role in adoption of PHT. Groundnut cultivation in this area is constrained by inadequate, uncertain and erratic rainfall, infestation of storage pests and diseases, including losses during post harvest operation. Farmer's level of knowledge, level of adoption and a range of personal, socio-economic, extension communication and psychological factors influence the groundnut cultivation in the study area.

Considering this, a study entitled "Knowledge and Adoption of Post Harvest Techniques of Groundnut Crop in South Saurashtra Agro Climatic Zone of Gujarat State" was undertaken with the following specific objectives.

1. To study some selected personal and socio-economic characteristics of groundnut growers.
2. To develop and standardize a knowledge test of post harvest techniques of groundnut crop.
3. To assess the level of knowledge regarding post harvest techniques of groundnut growers.
4. To assess the level of adoption of post harvest techniques of groundnut growers.
5. To explore the relationship of selected independent variables and dependent variables.
6. To find out the sources of information utilized by the groundnut growers regarding Post Harvest Techniques.

7. To find out the constraints in adoption of post harvest techniques faced by the groundnut growers and seek their suggestions to overcome the same.

The total 200 respondents, 100 BFs and 100 SFs from 20 villages of 12 talukas were selected. The purposive, proportionate and random sampling methods were used to select talukas, villages and respondents, respectively.

In order to measure the level of knowledge and level of adoption of respondents, the standardized scales developed for the purpose were used. The selected independent variables were measured either with the help of developed scale or by developing schedule and indices. The data were collected by personal interview either at home or at farm. The data so collected were coded, classified, tabulated and analyzed in order to make the findings meaningful and are summarized as under.

1. Majority of the BFs, SFs and pooled samples belonged to middle age, medium level of education, medium level of yield index, medium level of annual income, medium social participation, belong to medium SES category, medium level of extension participation, medium level of farm mechanization index, medium market orientation, medium economic motivation categories and medium level of aspiration, respectively.
2. Majority (68.00 per cent) of the BFs had medium level of knowledge about improved groundnut PHT followed by low (19.00 per cent) and high (13.00 per cent) receptively with mean knowledge score of 26.80. Whereas 65.00 per cent of the SFs were belonged to medium level of knowledge category followed by low (26.00 per cent) and high, level of knowledge (9.00 per cent) respectably with mean score 22.70 about improved groundnut PHT. Both the groups differed significantly from each other.
3. The BFs had good knowledge of storage followed by cleaning and grading, threshing, plant drying and transportation and marketing respectively. The SFs were also having same rank order in all the main components of the PHT of groundnut. There was significant difference in knowledge between BFs and SFs of PHT of groundnut in all the components.
4. Majority of the BFs (72.00 per cent) and SFs (70.00 per cent) had medium adoption of improved groundnut PHT with mean adoption index of 47.80 and 37.00, respectively. Both the group differed significantly from each other.
5. The cent percent of the BFs were adopted thresher to separate the pods from vines followed by groundnut bunches of plant leaves on the field for sun drying about 5 to 7 days, use of thresher sieve for grading of pods, dry pods after threshing till moisture content reduced to 8.00 per cent, use of rat proof and sufficient air circulated storage room and use of tractor drawn blade harrow for harvesting in descending rank order.
 - a. Whereas in case of SFs, cent per cent of groundnut growers adopted thresher to separate pods from vines, followed by groundnut bunches of plant leave on the field for sun drying about 5 to 7 days, dry pods after threshing till moisture content reduced to 8.00 per cent, use of thresher sieve for grading of pods, continue sun drying till pods moisture content reduced to 8.00 to 9.00 % and used of bullock drawn blade harrow for harvesting in descending rank order.
 - b. The adoption index of BFs was found significantly higher than SFs.
6. The component-wise adoption of storage practices occupied first position in case of BFs. This was followed by winnowing and grading, threshing, plant drying and

- harvesting in descending rank order. In case of SFs threshing occupied first position followed by winnowing and grading, plant drying, harvesting and storage in descending rank order. There was significant difference in adoption of harvesting and storage practices between BF's and SF's of PHT of Groundnut.
7. There was a positive and significant association between the knowledge level of BF's about improved groundnut PHT and their age, education, farm size, annual income, social participation, SES, farm mechanization, economic motivation and adoption index.
 8. In case of SF's, positive and significant association with the level of knowledge about improved groundnut PHT was observed with age, yield index, annual income social participation and economic motivation.
 9. There was positive and significant association in pooled sample, was observed between the level of knowledge about improved groundnut PHT and their age, education, farm size, annual income, social participation, SES, farm mechanization, economic motivation, aspiration and adoption index.
 10. A positive and significant association was observed between the level of adoption of BF's about improved groundnut PHT and their characteristics viz., education, yield index, annual income, SES, extension participation, farm mechanization, market orientation and economic motivation.
 11. In case of SF's, positive and significant association with the level of adoption about improved groundnut PHT was observed with education, yield index, SES, extension participation, farm mechanization, market orientation, economic motivation and aspiration.
 12. There was positive and significant association in pooled sample, was observed between the level of adoption about improved groundnut PHT and their education, farm size, yield index, annual income, social participation, SES, extension participation, farm mechanization, market orientation, economic motivation and aspiration.
 13. For BF's, nine independent variables namely SES, age, economic motivation, farm mechanization, education, farm size, adoption index, social participation and annual income contributed towards 48.67 per cent of ($R^2=0.4867$) of the variation in the level of knowledge about improved groundnut PHT.
 14. In case of SF's, five independent variables namely age, social participation, annual income, economic motivation and yield index contributed toward 42.74 per cent ($R^2=0.4274$) of the variation in the level of knowledge about improved groundnut PHT.
 15. Ten independent variables namely age, education, farm size, economic motivation, farm mechanization, annual income, social participation, SES, adoption index and aspiration in case of pooled sample contributed toward 47.33 per cent ($R^2=0.4733$) of the variation in the level of knowledge about improved groundnut PHT.
 16. For BF's, nine independent variables namely farm mechanization, yield index, SES, annual income, level of knowledge, market orientation, extension participation, education and economic motivation contributed toward 49.89 percent ($R^2=0.4989$) of the variation in the level of adoption about improved groundnut PHT.
 17. In case of SF's, eight independent variables namely education, yield index, economic motivation, farm mechanization, SES, market orientation, aspiration and extension participation contributed toward 35.13 per cent ($R^2=0.3513$) of the variation in the level of adoption about improved groundnut PHT.

18. Twelve independent variables namely annual income, yield index, education, SES, economic motivation, farm mechanization, market orientation, farm size, aspiration, knowledge level, extension participation and social participation in case of pooled sample contributed toward 53.57 per cent ($R^2=0.5357$) of the variation in the level of adoption about improved groundnut PHT.
19. The sources of information utilized by most of the respondents were television, relatives, krushimahotsav, newspapers and friends for improved groundnut PHT.
20. The most important constraints faced by groundnut growers for adoption of groundnut PHT were; inadequate knowledge of use of storage pest control measure, lack of information about fluctuation of market price, lack of knowledge about quality range and lack of adequate knowledge of fumigation.
21. The most important suggestions offered by the respondents to overcome the constraints were, short term training programme should be conducted on storage insect-pest control measure; remunerative support price should be increased; educating farmers for improved groundnut PHT, agricultural extension agency should popularize PHT through farm literature and conducting training programme of scientific grading and storage method.

19. DETERMINATIONS OF EFFECTIVENESS FOR KRISHI JIVAN FARM MAGAZINE

YEAR : 2007

NAME OF STUDENT

V. J. Savaliya

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The new technologies covering different aspects related to agriculture and allied fields are developed by State Agricultural Universities and research institutes. Simultaneously, farmers are eager to get information about advancement in the field of research in the science of agriculture. The improved and new techniques of research should be reached to the farmers' fields at fastest rate without losing their completeness and clarity to get the maximum returns. The success of agricultural extension is depending on the methods used for the communication. Among mass media methods, farm magazine is very useful as it contains the information related to various topics of need. The aspects related to the technology and recommendations are converted and simplified in such a local language through farm magazines, which makes them more popular for the practical utilization on the fields of the farmers. This information can be stored as reference and can be used at any time. There is a growing realization for improving the standard of farm magazines in order to make them more popular, understandable, informative and effective.

Therefore, the components such as format of magazine, titles given to the articles and sub titles to the different aspects, content, illustrations, tables and advertisements covered in the farm magazines should be critically examined to increase the effectiveness of farm magazine. The characteristics of readers which build up the frame of reference affect the perception of readers about the effectiveness of farm magazine. Therefore, it is worthwhile to understand different characteristics of the clientele for effective communication. Krishi Jivan, a farm magazine published by GSFC Limited and having wide circulation in the farmers, was selected for the study.

Hence, the present investigation entitled "Determinants of effectiveness for Krishi Jivan farm magazine" was conducted with the following objectives;

1. To study the selected characteristics of the farm magazine readers.

2. To develop and standardize Farm Magazine Effectiveness Index.
3. To measure the effectiveness of farm magazine.
4. To examine the relationship between characteristics of readers and the effectiveness of farm magazine
5. To examine the relationship between components and the effectiveness of farm magazine.
6. To determine the contribution of components in the effectiveness of the farm magazine
7. To analyze the content of farm magazine.
8. To study the utility value of various topics of farm magazine to the readers.
9. To seek suggestions from farm magazine readers for making the agricultural magazines more effective.

In order to realize the objectives, one hundred and eighty farm magazine readers were selected from three talukas of Junagadh district and three talukas of Rajkot district. The scale was developed and standardized for measurement of effectiveness of farm magazine. The selected independent variables were measured either with the help of already developed scales or by developing schedules. An interview schedule was prepared for collecting the data from the respondents. It consisted the information regarding the selected characteristics of the respondents, the content of farm magazine and its utility value. It also included Farm Magazine Effectiveness Index (dependent variable) with its components as independent variables and open end question on suggestions of readers.

The data were collected by personal interview of farmers either at home or farm. The data no collected were coded, classified, tabulated and analyzed in order to make meaningful conclusions as under;

Majority of the respondents were in middle age group, educated up to primary and secondary level, with large size of family, medium level of reading habit, belonged to only agriculture as their main occupation, high annual income group, medium level of social participation, small size of land holding category, found to have medium innovativeness, belonged to medium risk orientation, medium level of market intelligence, medium level of mass media exposure and medium level of localite-cosmopolite value orientation. About two-third of the respondents perceived that farm magazine was in the category of medium level of effectiveness, followed by high and low level of effectiveness.

The relationship between the effectiveness of farm magazine and reading habit, as well as, extension participation was positive and highly significant. The positive and significant relationship was observed between the effectiveness and different characteristics viz., educations, social participation, innovativeness, market intelligence and mass media exposure. The age had negative and significant relationship with the effectiveness of farm magazine.

There was positive and highly significant relationship between effectiveness of farm magazine and different components viz., illustrations and design of cover page, column arrangements, arrangement of sub titles, appropriateness of titles, relevancy of messages to the season, size of messages, profitability of messages, problem orientation of messages, accuracy of messages, practicability of messages for adoption, adequacy of messages understandability of messages and attractiveness of messages.

The positive and significant relationship was observed between the effectiveness of farm magazine and different components viz., quality of cover page, number of pages of magazine, size of letters, spacing between two lines, attractiveness of titles, market orientation of messages, utility value of messages, reference for further information,

method of presentation, placement of tables in text, need orientation of advertisements and utility value of advertisements.

It was observed that eight characteristics of respondents, which were found significantly associated with the effectiveness in correlation analysis, contributed 17.80 per cent of variation in the effectiveness of farm magazine. The order of four variables with respect to their significant contribution from highest to lowest was; reading habit, extension participation, innovativeness and social participation.

It was found that the twenty-five components contributed 80.50 per cent of variation in the effectiveness of farm magazine. The order of thirteen components with respect to their significant contribution from highest to lowest was; practicability of message for adoption, profitability of messages, utility value of messages, market orientation of messages, problem orientation of message, method of presentation, relevancy of messages to the season, attractiveness of advertisements, size of messages, attractiveness of titles, understandability of messages, adequacy of messages, utility value of advertisements and accuracy of messages.

The highest difference in weight age given in FMEI and mean of weightage perceived by the respondents was observed in the component illustration and tables with rank first followed by format, advertisement, titles and content with rank second, third, fourth and fifth, respectively.

The major topics which have been covered in the various issues of magazine were; crop production practices, fruit and vegetable crop production practices, plant protection measures, agricultural extension and Government schemes, post-harvest technologies, value addition and marketing, improved varieties, general articles, soil testing and fertilizers.

The most useful topics as perceived by the readers were; success stories of farmers, improved varieties, agricultural extension and Government schemes. The topics perceived useful were; post harvest techniques, value addition, marketing, plant protection, crop production practices, organic farming practices, medicinal crop production practices, spices crop production practices, animal husbandry, soil and water conservation practices, irrigation methods, agricultural implements and farm machinery and weed control methods.

The important suggestions offered by the readers were; good quality of paper should be used in magazine and inclusion of more illustrations and photographs, publication of information about content for next issues, information regarding beneficial schemes from Government and other organizations, month wise agricultural operations of major crops, more articles should be according to crops and farming practices of respective region and message should be in local words and language.

20. CRISIS MANAGEMENT ADOPTED BY COTTON GROWERS OF SOUTH SAURASHTRA AGRO-CLIMATIC ZONE OF GUJARAT STATE

YEAR : 2010

NAME OF STUDENT

G. R. Gohil

MAJOR ADVISOR

Dr. M. N. Popat

Agriculture is the backbone of Indian economy. Our population increases day by day and crossed one billion populations. Severe droughts and other natural calamities are the feature which are impair of the development. India has needed to increase production and area of important crops to secure the fiber production as well as fiber security for the people. Despite, technological advancement, there is a wide gap exists between the know-how already attained and their application in the farmers' fields. It is well known fact that the

gross cultivated area under agriculture cannot be increased. In this situation the adoption of different crisis management practices may serve a suitable and viable option to encounter the present challenges.

Hence, the present investigation entitled "Crisis management adopted by cotton growers of South Saurashtra Agro-Climatic Zone" was conducted with the following objectives: 1. To study the socio-economic and psychological profiles of the cotton growers. 2. To identify, document and standardize the crisis in cotton crop as perceived by cotton growers. 3. To study the crisis management practices adopted by the cotton growers in cotton cultivation. 4. To determine the knowledge of cotton growers about crisis in cotton cultivation. 5. To know the extent of adoption of crisis management in cotton cultivation by cotton growers. 6. To ascertain association between profiles of the cotton growers and their level of adoption of crisis management practices. 7. To analyze constraints faced by the cotton growers in adoption of crisis management practices in cotton cultivation. 8. To seek suggestions from the cotton growers to overcome the constraints in adoption of crisis management practices.

The theoretical orientation was developed for the study on the basis of review of literature. The various concepts utilized in the study were operationalized suitably. Based on the assumptions, the tentative paradigm was laid down and finally the null hypotheses were also formulated. In order to measure the extent of adoption of crisis management in cotton crop a standardize scale was developed. The indices and structured as well as developed scale were used to measure the independent variables.

An interview schedule was used for data collection by personal interview method. Total 200 cotton growers were selected randomly from two talukas viz; Rajula of Amreli district and Mahuva of Bhavnagar district for the study. The collected data were analyzed, tabulated and interpreted in term of objectives.

In respect to different selected characteristics of the respondents it was found that 46.00 per cent of the respondents were in the middle age group, whereas 32.50 per cent of the respondents possessed secondary level of education. As regard to land holding 50.50 per cent of the cotton growers had a medium size of land holding, while more than half (57.00 per cent) of the respondents possessed, more than three-fourth of their land under cotton cultivation, 69.50 per cent of the cotton growers had medium social participation and in case of irrigation facility, 54.00 per cent of the cotton growers had a medium irrigation facility and 71.50 per cent of the cotton growers had medium cotton yield level.

More than three-fourth (75.50 per cent) of the respondents had medium level of management orientation, 67.00 per cent of the cotton growers had medium cotton cropping intensity, 65.00 per cent of the cotton growers had medium index of farm experience, 43.00 per cent of the cotton growers had medium innovativeness, 63.00 per cent of the cotton growers had medium risk orientation, about four-fifth (79.50 per cent) of the cotton growers had medium level of extension participation and above four-fifth (80.50 per cent) of the cotton growers had medium level of extension participation.

Age and index of farm experience were negatively and significantly associated with the level of adoption of crisis management practices. The relationship was highly significant.

The characteristics like education, social participation, irrigation index, yield level, management orientation, innovativeness, risk orientation and extension participation had positive and highly significant relationship with adoption level of respondents with respect to crisis management practices.

There was non significant association of the adoption level of respondents with respect to crisis management practices with their size of land holding, irrigation index and cropping intensity.

The important constraints perceived by cotton growers were: non-remunerative price, high price of soil reclamation materials, non availability of information about future aberrant weather conditions including cyclone, high price of insecticides/ pesticides & fungicides, insufficient demonstration of improved technologies on farmers' field, high price of chemical fertilizers, high price of organic manures, irregular supply of electricity and lack of knowledge to diagnose the pests and diseases in the crop.

Some of the important suggestions offered by the respondents were: quality seed supply should be ensured, effective insect-pest control methods should be developed, input should be supplied at subsidized rate, village level workers should frequently contact the farmers to make them aware about new technologies, crop insurance should be made available for all the farmers at cheaper rate, provision of sufficient and timely credit facilities, remunerative price of farm produce and sufficient electricity should be provided.

21. SUSTAINABILITY OF GROUNDNUT BASED CROPPING SYSTEM OF SOUTH SAURASHTRA AGRO-CLIMATIC ZONE OF GUJARAT STATE

YEAR : 2010

NAME OF STUDENT

P. B. Khodifad

MAJOR ADVISOR

Dr. P. R. Kanani

Groundnut is principal crop of the Saurashtra region of Gujarat State. It is grown so extensively since 1910. Although, enormous advances in science and technology of groundnut crop production, but because of indiscriminate use of agro-chemicals as fertilizers and pesticides, exploitation of natural resources, productivity and profitability of groundnut crop decreased considerably and as a result, area under groundnut crop is reduced considerably during the last decade. Keeping this in view, it was felt worthwhile to study "sustainability of groundnut based cropping system in South Saurashtra zone of Gujarat state". The specific objectives of the study were : (i) to study selected characteristics of groundnut growers of the South Saurashtra zone of Gujarat State (ii) to identify the significant indicators for sustainable groundnut based cropping system in South Saurashtra zone of Gujarat State, (iii) to determine the threshold score of identified indicators, (iv) to measure sustainability of groundnut based cropping system in South Saurashtra Zone of Gujarat State, (v) to trace relationship, if any, between sustainability of groundnut based cropping system and selected characteristics of the farmers, (vi) to identify the constraints faced by the farmers in adoption of sustainable groundnut production practices and (vii) to seek suggestions for increasing sustainability in groundnut based cropping system in the South Saurashtra zone of Gujarat State.

The present study was undertaken in South Saurashtra Zone of Gujarat state. A sample of 160 groundnut growers, in equal proportion, from eight villages, one from each agro-ecological situation in which groundnut is grown, was drawn by using multistage random sampling technique. The study was conducted under ex-post-facto (cause to effect) research design.

To measure the sustainability of the groundnut based cropping system, standardized sustainability scale was developed. The sustainability scale was developed by inclusion of significant major and sub indicators. Indicators were identified by seeking the opinion of experts and groundnut growers. By the same way, weightage and threshold score of each identified indicators were determined. Scale values of each sub-indicator were determined on 5-point continuum from 0 to 4 for not sustainable to most sustainable, respectively. The scale, thus, developed was tested for validity (Content validity and criterion validity) and reliability (test retest method). Among fifteen selected characteristics of the groundnut

growers, age was measured by number of years completed by them whereas education was measured by formal education received by them. Social participation, opinion leadership, self-confidence, self-responsibility, management orientation, overall modernity, scientific orientation, achievement motivation, innovativeness, risk orientation, and market orientation were measured by scale developed by Trivedi (1963), Rogers (1962), Basavanna (1974), Theodore (1999), Samantha (1977), Mehta et. al. (1974), Supe (1969), Vishweshwaran (1979), Sing (1977), Supe (1969) and Samantha (1977), respectively. Groundnut growers' market intelligence and attitude toward modern farming were measured with the help of structured schedules. The data were collected by personal interview of the groundnut growers with the help of structured interview schedule. The collected data were processed, coded, tabulated and analyzed in the light of the objectives of the study by employing appropriate statistical methods.

Majority of the groundnut growers were in the group of medium social participation (70.00 per cent), medium scientific orientation (70.00 per cent), moderate risk taker (73.75 per cent), medium market orientation (68.75 per cent), medium management orientation (66.88 per cent) and in the group of fairly market intelligence (73.75 per cent). About two third, groundnut growers were moderately motivated due to achievement which they made (66.88 per cent) and were moderately self responsible (69.37 per cent). Approximately three fifth of groundnut growers were from middle age (61.88 per cent), played medium opinion leadership role (59.38 per cent), had medium self confidence (60.63 per cent), were willing for reasonable modernization (58.12 per cent) and hold moderately favourable attitude towards the modern farming (58.12 per cent). Nearly half of them were educated up to secondary level (52.50 per cent). In concern with innovativeness, 28.75 per cent of the respondents were from early majority group.

Out of initially selected 25 major indicators and 224 sub indicators, 21 major indicators and 147 sub indicators, respectively, were found significant for the measurement of sustainability of groundnut based cropping system. The threshold score of major indicators viz; soil and water conservation (14.70 score), farming system (14.50 score), marketing and market facilities (14.10 score), finance management (13.80 score), labour management (13.50 score), farm mechanization (13.80 score), organizational support (13.70 score) were found very close to the central value of that particular indicator.

Majority of the groundnut growers managed their groundnut based cropping system at sustainable level (40.00 per cent) to more sustainable level (31.25 per cent). Overall sustainability of groundnut based cropping system was 28.99 per cent. Major indicators such as weed control, tillage practices, farm mechanization, labour management, and soil fertility management, finance management and marketing and market facilities had higher sustainability, whereas extension participation and communication had least sustainability.

Groundnut growers' characteristics such as education level, opinion leadership, market intelligence, self confidence, innovativeness, self responsibility, management orientation, scientific orientation, overall modernity, attitude toward modern farming and achievement motivation of the groundnut growers were positively correlated with sustainability of groundnut based cropping system.

From among 15 selected characteristics of groundnut growers, six variables were contributed significantly to sustainability of groundnut based cropping system and all these together explained 70.56 per cent variation. Scientific orientation had greatest influence by 49.22 per cent.

Increase in pest and disease problem, lack of access to extension worker, non availability of package of sustainable groundnut production technology, poor knowledge

about sustainable farming practices, misconception about sustainability, shortage of organic manures/FYM, and shortage of laborers were the important constraints in adoption of sustainable groundnut production practices. Most important suggestions offered by majority of the groundnut growers were : Increase use of organic manure, adoption of water conservation practices, awareness programme for sustainable farming should be organized, existing extension system should be made stronger, Bt variety of groundnut should be developed, adoption of integrated pest and disease management practices and judicious use of agrochemicals should be ensured.

22. MANAGERIAL EFFICIENCY OF COCONUT PLANTATION GROWERS IN COASTAL AREA OF SAURASHTRA REGION

YEAR : 2011

NAME OF STUDENT

B. N. Kalsariya

MAJOR ADVISOR

Dr. M. N. Popat

The coconut palm (*Cocos nucifera* Linn.) is the most useful palm in the world. Every part of the tree is useful. It is much attached to the emotions of the people in the South East Asia that it forms a part of the mythology and culture and is auspicious in various ceremonies. Coconut tree is ranked among one of the 10 most useful trees of the world and is often termed as 'kalpavriksha', the "tree of life".

Copra obtained by drying the kernel of coconut is the richest source of vegetable oil containing 65 to 70 per cent oil. Several other products are derived from coconut palm and they too are used in many applications. Copra is used to extract coconut oil and coconut meal in the ratio of 3:2. The products like hair oil, soaps, shampoos and medicines require coconut oil as an important ingredient. Also the kernel is quite popular in a vast number of cuisines.

Coconut occupies prime position in the cultural, social and economic lives of millions of people across the world. The crop husbandry and allied activities provide livelihood and food security to more than 10 million people in India. Coconut oil, the main commercial product, determines prices of coconut and its products. The increasing trend in area and production of coconut in the country with the regress in the consumption of coconut oil in both edible and non-edible sector on account of cheap substitutes necessitated development of broad based processing and cultivation technologies for sustainable growth of the industry.

Traditionally coconut industry in India has concentrated on copra making, extraction of coconut oil and coir manufacturing. Economic globalization has added integrated various regional markets into a world market. As a result, various new coconut products from elsewhere in the world have found a prominent place in the product profile of the food chain markets in the country.

To make the industry competitive, significant changes have to be made in domestic market in terms of product developments and deep market integration. Emphasis has to be given for value addition in coconut through product diversification and by-product utilization and for evolving technologies for development of new value added products in tune with those of other leading countries.

Management may in short be called a science of decision-making or a science of choice. A farmer has to make judicious decisions on the use of scarce resources, having alternative uses to obtain the maximum profit and family satisfaction on a continuous basis from the farm as a whole. In other words, management seeks to help the farmer in deciding problems like what to produce, how much to produce and when to buy and sell and in organization and managerial problems relating to these decisions.

Management plays an impressive role on the performance of four key tasks, namely, achieving economic performance, creating productive work, managing the social impact and responsibility of a business and managing the time dimension.

The agriculture being an enterprise is not an exception to this. The coconut plantation growers as the manager of the enterprise are expected to bring about maximum profit with available resources. Coconut plantation growers perform many functions in carrying out the better production such as: preparing a plan of work, giving clear instructions, integrating the work, taking proper decision at right time, implementing the decision etc. in carrying out the management activity in coconut plantation. All the above functions involve in one or the other way, many management components viz. planning, organizing, directing, controlling, human relation, leading, coordinating and decision making. Today farming enterprise is becoming more complex and complicated and therefore, management is a key to face these problems. To make coconut plantation more productive, proper management of scientific coconut plantation practices should be adopted by coconut plantation growers. Therefore, the present study was designed to measure managerial efficiency of coconut plantation growers about scientific cultivation of coconut plantation and find out the effect of selected variables on managerial efficiency with the following objectives:

1. To study the personal, socio-economic, psychological and extension communication profile of coconut plantation growers.
2. To develop and standardize a scale to measure the managerial efficiency of coconut plantation growers in coconut cultivation.
3. To ascertain managerial efficiency of coconut plantation growers.
4. To assess the perception of coconut plantation growers about quality and damage caused by eriophyid mite on coconut.
5. To ascertain the relationship between managerial efficiency of coconut plantation growers and their selected characteristics.
6. To know the extent of variation caused by selected independent variables in the managerial efficiency of coconut plantation growers.
7. To elicit the constraints faced by coconut plantation growers in adoption of improved coconut cultivation technology and their suggestions to overcome the constraints.

The study was conducted in the coastal areas of Saurashtra where coconut is a major crop. Total five talukas i.e. 3 talukas of Junagadh, 1 taluka of Porbandar and 1 taluka of Bhavnagar district were selected purposively which is having the highest coconut growing area. Three villages from each taluka and 10 respondents from each village i.e. total 15 villages and 150 respondents were included in the sample. The dependent variable undertaken in this study was managerial efficiency. The independent variables were age, educational status, farm size, area under coconut cultivation, herd size, annual income, social participation, access to market facilities, innovativeness, risk orientation, perception, symbolic adoption, attitude towards coconut cultivation, information seeking behaviour, extension participation and participation in training programme. To measure managerial efficiency of coconut plantation growers, a scale was developed using Normalised Rank Approach. Other variables were measured using different scales and indices. The data of this study were collected through personal interview. The data so collected were classified, tabulated, analyzed and interpreted in terms of objectives. The findings of the study are summarized as below:

1. In detail analysis of major indicators of managerial efficiency scale, the judges gave

first rank to knowledge followed by planning, rational marketing, rational decision, budgeting, communication and human relationship, organizing, value addition, controlling and coordinating. Among the each main indicators, coconut plantation growers gave first position to intercropping and quality of coconut products in knowledge, planning about the inputs in ability to planning, technical competency in making decision in ability to make rational decision, coconut plantation growers gave importance to team work to achieve the goal in organizing the activities, consulting the extension worker when they heard about the incidences of insect-pests and eriophyid mite in epidemic condition or disease; attack on the coconut plantation for coordinate activities," consultation with family members about source of credit for budgeting, well aware about co-operation with co-workers which produce better results in form of desirable work hours in communication and human relationship, supply of coconut fruits to the market when high price of produce in ability to make rational marketing, ability to sell the coconut produce after grading process which increase value addition and supervising the working of people while different agricultural operation in ability to controlling activities.

2. The managerial efficiency of coconut plantation growers under study was found predominantly medium (51.33 per cent).

3. More than three fourth (77.33 per cent) of the respondents were in middle and old age group and more than one third (34.00 per cent) of them were educated up to primary and middle level education.

4. Majority (86.00 per cent) of the coconut plantation growers were under the category of small and medium farmers, up to 5.00 acres of area under coconut cultivation (50.67 per cent), having small size of herd size (up to 3 animals) (47.33 per cent), majority of them had their earning of more than fifty thousand rupees per year (89.33 per cent), medium social participation (66.67 per cent) and 57.33 per cent of them had high access to market facilities.

5. Majority (37.33 per cent) of coconut plantation growers reported that they had adopted the innovation immediately after they had seen it, medium risk orientation (56.67 per cent), medium perception level about quality and damaged caused by eriophyid mite in coconut (63.33 per cent), medium symbolic adoption (60.00 per cent) and moderately to highly favourable attitude towards the cultivation of coconut (84.00 per cent).

6. Majority (60.67 per cent) of the coconut plantation growers were in the category of average and above average level in case of information seeking behaviour, medium level of extension participation (54.67 per cent) and 78.67 per cent coconut plantation growers were either medium trained or untrained.

7. Coconut plantation growers' characteristics such as education, farm size, area under coconut plantation cultivation, annual income, access to market facilities, innovativeness, risk orientation, perception about quality and damaged cause by eriophyid mite, symbolic adoption, attitude toward coconut cultivation, information seeking behaviour and extension participation had significant relationship with managerial efficiency of coconut plantation growers.

8. Among 16 selected characteristics of coconut plantation growers, eleven variables viz.; age, educational status, farm size, area under coconut cultivation, annual income, social participation, access to market facilities, innovativeness, risk orientation and participation in training programme were contributing significantly to managerial efficiency of coconut plantation growers. AU the 16 independent variables together explained total variation in managerial efficiency to the extent of 69.90 per cent. Access to market facilitates had great influence of 43.48 per cent.

9. Lack of awareness about control measure to eriophyid mite, serious problems of eriophyid mites, lack of modern spraying equipment to control the eriophyid mite, high cost of insecticides and pesticides, unremunerative price for tender nuts and mature nuts, neighboring farmers do not spray insecticides to control eriophyid mite so difficult to get good result, complicated method and delay / insufficient facilities of loan and subsidies, lack of timely availability of fertilizers, lack of emphasis on value addition training, problem of spraying insecticide while taking intercrop, intercropping increase weed problem and lack of knowledge about coconut based industry were the important constraints faced by the coconut plantation growers.

10. The most important suggestions offered by majority of the coconut plantation growers were; creating awareness about damaged and deteriorated quality of coconut caused by eriophyid mite, specific pest effective insecticide should be recommended, establishment of market facilities at local level, price of pesticides and fertilizers should be reasonable, government should provide subsidy for chemical fertilizer and short term training programme should be conducted on use of herbicide and plant protection measures.

23. FARMERS' PERCEPTION AND ADOPTION OF GROUNDNUT PRODUCTION TECHNOLOGY

YEAR : 2012

NAME OF STUDENT

P. S. Gorfad

MAJOR ADVISOR

Dr. D. M. Thakrar

Groundnut (*Arachishypogaea L*) is one of the vastly cultivated oilseed crops in the world as it is cultivated in more than 100 countries and that is why it is referred to as a universal crop. India has largest area under groundnut (7.6 million hectares) in the world comprising 30 per cent of global area and 22 per cent (7.8 million tonnes) of world's production.

In India, Gujarat is the leading State in groundnut cultivation in both area and production with 1.86 million hectares and 2.57 million tonnes, respectively. Groundnut cultivation in Gujarat predominantly concentrated in Saurashtra region. Groundnut is cultivated across the region on 1.64 million hectares of land with output of 2.25 million tones nut in shell. North Saurashtraregion of Gujarat state has 1.14 million hectares under groundnut and produces 1.44 million tonnes nut in shell with an average yield of 1327 kg/ha which is less than the average of South Saurashtra region i.e. 1762 kg/ha.

There is a wide scope to enhance the groundnut production per unit area. However, the productivity of groundnut crop is low, because majority of groundnut growers do not know and adopt recommended groundnut production technology. The perception of farmers plays a crucial role in adoption of groundnut production technology. Generally the groundnut cultivation in this region is affected by inadequate, uncertain and erratic rainfall, infestation by pest and diseases, and losses during post harvest operations. In addition to these factors, the level of perception, extent of adoption and a range of personal, socio-economic, psychological and extension communication factors are also important which influence the groundnut production in the study area. Hence, it is worthwhile to assess the level of Perception of the farmers about groundnut production technology and factors which hindering the adoption. Keeping this in view, a study entitled "Farmers' Perception and Adoption of groundnut production Technology" was undertaken with the following objectives:

1. To develop and standardize a scale to measure the farmers' Perception of groundnut production technology.

2. To assess the farmers' perception of groundnut production technology.
3. To assess the farmers' adoption of groundnut production technology.
4. To study the profile of groundnut growers of Jamnagar and Rajkot districts of North Saurashtra Agro climatic Zone.
5. To ascertain the relationship between perception and adoption of groundnut growers and their profile.
6. To know the extent of variation of selected independent variables on the perception and adoption of groundnut growers.
7. To elicit the constraints in adoption of improved groundnut production technology faced by groundnut growers and to seek their suggestions to overcome the same.

In order to realize the objectives of the study 180 farmers were selected from 15 villages of 6 talukas of Jamnagar and Rajkot districts of north Saurashtra agro climatic zone by employing purposive, proportionate and multi-stage random sampling technique.

In this study, the dependent variables (perception and adoption) and independent variables (age, education, farm size, herd size, annual income, groundnut crop intensity, groundnut yield Index, irrigation potentiality, farm mechanization, social participation, innovativeness, risk orientation, achievement motivation, attitude towards modern agriculture, mass media exposure, extension participation and participation in training) were selected based on review of literature and consultation with the experts. Perception scale was developed and standardized for measurement of perception of groundnut production technology. The extent of adoption of groundnut growers was measured by developing the teacher made scales. The selected independent variables were measured either with the help of scales developed by other researchers or structured schedules developed for the purpose.

The data were collected by personal interview method with the help of structured interview schedule. The data so collected were coded, classified, tabulated and analyzed in order to make meaningful conclusions as under;

Majority of the groundnut growers were in middle aged, medium level of education, medium farm size, medium herd size, medium annual income, medium groundnut crop intensity, medium groundnut yield index, medium irrigation potentiality, medium farm mechanization, medium social participation, medium innovativeness, medium risk orientation, medium achievement motivation, medium attitude towards modern agriculture, medium mass media exposure, medium extension participation, medium participation in training, medium perception and medium adoption.

The majority of farmers (66.67 percent) were in medium perception category followed by high (22.00 percent) and low (13.33 percent) perception category respectively. Farmers perceived production technology as an important aspect of groundnut cultivation.

Majority of the groundnut growers (64.44 per cent) were medium adopters of the groundnut cultivation practices. Whereas, 18.89 per cent were low and 16.67 per cent were high adopters of the groundnut production technology.

The cent percent of the farmers adopted threshing after proper drying with thresher by selection of variety, keep the crop free from weeds for 45 days after sowing, after removing the residues of previous crops soil prepared to a good tilth, selecting of healthy and disease free seeds, gap filling is done in 10 days after sowing and Harvesting at right maturity in descending order.

Post-harvest management practices like stacking the bags on wooden planks keeping a meter gap from the walls in a well aerated place, grading by removing immature and insect

or mechanically damaged pods and storing the pods in new/clean polythene lined gunny bags, and use of bio agents i.e. seed treatment with Rhizobium culture, use NPV 250 LE for prodenia and heliothis or spray BT powder @ 1 kg/ha were the practices which less adopted by groundnut growers.

There was positive and significant association was observed between perception, education, farm size, annual income, groundnut crop intensity, groundnut yield index, irrigation potentiality, farm mechanization index, social participation, innovativeness, risk orientation, achievement motivation, attitude towards modern agriculture, mass media exposure, extension participation and participation in training, whereas, negative and significant association between perception and age of the groundnut grower was observed.

There was positive and significant association between adoption, education, annual income, groundnut crop intensity, groundnut yield index, farm mechanization, innovativeness, risk orientation, achievement motivation, attitude towards modern agriculture, mass media exposure, extension participation in training and perception, whereas, positive and non-significant association was observed with herd size and social participation and age of the respondents was negatively and non-significantly associated with the extent of adoption.

Seventeen variables contributed towards 69.22 per cent ($R^2 = 0.6922$) variation in perception. Out of these, only eight variables had significantly contributed towards variation in perception. The contribution of these variables from highest to lowest is innovativeness, adoption, farm size, education, annual income, extension participation, attitude towards modern agriculture and mass media exposure.

Fifteen variables contributed towards 61.30 per cent ($R^2 = 0.6130$) variation in extent of adoption. Out of these, only five variables had significantly contributed towards variation in extent of adoption. The contribution of these variables from highest to lowest is perception, innovativeness, annual income, extension participation and farm size.

The most important constraints in adoption of groundnut production technology were; unavailability of certified seeds from government authorized agencies at right time followed by shortage of labour during critical operations especially at harvest and post-harvest stages, irregular, erratic and insufficient electric power supply at the time of critical stages of irrigation, unreasonable price of farm produce, difficulty in use of fertilizers due to increased prices and in time availability, genuine problem of damage caused by *Neelgay* and *Bhund*, lack of sufficient micro irrigation facilities (sprinkler irrigation system) for providing supplemental irrigation, high labour wages, lack of awareness about recommended GPT, complicated recommendation to understand i.e. doses are on hectare bases, lack of awareness about integrated nutrient management, lack of knowledge about the importance of seed treatment with fungicides, high price and unavailability of organic manure and lack of awareness about importance of gypsum (61.11 per cent).

The most important suggestion offered by farmers were made available certified seeds from government authorized agencies at right time, provision of remunerative price of farm produce, required quantity of fertilizers should be made available in time at subsidized rate, regular electric power supply with proper voltage should be made available, creating awareness on the efficient use of micro irrigation system, government should take some measure to protect the field of farmers from the damage caused by *Neelgay* and *Bhund*, imparting training programmes for the farmers on production technology aspects of groundnut prior to monsoon, educating the farmers about the role of bio agents in controlling pests and diseases, and timely supply of required inputs to farmers through government agencies.

24. PARTICIPATION OF FARM WOMEN IN DECISION MAKING PROCESS WITH RESPECT TO ANIMAL HUSBANDRY PRACTICES

YEAR : 2013

NAME OF STUDENT

K. U. Chadravadia

MAJOR ADVISOR

Dr. D. M. Thakrar

In the developing country like India, most predominantly agricultural, the economic status of the people is directly related to the production they get from land and livestock. India depends on growth of agriculture and animal husbandry. Both these enterprises play a significant role in Indian economy. Livestock sector is a prominent sector among agriculture and allied activities in India

In India, women with the varied social, economical, political, regional and linguistic backgrounds constitute half the nation's population. Women are the pillars on which the family unit stands but in reality rural women present a picture of object poverty and exploitation both inside and outside the home. Traditionally, women's roles are confined to household chores and animal husbandry practices, which in general engage them for longer hours than men each day. The farm women have a lot of potential for the development but they are unable to identify their own strength. All that required is to motivate them to participate in economic activities needed for their development. They can become a great resource in the development process if they are properly organized and mobilized to make them self-reliant by encouraging them to participate in decision making not only in household activities but in animal husbandry practices. Other than home affairs, they also show their involvement in planning, decision-making and supervisory activities related to dairy occupation. Keeping this in view, an attempt is to be made systematically to study "PARTICIPATION OF FARM WOMEN IN DECISION MAKING PROCESS WITH RESPECT TO ANIMAL HSUBANDRY PRACTICES" with following objectives:

1. To study the personal, economical, social, communicational and psychological characteristics of farm women.
2. To develop and measure participation of farm women in decision making process with respect to animal husbandry practices.
3. To measure the decision making pattern of farm women with respect to animal husbandry practices.
4. To ascertain the relationship between characteristic of farm women and the extent of participation in decision making process.
5. To determine attitude of farm women towards participation in decision making process.
6. To know the constraints faced by women and suggestions offered while participation in decision making process.

METHODOLOGY

The present study was undertaken in Junagadh district which is operational area of Junagadh Agricultural University. In Junagadh district, six talukas were purposively selected where maximum number of dairy cooperative society existence. Two villages were purposively selected from each taluka having more number of members of dairy cooperative society. Total twelve villages were selected for the study. Twenty farm women were selected randomly from each of the selected villages. In all, 240 farm women were selected to serve as the respondents for the study. The data were collected in the light of the objectives of the study with the help of well-structured pre tested Gujarati version interview schedule. For measurement of dependent and independent variables included in study,

different scales and scoring techniques developed by other scientists were used with slight modifications. The data so collected were coded, classified, tabulated and analyzed in order to make the finding meaningful. The statistical tools used were percentage, mean score, standard deviation and coefficient of correlation, regression and step wise regression analysis.

The important findings of the study are summarized as below.

The study revealed that more than half (57.08 per cent) of the farm women belonged to middle age group, educated up to (38.75 per cent) primary level, had medium experience (62.92 per cent) in animal husbandry practices, animal husbandry plus farming as their occupation (54.58 per cent), Slightly more than two-fifth (40.42 per cent) of the farm women had small land holding, low annual income (42.92 per cent), medium size of herd (62.92 per cent), had medium milk production (69.58 per cent), medium area under fodder crop (75.00 per cent), belonged to joint family (66.25 per cent) and large size of family (78.75 per cent), nearly two-fifth (38.75 per cent) of farm women had medium social participation, had medium (60.00 per cent) mass media exposure, medium (55.00 per cent) level of extension participation, more than two-fifth (46.67 per cent) of the farm women had medium level of cosmopolitaness, medium (65.42 per cent) scientific orientation, slightly less than three-fourth (74.58 cent) of the respondents had medium level of risk orientation, belongs to medium economic motivation category (48.33 per cent) and under medium innovativeness (59.17 per cent).

The dependent variable undertaken in this study. The 11 indicators were used to major the decision making process of farm women. Share of main indicators in decision making process was calculated and distributed in different categories according to the response of respondents. The rank was given to all 11 main indicators according to the mean. The indicators daily practices ranked first followed by health care practices, profit utilization, fodder production, management practices, feeding practices, housing facilities, making milk product, marketing practices, breeding practices and financial practices.

As concerned overall decision making process, slightly more than three-fifth (62.50 per cent) of the farm women had medium level participation. Whereas, 19.17 and 18.33 per cent of the farm women had high and low level of participation in decision making process, respectively.

With regard to breeding practices, farm women's self decision found to be negligible except rearing of calves (90.84) and pregnancy diagnosis (71.67 per cent). In case of feeding practices, great majority of the farm women had self decision in feeding schedule of young heifers (78.34 per cent), dry animals (70.84 per cent), milch animals (70.00 per cent) and pregnant animals (65.00 per cent).

About fodder practices concerned, majority of farm women had not participation regarding selection of fodder crop. With respect to management practices great majority of farm women taken self decision about dung for fuel (77.08 per cent), milk to family (75.42).

In case of making milk product majority of women taken self decision in making of ghee (91.66 per cent), butter milk (78.75 per cent) and curd (70.00 per cent). With regard to marketing practices nearly half of the farm women had taken joint decision with her husband about sell of animal (54.58 per cent) and purchase of concentrated feed (53.33 per cent).

About housing facilities concerned, majority of farm women was participation of decision making process with her family member about arrangement of scientific housing (52.50 per cent), arrangement of traditional house (30.83 per cent) and repair shed (24.58 per cent).

With regard to health care practices majority of farm women had taken jointly decision with her husband about cost of medicine (72.50 per cent). While in case of daily practices decision taken by farm women were highest.

With respect to financial practices farm women had jointly decision with husband and family members about financial practices i.e. loan facilities and perception of loan interest. As concerned profit utilization majority of the farm women taken jointly decision with her husband about children education (71.67 per cent) and half per cent of women taken self decision about purchase of luxury items.

Majority of the farm women (57.50 per cent) had neutral attitude towards participation in decision making process.

Based on the correlation analysis it was found that the variables viz., age, education, experience, occupation, annual income, herd size, milk production, type of family, size of family, social participation, mass media exposure, extension participation, cosmopolitaness, scientific orientation, risk orientation, economic motivation and innovative proneness had significant relationship with decision making process. Whereas, size of land holding and area under fodder crop had no association with decision making process of farm women with respect to animal husbandry practices.

With a view to know the variation in decision making process, 69.79 per cent of total variation was found and the same was explained by set of 19 independent variables together. Out of 19 variables, thirteen variables viz., milk production, experience in animal husbandry, age, scientific orientation, education, economic motivation, social participation, herd size, type of family, mass media exposure, risk orientation, innovative proneness and size of family had significant contribution in decision making process.

On the basis of the results of stepwise multiple regression analysis it was found that the thirteen variables viz., milk production, experience in animal husbandry, age, scientific orientation, education, economic motivation, social participation, herd size, type of family, mass media exposure, risk orientation, innovative proneness and size of family put together explained as much 69.37 per cent of total variation in the decision making process.

Major constraints faced by farm women were; costly management, lack of self confidence in decision and lack of technical know-how about breeding, feeding, management and health care on milch animals.

Major suggestions offered by farm women were cattle feed should be provided at reasonable price, balanced concentrates should be subsidized by Government and loan should be provided to purchase milch animals easily.

25. CONSEQUENCES OF INNOVATIONS GENERATED BY AGRICULTURAL UNIVERSITY ON LIVELIHOOD OF MIGRATED SIDDI TRIBAL FARMERS IN CONTENT OF DISCRIMINANT FUNCTION ANALYSIS

YEAR : 2015

NAME OF STUDENT

G. P. Deshmukha

MAJOR ADVISOR

Dr. P. R. Kanani

The tribal farmers mostly use traditional methods in their agriculture, they are habituated to use same method year over year. Modern technologies are rarely used by them. Because of these reasons, they are not able to get expected production. It was, therefore, considered necessary to find out whether there was any adoption of innovations generated by agricultural university and if there is adoption of innovations then up to what extent they are impacting on the livelihood of farmers. Study was also revealed the profile characteristics, constraints to adopt innovations and suggestions to overcome it. The selected migrated Afro-Indian Siddi tribal farmers are African by origin, Indian by

nationality with Gujarati by speech. The diagnostic study was confined to 27 villages and total 180 respondents were selected for the study with special reference to discriminant function analysis in order to understand the impact of innovations generated by agricultural university on livelihood of migrated siddi tribal farmers. End results clearly indicated that 90.00 per cent of tribal farmers had medium to high level of livelihood impact by overall total innovation. It might be due to majority of tribal farmers had medium to high level of livelihood impact by improved variety (86.66 per cent), agricultural engineering (79.99 per cent), agricultural entomology (78.32 per cent) and low to medium level of livelihood impact by animal production (78.88 per cent) and contingency crop planning (82.77 per cent). Also majority of tribal farmers had young to middle age group (84.43 per cent), upper middle to high level of annual income (86.65 per cent), milch animal possession (52.21 per cent), high to medium level of mass media exposure or possession (96.10 per cent), medium to high level of source of information (91.11 per cent) and agricultural university reliance (82.21 per cent), low to medium level of market intelligence (87.22 per cent) and innovativeness (95.00 per cent). Overall rank in main aspects of livelihood due to total merged innovations function coefficients of physical capital rank first (2.250), financial capital rank second (2.321), social capital rank third (1.883), human capital rank fourth (1.738), natural capital rank fifth (1.489), food security rank sixth (1.363) accordingly.

26. IMPACT OF SELF-HELP GROUPS PROMOTED UNDER INTEGRATED WATERSHED MANAGEMENT PROGRAMME ON EMPOWERMENT OF WOMEN

YEAR : 2016

NAME OF STUDENT

M. K. Bariya

MAJOR ADVISOR

Dr. P. R. Kanani

Women are the vital infrastructure and their empowerment would hasten the pace of social development. Investing in women's capabilities and empowering them to achieve their choices & opportunities is the surest way to contribute to economic growth and overall development. Thee empowerment of rural women leads to benefit not only to individual women and women groups, but also to the families and the community as a whole. Individually, a poor woman tends to be erratic and uncertain in her behaviour. Group membership smooth such rough edges making her more reliable. The Self Help Groups are a viable alternative in achieving the objectives of women empowerment. Participation of women in SHGs makes a significant impact on their empowerment, in social, economic, psychological, health, cultural and political terms. SHGs have undoubtedly begun to make a significant contribution in poverty elevation and empowerment of poor, especially women in rural areas of our country. District Watershed Development Unit (DWDU), Amreli (Gujarat) has formed SHGs under under the Integrated Watershed Management Programme (IWMP) to create an awareness and participation among women residing in the rural pockets of Amreli district, which had empowered them to play a positive role in holistic development of themselves and the society. The self-help groups and user groups are also closely associated with economic issues, and thus directly contributing to the economic and social development. Because of this, a study was carried out to know the impact of SHGs on empowerment of women which revealed the profile characteristics, entrepreneurial activities taken by SHG members, utilization pattern of loan, motivational factor to join SHGs, opinion of SHG members about IWMP, impediments faced by them and suggestions to overcome it. To know the impact of SHGs there was a comparative study was taken out between SHG and Non SHG members. Only the SHGs which associated with IWMP from more than four years were selected while Non SHG members were selected from same villages only for the study. The

diagnostic study was confined to 10 villages from which 90 SHGs and 90 Non SHG respondents were selected for the study. From the end results it is clearly indicated that 84.44 per cent of SHG members were from medium to very high level of empowerment whereas, in Non SHG members 94.45 per cent were from low to medium level of empowerment. The majority of SHG (70.00 per cent) and Non SHG (71.11 per cent) women were from middle age group, most of them (80.00 percent) were from primary to high school level of education whereas, 62.22 per cent of Non SHG members were from primary level of education, were from nuclear family type (57.78 per cent) in SHG and in case of Non SHG members nuclear and joint families were equal number, small to medium size of family in SHG group (87.78 per cent) and in Non SHG group had medium to small size family (86.66 per cent), majority were married in case of SHG members (96.67 per cent) and in Non SHG members (97.78 per cent), medium to low level of social participation (87.78 per cent) in SHG group and cent per cent of Non SHG group were from very low to low level of social participation, in SHG group more than half (54.45 per cent) were from small to medium land holding while in Non SHG members small to marginal land holding (68.89 per cent), medium to high material possession in case of SHG members (72.22 per cent) while in Non SHG group low to very low level of material possession (73.34 per cent), 67.78 per cent SHG and 73.34 per cent of Non SHG members were annual income below 2.0 lakh, medium to low source of information in case of SHG members (93.33 per cent) whereas, in case of Non SHG members were from low to very low level (81.11 per cent), medium level of extension participation in case of SHG members (68.89 per cent) while in case of Non SHG members were from very low level of extension participation (70.00 per cent), medium to high level of achievement motivation in SHG members (85.00 per cent) and in case of Non SHG members were from low to medium level (97.78 per cent), medium to high level of market orientation in SHG members (94.45 per cent) whereas, cent per cent of Non SHG members were from low to medium level of market orientation, medium level and low level of risk orientation in SHG and Non SHG members (65.56 per cent each), respectively, 76.67 per cent were from medium level of innovativeness in case of SHG members whereas, in Non SHG members low level of innovativeness (66.67 per cent) and 91.11 per cent were from high to very high level of attitude in SHG members while in Non SHG members were from medium level of attitude (75.56 per cent).

Profile characteristics of SHGs and Non SHG members such as education, social participation, land holding, material possession, annual income, source of information, extension participation, achievement motivation, market orientation, risk orientation, innovativeness and attitude towards self-help groups were found to be highly positive and significantly related with the empowerment of the women. Age and marital status were found highly significant but negatively correlated with the empowerment of the women and family type and family size failed to show any significant correlation with empowerment of women. For SHG members the variables *viz.*, source of information, market orientation, attitude towards SHG, education, land holding, family size, achievement motivation, age and marital status contributed 96.80 per cent variation in extent of women empowerment whereas, for Non SHG members the variables such as attitude towards SHG, innovativeness, education, income and market orientation contributed 90.40 per cent variation in extent of women empowerment.

During study it was also revealed that SHG members were undertaking entrepreneurial activities such as cattle feed selling, *farsham* making, catering, *agarbatti* making, running beauty parlour, growing vegetables in low cost green house, nursery raising and handicraft.

Among the SHG members most of them (92.50 per cent) have utilized loan for regular household expenditure.

Cent per cent respondents reported the motives to generate income and self-reliance

whereas, 92.22 per cent of the self-help group women were motivated by other self-help groups, 75.56 per cent of self-help women were motivated through television and extension workers (95.56 per cent) while was the important source of motivation for shift towards self-help groups,

Among the SHG women the prime impediments were which lack of knowledge while problem in solving money dependency on male member unaware about the rules and inability in performing bank formalities lack of interpersonal trust, clashes of their loan taking time, dependency on member of family and in marketing lack of information ranked as first.

The opinion held by SHG women about SHGs, its activities, and IWMP project was found very positive. The major suggestions made by SHG members were also taken and ranked among which continuation of project and its expansion in other village by establishing new SHG and addition of new activities based on resource availability ranked as first. For empowerment of Non SHG member women, strategies which ranked highest was freedom in taking decision regarding children's education and health (90.00 per cent)

There was a huge impact of SHGs on empowerment of rural women. The psychological, social, economical, cultural, health and political empowerment of SHG women were low before implementation of the IWMP project while it increased considerable at a greater pace with the introduction and functioning of the benefits offered in form of IWMP leading to empowerment of women respondents. Earlier, they used to sit and work at home and utilize their whole time and energy for household chores, for caring and cooking for their family but after implementation of IWMP project, women realized their potential. They started utilizing their human resources i.e., time, energy and skills along with the suggestions, guidance, opportunity and advice offered by IWMP extension personnel to establish enterprises and to prove themselves a support for their families.

27. DEVELOPMENT OF ATTITUDE SCALE AND ASCERTAINING THE TECHNO-ECONOMIC CHANGES OF COTTON GROWERS IN RESPECT OF DRIP IRRIGATION SYSTEM IN SAURASHTRA REGION

YEAR : 2016

NAME OF STUDENT

J. V. Patel

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Dr. B. N. Kalsariya

Water is one of the most precious gifts of nature. Life and civilization cannot exist without water. To some, it is simply a need for drinking water and to other the need for water might be economic or just for convenience. Water is vital for production of food and fiber energy production, improvement of health, industrial development and so on. We cannot develop the world of today without water. As water is becoming scarce commodity day after day, its preservation and conservation has become the most important aspect in relation to the water resources development planning and hence government of Gujarat has accorded highest priority to the programme of water resource development. Drip irrigation can maximize crop productivity and protect the environment through conserving soil, water and fertilizer resources, while also increasing farmer income. It provides more crops for every drop, early maturity, better quality & higher yield, ideal for terrain with problematic soils & water, saves labour cost, yield increase and saves water up to 70 percent. Government of Gujarat has established a company viz. Gujarat Green Revolution Company Limited (GGRC) is to achieve a sustainable natural resource management regime in agriculture sector in the state of Gujarat and to promote the concept of drip and sprinkler irrigation system amongst the farmers of Gujarat as a tool for wise usage of

resources resulting in higher agricultural productivity.

In order to realize the objective of the study, 180 farmers were selected from 12 villages of the 4 talukas of Junagadh, Rajkot, Amreli and Bhavnagar districts of Saurashtra region by employing multistage purposive random sampling technique. An interview schedule was developed in accordance with the objectives of the study and it was pre tested and translated into Gujarati. The data of this study were collected with the help of structural interview schedule. The collected data were classified, tabulated, analyzed and interpreted in order to make the findings meaningful. The statistical measures such as percentage, mean, standard deviation, co-efficient of correlation, multiple regression and step wise regression were used in the study.

The results of the research clearly indicated that majority of the respondents were middle age (53.33 per cent), educated between secondary to college level (75.56 per cent) and belonged to general (higher) caste (62.22 per cent). More than two third (67.22 per cent) of the cotton growers were having membership in more than one organization and medium socio-economic status (71.11 per cent). Nearly two third of the cotton growers (65.00 per cent) having annual income between 1,00,001/- to 2,50,000/- and medium level of credit orientation (65.56 per cent). More than fifty percentages of respondents were dependent on farming and animal husbandry (57.78 per cent), small to medium size of land holding (75.00 per cent), had 151.00 to 200.00 per cent cropping intensity (50.00 per cent). Majority of the cotton growers possessed medium level of economic motivation (65.56 per cent), risk preference (70.00 per cent), scientific orientation (57.78 per cent) and majority (82.78 per cent) of the them having medium to high level of adoption rate of DIS. Majority of the respondents had medium contact with extension agencies (63.89 per cent) and utilization of information sources (67.22 per cent). A great majority (85.00 per cent) of the cotton growers were found medium to high techno-economic change and attitude level towards drip irrigation system (87.78 per cent).

The variables viz., education, socio-economic status, annual income, credit orientation, size of land holding, cropping intensity, economic motivation, scientific orientation, risk-preference, adoption of DIS, contact with extension agency and utilization of information sources were positively and highly significant associated with extent of attitude of cotton growers towards DIS. Whereas, social participation and occupation were positive and age was negative and significant correlation with extent of attitude of respondents towards DIS. While caste was no significant correlation with extent of attitude of cotton growers towards DIS.

In case of multiple regression analysis, it indicated that all variables exerted as much as 81.33 per cent of total variation in extent of attitude of cotton growers towards drip irrigation system. The result of stepwise regression analysis indicated that 79.91 per cent of the total variation in attitude of respondents towards DIS was accounted by a set of two variables viz., utilization of information sources and risk preference.

The variables viz., education, social participation, socio-economic status, annual income, occupation, size of land holding, cropping intensity, economic motivation, scientific orientation, risk-preference, adoption of DIS, contact with extension agency and utilization of information sources were positively and highly significantly associated with techno-economic change. While, age was negative and non-significant correlation with techno-economic change, whereas, credit orientation was positive and non-significant correlation with techno-economic change, while caste was positive and significant correlation with techno-economic change.

Multiple regression analysis indicated that all variables exerted as much as 72.76 per cent of total variation in techno-economic change. The result of stepwise regression

(2.559), household article rank fourth (2.354), house rank fifth (2.338), health rank sixth (2.337), respects rank seventh (2.188), vegetables rank eighth (2.185), milks rank ninth (2.125), contact rank tenth (2.063), source of income rank eleventh (1.814), status at outside rank twelfth (1.653), employment rank thirteenth (1.577), vegetation rank fourteenth (1.404), status in home rank fifteenth (1.319), livestock rank sixteenth (0.708), education rank seventeenth (0.618), entertainment materials rank eighteenth (0.332), food grains rank nineteenth (-0.050).

Overall rank in main aspects of livelihood due to improved variety innovations function coefficients of financial capital ranks first (3.717), Physical capital ranks second (3.222), Social capital ranks third (2.839), Human capital ranks fourth (2.521), Food security ranks fifth (1.857), Natural capital ranks sixth (1.846).

More than half (57.00 per cent) of the respondents were from medium perception category of simplicity, more than (54.50 per cent) of the respondents were from high category on the profitability dimension of perception, majority (71.00 per cent) of the respondents were from the medium category of perception of efficiency. majority (64.00) per cent of the respondents were of the opinion that the improved variety were highly sustainable. Input availability was perceived as medium by majority (74.00 per cent) of the respondents. Flexibility was perceived as medium by majority (60.00 per cent) of the respondents, majority 70.50 per cent of the respondents were from high category of perception of cost effectiveness.

Several constraints in adoption of improved varieties were opined by the respondents. Lack of information seemed to be the biggest constraint in adoption. Other constraints as perceived by the respondents include information lacking on marketing, specific scientific recommendations, difficulty in plant protection measures, information on input utilization, credit and technical guidance also affecting in adoption.

Suggestions were also seek from the respondents. The main suggestions by the respondents were publicity of improved varieties, greater number of field demonstrations, technical assistance and proper information flow from service providers, subsidies in inputs, training and utilization of mass media were same important suggestions perceived by the respondents.

29. ADOPTION OF CRISIS MANAGEMENT IN GROUNDNUT CROP BY GROUNDNUT GROWERS OF SOUTH SAURASHTRA AGRO-CLIMATIC ZONE

YEAR : 2017

NAME OF STUDENT

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Agriculture is the backbone of Indian economy. Our population is increasing day by day and India has only 2.4 per cent of total land area on the planet earth, to support survival of about 1.30 billion population, which is nearly 1/5th of total world population. Indian agriculture has shown tremendous evolution after independence in spite of severe droughts and other natural calamities is the features which impair the agricultural development. It is needed to increase production of important oil seeds crops to secure the edible oil production and income security for the farmer. Despite, technological advancement, there is a wide gap exists between the know-how already attained and their application in the farmers' fields. It is well known fact that the gross cultivated area under agriculture cannot be increased. In this situation the adoption of different crisis management practices may serve a suitable and viable option to encounter the present challenges. The present

investigation entitled "Adoption of Crisis Management in Groundnut Crop by Groundnut Growers of South Saurashtra Agro-Climatic Zone" was conducted as an attempt to understand the knowledge and extent of adoption of groundnut growers about crisis in groundnut cultivation, constraints faced by them in adoption and get their suggestions to overcome these constraints.

The theoretical orientation was developed for the study on the basis of review of literature. The various concepts utilized in the study were operationalized suitably. Based on the assumptions, the tentative paradigm was laid down and finally the null hypotheses were also formulated. In order to measure the extent of adoption of crisis management in groundnut crop a standardized scale was developed. The indices and different structured were developed. The scale was used to measure the independent variables. Total 200 groundnut growers were selected randomly from two talukas Gondal of Rajkot district and Vanthali of Junagadh district for the study and were interviewed with the help of structured interview schedule. The collected data were analyzed, tabulated and interpreted in term of objectives.

In respect to different selected characteristics of the respondents it was found that 49.00 per cent of the respondents were in the middle age group, whereas 48.00 per cent of the respondents possessed primary level of education. As regard to land holding 48.50 per cent of the groundnut growers were from a medium size of land holding, 64.50 per cent of the groundnut growers were from medium social participation and in case of irrigation index, 51.00 per cent of the groundnut growers had a medium irrigation index and 68.00 per cent of the groundnut growers were from medium groundnut yield level.

More than two-third (70.50 per cent) of the respondents were from medium level management orientation, 76.00 per cent of the groundnut growers were from medium groundnut cropping intensity, about half (53.00 per cent) of the groundnut growers were from medium index of farm experience, 53.00 per cent of the groundnut growers were from medium innovativeness, 68.50 per cent of the groundnut growers had medium risk orientation, about two-third (69.00 per cent) of the groundnut growers were from medium level of extension participation and more than two-third (74.50 per cent) of the groundnut growers were from medium level of knowledge about crisis management practises.

There was negative and significant association between adoption of crisis management practices of groundnut growers and their age. The characteristics like, social participation, yield level, management orientation, index of farm experience, innovativeness, extension participation had positive and highly significant relationship with adoption level of respondents with respect to crisis management practices. The characteristics like education, irrigation index and risk orientation had positive and significant relationship with adoption level of respondents with respect to crisis management practices. There was non-significant association of the adoption level of respondents with respect to crisis management practices with their size of land holding and cropping intensity.

The important constraints perceived by groundnut growers were: unavailability of irrigation water during dry spell of crop period, white grub cannot be controlled completely, non- remunerative price, high price of chemical fertilizers, high rate of labour charges, unavailability of irrigation water at critical stages of crop growth, non availability of information about future aberrant weather conditions including cyclone, scarcity of labour at harvesting stage. Some of the important suggestions offered by the respondents were remunerative price of farm produce should be made available, long, medium and short term forecasting system for weather situations should be developed and the information should be availed to farmers at right time, improved implements should be developed for the field operation like harvesting. Effective control measures should be developed for control of white grubs. Farmers should be informed well in advanced with information about the attack of different pest and diseases of groundnut crop.

analysis indicated that 71.49 per cent of the total variation in techno-economic change was accounted by a set of two variables viz., annual income and adoption of drip irrigation system.

The important constraints were; frequently blockage of dripper in case of salty and hard water, so it requires constant monitoring, getting subsidy from GGRC and timely installation of DIS from suppliers is very tedious process, GGRC did not help for obtaining credit from any financial organization and improper demonstration on field, irregular guidance and supervision. The important suggestions offered by the respondents were; operating system and time schedule of drip irrigation according to crop wise should be prepared by scientists, training programs and demonstration should be organized for technical knowledge of DIS and process of getting subsidies from GGRC should be easier and transparent.

28. IMPACT OF IMPROVED VARIETIES ON LIVELIHOOD OF FARMERS OF KVK ADOPTED VILLAGES IN SAURASHTRA REGION OF GUJARAT

YEAR : 2016

NAME OF STUDENT

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The improved variety is a viable alternative for increasing agricultural production. Farmers are not adopting modern technology for getting expected production. Modern technology makes a significant impact on their agricultural production and their everyday livelihood. Livelihood is a means of creating and embracing new opportunities and changing existing conditions of the farmers. Hence, the present study was carried out to analyze the adoption of improved variety generated by Agricultural University and to know to what extent the adoption of improved variety impacts on livelihood of the farmers. The study attempts to reveal the profile characteristics, constraints in adopting improved variety and suggestions to overcome them.

To find out the impact of improved variety generated by agricultural university on livelihood of farmers Discriminant function analysis from the SPSS programme (Statistical Programme for Social Sciences) was followed. The study was confined to 10 villages and 200 respondents were selected as sample for the study.

The study revealed that more than half of the respondents (56.00 per cent) were from middle age group, majority (74.00 per cent) respondents had educational qualification from primary level to high school level, majority of the respondents (65.50 per cent) were less land holding, majority of the respondents (65.50 per cent) were from low to medium annual income, Majority (90.50 per cent) respondents had up to two animals, more than half (56.00 per cent) of the respondents had medium mass-media exposure/possession, more than half (58.50 per cent) of the respondents had medium level of extension participation, majority (60.50 per cent) of respondents had medium social participation, more than half respondents (59.00 per cent) belonged to localite cosmopolite value group, more than half (52.50 per cent) of the respondents had medium level of source of information, majority (94.00 per cent) respondents had low to medium level market intelligence, majority of the respondents (94.00 per cent) belonged to low to medium level of innovativeness, majority . (91.50 per cent) respondents had from high to medium level of agricultural university reliance. The results clearly indicated that majority (92.50 per cent) respondents had high to medium level of livelihood impact by improved variety.

Information unveiled that with improved variety innovations function coefficients of savings rank first (3.525), farm equipment rank second (3.264), land holding rank third

30 A STUDY ON LEADERSHIP BEHAVIOUR OF HEADS OF PANCHAYAT RAJ INSTITUTIONS FOR AGRICULTURAL DEVELOPMENT IN SOUTH SAURASHTRA AGRO-CLIMATIC ZONE OF GUJARAT

YEAR : 2018

NAME OF STUDENT

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ABSTRACT

Key words : Leadership behaviour, Panchayat Raj institutions, Agricultural development.

The local self-government institutions are expected to plan and implement the programmes for rural, agriculture, horticulture and allied sectors. Heads elected to the various Panchayat Raj institutions are therefore very important because they are not only politically influential, but because they are direct carriers of knowledge of rural & agricultural development programmes and rural people are convinced to a greater extent by them. However, their success and efficiency depends upon the leadership behaviour in taking decisions in favour of farmers and based on the knowledge possessed by them about rural, agriculture development. With this consideration, the problem entitled "A study on leadership behavior of Heads of Panchayat Raj institutions for agricultural development in South Saurashtra Agro-climatic zone of Gujarat" was undertaken.

A study was conducted in Junagadh and Amreli district of Gujarat state, Four tehsils from Junagadh district and Two tehsils from Amreli district from South Saurashtra Agro-climatic zone were selected purposively. President of district panchayat, Seven Chairmans of various standing purposively. President of district panchayat, Seven Chairmans of various standing committees in district panchayat, Chairman of taluka panchayat and 25 Sarpanch from each tehsil were the respondents for study. Thus from these two districts total of 172 respondents were selected for the study. A multidimensional scale was developed for assessing leadership behaviour of the respondents and they were grouped by developing a leadership behaviour index specially formulated for the study.

In respect to socio-personal characteristics, nearly half of the respondents were from middle age group, 68.60 per cent of them were male representatives, more than half of them were educated up to primary and middle school level and was from joint family with 6-8 family members. Majority (34.30 per cent) were from semi medium and holding category, 28.49 per cent of them were having annual income above two lacs and farming as their major occupation. Almost 70.00 per cent of them were not having any political background. Whereas, regarding social participation (58.72 per cent) trainings undergone (65.12 per cent, extension participation (55.82 per cent), attitude towards agriculture (58.72 per cent), cosmopolitanism (56.65), risk orientation (48.84 per cent) and self confidence (58.14 per cent) majority of them were from the middle categories. The leadership behaviour of the respondents was again assessed under 9 different dimensions derived for the study. The weightage was derived for each of this dimension from the judges and respondents score was transformed according to weightages derived. In these 9 behavioural dimensions it was observed that, regarding achievement motivation (48.84 per cent), communication skills (43.03 per cent), operational skills (64.54 per cent), decision making skills (51.74 per cent), information behaviour (60.47 per cent), agricultural progressiveness (60.47 per cent), power orientation (69.20 per cent), reporting skills (66.28 per cent) and social insight skills (56.97 per cent) majority were from medium categories. The index developed for the study revealed that majority (52.90 per cent) were from medium level of leadership behaviour followed by 30.24 per cent and 16.86 per cent of the respondents, who were from high and low level of leadership behaviour, respectively.

The data on knowledge level of the respondents regarding agricultural development revealed that, majority (60.47 per cent) were in medium category of knowledge level. The data on component wise knowledge revealed that majority of respondents were having knowledge package of practices of major crops, followed by 75.58 per cent respondents having knowledge regarding subsidy components of government schemes.

Out of sixteen independent variables, education, land holding, annual income, occupation, trainings undergone, social and extension participations, risk orientation and self confidence were found to have significant correlation with leadership behaviour of the respondents, whereas, regression analysis revealed that education, trainings undergone, extension participation, self confidence and risk orientation were contributing significantly to the leadership behaviour of respondents. Discriminant function analysis revealed that variables, age, education, land holding, risk orientation and self confidence were significantly discriminating male and female respondents, whereas, family type, family size, political background and extension contact were bringing them together. Also it was revealed that although 29.60 per cent of the respondents were female they were like their male counterparts as interpreted by the independent variables. Results of path analysis revealed that extension contact, education, self confidence, risk orientation were having highest direct effects on leadership behaviour whereas, trainings undergone was having highest indirect effect.

The important constraints given by respondents were concerning to the finance and functionary, delay in sanctions, insufficient funds allotted, delay in sanctioning resolution and lack of trainings related to panchayat raj and information technology (IT); In case of suggestion, vacant positions may be filled up, development grants should be increased trainings should be given on panchayat raj activities as information technology, sufficient administrative powers to be given were the major suggestions given by the respondents. For active involvement and leadership development among panchayat raj representatives capacity building programmes should be arranged considering the areas like soft skills development, rule and regulations, administrative powers and information technology.

31. A STUDY ON FEEDBACK MECHANISM OF AGRICULTURAL EXTENSION SERVICES IN SAURASHTRA REGION OF GUJARAT

YEAR : 2018

NAME OF STUDENT

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Feedback increases linkage between the clientele, technologies and the development agencies. It is essential to analyse the factors and suggest strategies to the stakeholders for its effective functioning. Hence, the study entitled "A study on Feedback Mechanism of Agricultural Extension Services in Saurashtra Region of Gujarat" was undertaken.

Ex post facto research design was followed. The present investigation covered five districts of the Saurashtra Region of Gujarat. A Purposive multistage sampling method was used with a sample size of 240 respondents. interview schedule was used for data collection. The research scientists possessed doctoral degree with medium experience and low training undergone. Their utilization of extension teaching methods, communication media and level of interaction was medium having high ability to give feedback.

The extension personnel were graduates with low experience and medium job commitment and high extension service orientation. Their utilization of extension teaching

methods, communication media and level of interaction was medium having medium ability to give feedback. The farmers were middle aged, possessed secondary education and medium farming experience with medium training undergone. Their utilization of extension teaching methods was low and communication media and level of interaction was medium having medium ability to give feedback.

The awareness and perception of the respondents indicated that majority of the research scientists, extension personnel and farmers had medium awareness about feedback mechanism. The extent of participation and utilization in feedback mechanism by the respondents indicated medium participation by research scientists and extension personnel and low participation by farmers.

The correlation analysis revealed that the variables like extension teaching methods, ability to give feedback, level of interaction, reporting, extension service orientation were positively and significantly associated with extent of participation and utilization in feedback mechanism by research scientists and extension personnel. While for farmers the variables like education, experience, training undergone, extension teaching methods, communication media used, farm size and level of interaction positively significant with extent of participation and utilization in feedback

During the study the major problems expressed by research scientists' extension personnel and farmers were: during the workshops and other meetings the farmers/ extension personnel do not provide sufficient feedback: Insufficient extension personnel to cover huge farm population; Lack of techniques and skills to give feedback to the extension personnel/ researchers and Inadequate contacts by the extension personnel and the research scientists with farmers.

The major suggestions offered by research scientists, extension personnel and farmers were: Ensure that the farmers and extension personnel in giving accurate feedback during workshops and other meetings in written form: Recruitment of field level staff to fill up the vacant posts to ensure better services: As a part of the regular job, routine based activity should be undertaken to collect feedback from the farmers after conducting every program, Teach / guide the farmers to use the feedback mechanisms to express freely and accurately of extension activities in a comfortable way.

Documenting the feedback given at various level by concerned stakeholders, improve the extension contacts by utilizing the existing ICTs like mobile telephony (SMS), networking of farmers groups and, specific need based training for effective getting/giving feedback, farmers organisations /groups may be initiated and strengthened to improve the effective utilization of feedback mechanism in Agricultural Extension Services.

32. CRISIS MANAGEMENT ADOPTED BY CASTOR GROWERS OF NORTH SAURASHTRA REGION OF GUJARAT STATE

YEAR : 2018

NAME OF STUDENT

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MAJOR ADVISOR

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Agriculture is the backbone of Indian economy. Our population is increasing day by day and India has only 2.4 per cent of total land area on the planet earth, to support survival of about 1.30 billion population, which is nearly 1/5th of total world population. Indian agriculture has shown tremendous evolution after independence still severe droughts and other natural calamities is the features which impair the agricultural development. It is needed to increase production of important oil seeds crops to income security for the farmer. Despite, technological advancement, there is a wide gap exists between the know-

how already attained and their application in the farmers' fields. It is well known fact that the gross cultivated area under agriculture cannot be increased. In this situation the adoption of different crisis management practices may serve a suitable and viable option to encounter the present challenges. The present investigation entitled "Crisis Management Adopted by Castor Growers of North Saurashtra Region of Gujarat State" was conducted as an attempt to understand the knowledge and extent of adoption of castor growers about crisis in castor cultivation, constraints faced by them in adoption and get their suggestions to overcome these constraints.

The theoretical orientation was developed for the study on the basis of review of literature. The various concepts utilized in the study were operationalized suitably. Based on the assumptions, the tentative paradigm was laid down and finally the null hypotheses were also formulated. In order to measure the extent of adoption of crisis management in castor crop a standardized scale was developed. The indices as well as developed scale were used to measure the independent variables. Total 180 castor growers were selected randomly from four talukas viz; Muli and Dasada of Surendranagar district and Jamnagar and Lalpur of Jamnagar district for the study and were interviewed with the help of structured interview schedule. The collected data were analyzed, tabulated and interpreted in term of objectives.

In respect to different selected characteristics of the castor growers it was found that 60.00 per cent of the castor growers were in the middle age group and 62.77 per cent of the castor growers possessed primary to secondary level of education. As regard to land holding, above two-third (71.12 per cent) of the castor growers had a semi medium to medium size of land holding and above three-fourth (76.11 per cent) of the castor growers had medium social participation. In case of irrigation index category 55.00 per cent of the castor growers had medium irrigation index and 69.44 per cent of the castor growers had medium castor yield level.

More than two-third (71.67 per cent) of the respondents were from medium level of management orientation, 75.56 per cent of the castor growers were from medium castor cropping intensity, near two-third (65.56 per cent) of the castor growers were from medium index of farm experience, (52.22 per cent) of the castor growers were from medium innovativeness, 59.44 per cent of the castor growers were from medium risk orientation, above half (57.78 per cent) of the castor growers were from medium level of extension participation and more than two-third (78.33 per cent) of the castor growers were from medium level of knowledge about crisis management practises.

There was negative and highly significant association between adoption of crisis management practices of castor growers with their age and index of farm experience. The characteristics like, education, social participation, yield level, management orientation, innovativeness, extension participation and knowledge had positive and highly significant relationship with adoption level of respondents with respect to crisis management practices. The characteristics like irrigation index and risk orientation had positive and significant relationship with adoption level of respondents with respect to crisis management practices. There was non-significant association of the adoption level of respondents with respect to crisis management practices with their size of land holding and cropping intensity.

The important constraints perceived by castor growers were: unavailability of irrigation water during dry spell of crop period, wilt disease cannot be controlled completely, non- remunerative price, high price of chemical fertilizers, high rate of labour charges, unavailability of irrigation water at critical stages of crop growth, high price of

FYM/organic manures, non availability of information about future aberrant weather conditions including cyclone and scarcity of labour at harvesting stage.

Some of the important suggestions offered by the respondents were: remunerative price of farm produce should be made available, long, medium and short term forecasting system for weather situations should be developed and the information should be availed to farmers at right time, farmers should be aware well in advanced with information about the attack of different insect pest infestation, effective control measures should be developed for controlling wilt disease and improved implements should be developed for the field operation.

33. KNOWLEDGE AND ATTITUDE OF SHG MEMBERS IN RELATION TO ENTREPRENEURIAL ACTIVITIES IN SAURASHTRA REGION

YEAR : 2018

NAME OF STUDENT

Nidhi

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Self-Help Group is a small voluntary association of poor people preferably the same socio-economic back drop. The micro- credit given to them to start enterprises and it can be for all women and all men groups. However, it has been the experience that women's groups perform better in all the important activities of SHGs. SHG is a medium for the development of saving habit among the women. Self-Help Groups are informal associations of people who choose to come together to find ways to improve their living conditions. They help to build social capital among the poor, especially women. The most important functions of a Self-Help Groups are; to encourage and motivate its members to saving, to persuade them to make a collective plan for generation of additional income and to act as a conduit for formal banking services to reach them. Such groups work as a collective guarantee system for members who propose to borrow from organized sources. Keeping this in view, present study was thought to be aimed out with selected characteristics viz. personal, socio economic, psychological and communicational and developed the knowledge test as well as developed and standardizes the attitude scale, decision making abilities, working models of SHG bank linkage programme, poverty reduction, income generating activities and association between attitude and their characteristics.

In order to realize the objective of the study, 180 SHG women members were selected from 18 villages of the 6 talukas of Junagadh and Rajkot districts of Saurashtra region by employing multistage sampling technique. An interview schedule was developed in accordance with the objectives of the study and it was pre tested and translated into Gujarati. The data of this study were collected with the help of structural interview schedule. The collected data were classified, tabulated, analyzed and interpreted in order to make the findings meaningful. The statistical measures such as percentage, mean, mean per cent score, standard deviation, correlation co-efficient and Z test were used in the study.

The results of the research indicated that majority (58.89 per cent) of the respondents were from middle age group, more than one third (34.45 per cent) of the SHG women members were educated up to secondary school, joint family (55.56 per cent) and medium family size (48.33 per cent). Whereas, 76.67 per cent respondents were found in landless category, fifty per cent of the SHG women were found in the category of 50,001/ to 1,00,000/ annual income. Majority of the respondents had medium level of extension participation (60.00 per cent), proactive attitude (65 per cent), skill development (66.11 per cent), market orientation (65.00 per cent), achievement motivation (76.67 per cent), risk

orientation (43.89 per cent), innovativeness (76.11 per cent) and source of information (68.89 per cent). Majority of the respondents (65.00 per cent) had medium level of the knowledge about SHG & its activities. In case of aspect wise knowledge, respondents had highest knowledge about the legal rights. More than one fourth (27.78 per cent) of the respondents had moderately favourable attitude towards Self Help Groups and its activities. SHG women members had highest decision score (5.14) in the area of planning for children education. Before joining of the SHG, monthly income of the respondents (48.88 per cent) were in the range of 1000/ to 2000/ whether after joining of the SHG of the respondents (50.56 per cent) had 3000/ to 4000/ per month income. Majority (73.33 per cent) of the SHG members was doing the handicrafts activity and gaining good income as well as reputation in their society.

The variables *viz.*, education, extension participation and source of information had positive and highly significant correlation with attitude. The variables *viz.* size of land holding, annual income, proactive attitude, skill development, market orientation, achievement motivation, innovativeness were positively and significantly correlated with the attitude of SHG members towards SHG & its activities. While age, family type, family size, risk orientation had non-significant correlation with the attitude of SHG members towards SHG & its activities.

The lack of information regarding online purchasing and selling system was the most severe constraint encountered by the majority of the SHG members followed by transportation facility are not adequate and sometime marketing is difficult work were severe constraints perceived by the SHG members. The most important suggestions offered by the respondents to overcome the constraints were; training programmes should be arranged on online system, there should be any transportation facility like auto, motorcycle, scooty etc. for SHG and marketing facility should be improved.

34. ASSESSMENT OF MOBILE COMMUNICATION TECHNOLOGIES IN ADOPTION OF INFORMATION AND FARMERS DECISION MAKING PROCESS

YEAR : 2019

NAME OF STUDENT

Pankaj Kumar Meghwal

MAJOR ADVISOR

Dr. N. B. Jadav

The specialists of information and communication technologies have appreciated that mobile is the most suitable device for improving the knowledge, creating general awareness and speedy learning amongst the farmers because it reaches a large number of people at a very low charge and become a requirement in the present-day society irrespective of age, status, profession, income groups or place of residence. With this consideration, the problem entitled "Assessment of Mobile Communication Technologies in Adoption of Information and Farmers Decision Making Process" was undertaken.

Ex-post facto research design was followed. The present investigation covered three districts of the Saurashtra Region of Gujarat. A multistage sampling method was used with a sample size of 240 respondents. In this study, a scale was developed, which can scientifically measure perception of the farmers about role of mobile in decision making process in agriculture. The statistical measures such as frequency, percentage, arbitrary method, one sample test of kurtosis & skewness, correlation analysis and multiple regression analysis were used.

In respect to profile characteristics, nearly half (49.58 per cent) of the respondents were from middle age category, majority (65.00 per cent) of the respondents were having high

school level education, highest per cent (36.26 per cent) amongst the respondents had small land holding, 60.83 per cent of the respondents were from income group of Rs. up to 1,00,000/-, about fifty per cent (48.75 per cent) of the respondents had medium level of social participation, more than fifty (56.25 per cent) of the respondents were in above 15 years category of farming experience, majority (61.25 per cent) of the respondents had medium level of attitude towards social media use, 51.67 per cent respondents received short duration training, majority (77.08 per cent) of the respondents had every day exposure of internet facility, majority (79.59 per cent) of the respondents were in medium to high information needs category, nearly half (47.92 per cent) of the respondents were from middle innovativeness category, more than fifty per cent (52.50 per cent) of respondent were in medium category of scientific orientation, majority (65.42 per cent) of the respondents were from medium risk orientation category and majority (62.91 per cent) of the respondents were from high to very high knowledge about mobile features.

Regarding perception of the farmers about role of mobile in decision making process in agriculture, it was found that more than fifty per cent (51.67 per cent) of the respondents were from high perception of the farmers about role of mobile in decision making process in agriculture category followed by 30.00 per cent, 14.58 per cent, 2.50 per cent and 1.25 per cent respondents falling under very high, medium, low and very low perception of the farmers about role of mobile in decision making process in agriculture category respectively. The data on adoption of information revealed that, exactly forty per cent (40.00 per cent) of the respondents were from high adoption category followed by 38.33 per cent, 11.25 per cent, 5.42 per cent and 5.00 per cent respondents falling under medium, very high, low and very low adoption category respectively.

Out of twenty three independent variables; annual income, occupation, extension agency contact, achievement motivation, attitude towards social media use, frequency of internet use, mass media participation, cosmopolitaness, attitude towards ICTs, information needs, innovativeness, scientific orientation, risk orientation, economic motivation and knowledge were found having highly significant and positive relationships with perception of the farmers about role of mobile in decision making process in agriculture at 0.01 level of significance. Twelve independent variables viz., annual income, occupation, social participation, extension agency contact, achievement motivation, frequency of internet use, availability of ICT tools, cosmopolitaness, innovativeness, scientific orientation, risk orientation and economic motivation were found having highly significant and positive relationships with adoption of information at 0.01 level of significance.

The important constraints given by respondents were poor network coverage/poor connectivity, non - availability of updated contents in local language and language barrier to operate/use the mobile services & applications; In case of suggestions, continuous accessible network services should be made available in rural areas, information should be offered in understandable local language and mobile call from service providers should be done according to suitable timing of farmers in short & simple form.

35. KNOWLEDGE, ATTITUDE AND UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY SERVICES BY FARMERS OF SAURASHTRA REGION OF GUJARAT STATE

YEAR : 2020

NAME OF STUDENT

P. B. Raviya

MAJOR ADVISOR

Dr. V. J. Savliya

The agricultural information is vast, interdisciplinary and specific to different agro-climatic zones and needs a proper intimation dissemination system for its effective use

Hence, agriculture information resources should be significantly organized and processed to disseminate right information to the right users at the right time. Communication is recognized as an important input for development to disseminate and create dialogue among different stakeholders about the technologies and issues of agriculture, environment and sustainable development. The farmers become more sophisticated and more dependent on others for goods and services with the mobilization of agriculture from traditional to modern pattern. Their needs become more complex and diversified. The advancements in ICT can be utilized for providing accurate, timely, relevant information and services to the farmers, thereby facilitating better adoption of these technologies to make agriculture profitable. With this consideration, the problem entitled "Knowledge, attitude and utilization of Information and Communication Technology services by farmers of Saurashtra region of Gujarat state" was undertaken.

A study was conducted in Junagadh, Rajkot and Amreli districts of Gujarat state. Two talukas were selected from each district. From each selected taluka, four villages were selected randomly. Total twenty-four villages from six talukas were selected randomly and ten farmers from each village were selected as respondents. Thus, a sample of total 240 farmers was considered for the study.

With respect to characteristics, more than two-fifth (42.92 per cent) of respondents belonged to middle age group, about one-third (33.75 per cent) of respondents had education up to high school level, about three-fifth (60.83 per cent) of the respondents had medium farming experience, about one-third (32.92 per cent) of the respondents had semi medium size of land holding, more than three-fifth (61.25 per cent) of the respondents had medium social participation, more than one-third (36.25 per cent) of the respondents had high annual income, about three-fifth (56.67 per cent) of respondents had medium extension participation, more than half (53.34 per cent) of the respondents had medium utilization of mass Media exposure and more than half (54.58 per cent) of them had utilized sources of information at medium level. With regarding to availability of ICT tools; mobile was available to all (100.00 per cent) the respondents followed by TV (97.08 per cent) and Radio (35.42 per cent), about three-fifth (58.75 per cent) of the respondents had and level of risk orientation, about three-fifth (57.92 per cent) of the respondents had medium level of innovativeness, about three-fifth (59.58 per cent) of the respondents had medium level of market orientation and about two-fifth (39.59 per cent) of respondents had medium level of scientific orientation.

About two-third (64.17 per cent) of respondents had medium level of services followed by knowledge about Information and Communication Technology 21.25 per cent and 14.58 per cent respondents had high and low level of knowledge, respectively. About two-third (67.08 per cent) of farmers were having favourable attitude towards ICT services followed by 17.08 and 15.83 per cent of farmers had less favourable and more favourable attitude towards ICT services, respectively. More than two-third (70.42 per cent) of the farmers utilized Information and Communication Technology services at medium extent, followed by 18.33 and 11.25 per cent had low and high level of utilization, respectively.

The characteristics like age, education, farming experience, size of land holding, social participation, annual income, extension participation, mass media exposure, sources of information, availability of ICT tools, innovativeness, market orientation and scientific orientation had significant of respondents relationship with their knowledge regarding ICT services.

The characteristics like age, education, farming experience, social participation, annual income, extension participation, mass media exposure, sources of information,

availability of ICI- tools, innovativeness, market orientation and scientific orientation of respondents had significant relationship with their attitude towards ICT services. The characteristics like age, education, social participation, annual income, extension participation, mass media exposure, sources of information, availability of ICT tools, innovativeness and scientific orientation of respondents had significant relationship with their utilization of ICT services. The most important constraints faced by farmers in accessing information through ICT were : Inadequate literacy skills to use ICTs, high cost of some ICT gadgets and services, lack of technical knowledge to operate the ICT tools.

In case of suggestions form the respondents, Information should be offered in understandable local language, relevant trainings should be organized for development of skills in usage of ICT tools and information needs of farmers should be identified to make worthy use of ICT tools and services.

36. ASSESSMENT OF RESOURCE USE MANAGEMENT BEHAVIOUR AND FARM MANAGERIAL ABILITY OF COTTON GROWERS

YEAR : 2021

NAME OF STUDENT

T. D. Kapuriya

MAJOR ADVISOR

Dr. N. B. Jadav

Cotton, the important cash crop, globally known as “King of Fibre” offers an important natural fabric material to the world has been a point of fascination. It is an important fiber crop of global importance, which belongs to the genus *Gossypium* in the family Malvaceae. Cotton in a way is a gift of the Indian subcontinent to human civilization. The state of Saurashtra has the monopoly in cotton production in the country. It is playing a key role in economic, political and social affairs of the world. Thus, present study is an attempt to study the resource management analysis and managerial ability assessment of production technologies on cotton production in Gujarat state. Role of the farmer with respect to farming he is operating to be a manager. As a manager he should have the managerial abilities for efficient and effective utilization of resource to get maximum return. Managerial ability of the farmer is the ability to perform the functions of the management like planning, organizing, supervising, coordination and controlling the process of crop production. With this consideration, the problem entitled “Assessment of resource use management and farm managerial ability of cotton growers” was undertaken.

A study was conducted in Surendranagar, Rajkot and Amreli districts of Gujarat state. Two talukas were selected from each district. From each selected taluka, four villages were selected randomly. Total twenty-four villages from six talukas were selected randomly and twelve farmers from each village were selected as respondents. Thus, a sample of total 288 cotton growers was considered for the study. A multidimensional scale was developed for assessing farm managerial ability of cotton growers and they were grouped by developing a farm managerial ability index specially formulated for the study.

In respect to socio-personal characteristics, nearly half of the respondents were from middle age group, more than half of them were educated up to primary and middle school level. Majority (35.76 per cent) were from medium land holding category, 28.47 per cent of them were having annual income above 1.5 to 2 lacs. Most of respondents had irrigation source as a well and canal (31.94 per cent). Whereas, regarding farming experience (53.47 per cent), social participation (61.46 per cent), trainings undergone (59.03 per cent), extension participation (51.39 per cent), mass media exposure (64.94 per cent), knowledge (63.89 per cent), scientific orientation (43.06 per cent), market orientation (40.64 per cent), achievement motivation (42.36 per cent), cropping intensity (64.58 per cent), yield index

(65.63 per cent) and farm mechanization index (65.97 per cent) majority of them were from the middle categories.

The data on resource use management behaviour that, less than three-fifth (56.59 per cent) of the farmers had high level of resource use management behaviour, followed by 26.05, 13.54 and 03.82 per cent of them were with very high, medium and low level of resource use management behaviour, respectively.

Majority (64.58 per cent) of cotton growers had medium level of overall managerial ability, while slightly less than one-fifth (18.75 per cent) of respondents fall under the category of low managerial ability. The remaining 16.67 per cent respondents possessed high managerial ability.

Out of nineteen variables, education, farming experience, training, land holding, annual income, risk orientation, market orientation, irrigation potentiality, cropping intensity, yield index and farm mechanization index were found to have highly significant correlation with resource use management behaviour and farm managerial ability of cotton growers.

Whereas, regression analysis of farm managerial ability revealed that education, size of land holding, annual income, innovativeness, scientific orientation, yield index and farm managerial ability were contributing significantly to farm managerial ability. While, regression analysis of resource use management behaviour indicated that farming experience, annual income, scientific orientation, market orientation, cropping intensity and yield index were contributing significantly to the resource use management behaviour.

The important constraints given by respondents were concerning to the pink boll worm damage increase day by day, unremunerative price of cotton crops and failure of crop due to heavy rainfall; In case of suggestion, support price of the production should be higher, step should be taken to control of pink boll worm and inputs (chemical fertilizers, insecticides and fungicides) should be provided at reasonable rates.

37. ATTITUDE AND PERCEPTION OF FARMERS TOWARDS NATURAL FARMING IN SAURASHTRA REGION

YEAR : 2021

NAME OF STUDENT

P. H. Zala

MAJOR ADVISOR

Dr. B. N. Kalsariya

In natural farming, farmers need not purchase fertilizers and pesticides in order to ensure the healthy growth of crops. In India, natural farming is often referred to as 'Rishi Kheti', which is based on ancient Vedic principles of farming like the use of animal waste and herbal juices for controlling pests and promoting growth of plants. Keeping this in view, present study was thought to be carried out with profile characteristics of adopted and non-adopted natural farming farmers, identify and document natural farming practices, measure the attitude and perception of farmers, relation between selected characteristics of adopted and non-adopted farmers and their attitude, constraints faced and suggestion offered by adopted farmers in natural farming.

A study was conducted in six talukas of Junagadh, Rajkot and GirSomnath districts of Gujarat state. The talukas were purposively selected based on their highest number of practicing natural farming. The number of villages were selected irrespective from each taluka on the basis of available of adopted natural farming farmers. Total 144 adopted and 144 non-adopted farmers, making 288 farmers as sample size.

The adopted and non-adopted natural farming farmers were middle age group, possessed high school level education, medium farming experience, semi medium size of

land holding with medium to high annual income. The localite-cosmopolite value orientation, extension participation, source of information, decision making and environmental orientation were medium level of both group of farmers.

The majority of adopted natural farming farmers possessed high herd size, high level of innovativeness, risk orientation, market orientation, achievement motivation, economic motivation and self-confidence as compared to non-adopted natural farming. While majority of non-adopted natural farming farmers had more scientific orientation as compared to adopted natural farming.

It is observed that out of eighteen variables included in the Z test, fourteen variables viz.; age, education, herd size, size of land holding, annual income, localite-cosmopolite value orientation, extension participation, source of information, risk orientation, innovativeness, market orientation, economic motivation, self-confidence, scientific orientation, decision making and environmental orientation were having higher mean values for adopted natural farming farmers and are significantly different from non-adopted farmers.

Nineteen natural farming practices were identified, documented and found out their benefit as perceived by the farmers during the first stage of investigation. Practices like; jivamrut, neemastra, bijamrut, dashparniark, aak mixture, cow urine, cow dung and buttermilk solution are known to almost all farmers and adopted by them extensively because they got benefit from them.

Majority of the adopted (81.94 per cent) and non-adopted (62.50 per cent) farmers had medium to high level of attitude towards natural farming. More than three fourth (75.76 per cent) of the adopted and less than one-third (30.56 per cent) of non-adopted farmers had medium to high level of perception about natural farming.

The characteristics of the adopted farmers like; education, herd size, extension participation, source of information, risk orientation, innovativeness and environmental orientation had positive and highly significant relationship with their attitude towards natural farming. Whereas, size of land holding, localite-cosmopolite value orientation, market orientation, achievement motivation, economic motivation, self-confidence and decision making had positive and significant relationship with their attitude towards natural farming. Age and scientific orientation of adopted farmers had negative and significant relationship with their attitude towards natural farming.

In case of non-adopted farmers, source of information had positive and highly significant relationship with their attitude towards natural farming. Whereas, education, herd size, extension participation, risk orientation, innovativeness, market orientation, economic motivation and environmental orientation had positive and significant. Self-confidence and scientific orientation had negative and significant relationship with their attitude towards natural farming.

Out of all the eighteen independent variables of adopted farmers, seven variables viz.; education, size of land holding, extension participation, source of information, innovativeness, decision making and environmental orientation made significant contribution (59.92 per cent) in attitude of adopted farmers towards natural farming.

The most important constraints faced by the farmers in practicing natural farming were; farmer did not get higher price of natural products in local market, lack of specialized markets for naturally produce, lack of proper extension activities viz. training, demonstration regarding natural farming practices, farmer do not know proper method of making jivamrut, agniasthra, dashparniark etc. The major suggestions offered by farmers were; there should be assured high price of naturally produce, administrative setup should promote natural farming, training should be provided to farmers on natural farming.