

DRAFT TERMS OF REFERENCE FOR HIRING CONSULTANT

AUTOMATION IN GREENHOUSE CULTIVATION

JUNAGADH AGRICULTURAL UNIVERSITY, JUNAGADH, GUJARAT, INDIA

Title of the Position: Short term subject consultant (Automation in Greenhouse Cultivation)

The Client: Junagadh Agricultural University, Junagadh, Gujarat, India

Reporting Lines: Principal Investigator, IDP, O/o Director of Research & Dean PGS, University Bhavan, JAU, Junagadh-362001, Gujarat, India.

<p>1) Background information on the project and the assignment</p>	<p>The Organization : Junagadh Agricultural University (JAU), a state agricultural university was established in the year 2004 with the enactment of Act No. 5 of 2004 (Gujarat Agricultural Universities Act, 2004) and mandated to work in the field of higher education in different Agriculture and allied sciences like Agriculture, Horticulture, Veterinary Sciences and Animal Husbandry, Agribusiness Management, Agricultural Engineering, Food Processing Technology, Biotechnology, Fisheries etc.; as well as contribute in the location specific research in agricultural field and also act as a nodal agency for the extension of developed technologies to the end users such as farmers, consumers, entrepreneurs etc.</p> <p>The Project : Indian Council of Agricultural Research is the premier body working under Ministry of Agriculture, Cooperation and Farmer Welfare, Government of India (GoI) which is handling core issue of regulation and development basic and higher education, research and extension activities in agriculture and allied field. The Indian Council of Agricultural Research (ICAR) in collaboration with the World Bank has enunciated a series of projects to revamp the national research, extension and innovation systems. The National Agricultural Higher Education Project (NAHEP). Among the three components of the NAHEP, Institutional Development Plan (IDP) is the major component of Investments toward 21st Century Agricultural Universities Education Plan. The IDP for Junagadh Agricultural University (JAU) having total budget outlay of Rs. 30 crores (US\$ 4.5million, including 20% state share) has been considered by the ICAR for improving competency of faculty and education quality at graduation level students among all faculties of the JAU. The theme of the project formulated by JAU is “Artificial Intelligence, Automation, Robotics and Drone Technology in</p>
---	--

	<p>Agriculture". This project will attempt to strengthen human resource capabilities by exposing students to international environment of agricultural education. The project will be pillared on fast-learning of emerging technologies like robotics & artificial intelligence so as to meet the demand for highly skilled workers in present advanced technology arena to better explore the needs of biological variability, human interference and inspection, decision making and action in the field of agriculture and allied disciplines. The Followings are the major objectives of the IDP for JAU, Junagadh project.</p> <ol style="list-style-type: none"> 1. To develop skill and inculcate entrepreneurship among the students. 2. To strengthen linkages between institute, industries, corporate and foreign agencies. 3. To strengthen student services and integrated management information system. <p>This project shall focus on to acquaint UG students, faculty members and technical project staff with latest technologies in different spheres of Artificial Intelligence, robotics and drone technology in Agriculture; Soft skill and entrepreneurship development, capacity building, competency development, development of course curriculum and lab facilities.</p> <p>Background for Consultancy: The JAU-IDP project sub unit will seek advisory services from skilled person who match the criteria and provide assistance to IDP project in the “Drone operating, image collection and analysis” unit team member(s) in developing international level course syllabus and laboratory facilities in this area. The respective area consultant will engage with national and international experts and provide support to the project and to have linkage with them. The consultant will render his expertise in various training, seminars, workshops skill development programme to be organized under this project sub unit. He/She will also remain involved with formulation of various academic activities and development of various methods/techniques.</p>
<p>2) Precise statement of the objectives of assignment</p>	<p>The Project envisages educating the students with basic and applied concept of “Artificial Intelligence, Automation, Robotics and Drone Technology in Agriculture”. It aims to develop skill and inculcate entrepreneurship among the agriculture and allied science students in the advanced technology areas like Artificial Intelligence, Automation, Robotics and Drone Technology and thereby to improve job prospectus of the students and overall real time advise to farmers to better their overall income levels. It aims to establish model laboratories which will provide an opportunity for skill-oriented training programme for students, to explore newer technique/methods/protocol/ income maximizing</p>

	<p>tool. The consultants will provide assistance to this IDP project sub unit members to fulfill the following objectives:</p> <ol style="list-style-type: none"> i. Assistance in development of programme plan, bidding process, procurement of various equipment and establishment of international level AI, robotics and automation learning facilities. ii. Development of Courses on AI, ML, Automation and robotics & Drone technology in Agriculture for UG programme in Agriculture and allied sciences iii. Expert advice and assistance in identification and implementation of Students exchange, skill development trainings (National /International) and Entrepreneurship development programmes for UG/PG students in given areas. iv. Assistance and expert advice in conducting various vocational and skill development trainings. v. Assistance in identification and implementation of exchange and training programme for faculty in India and abroad vi. Assistance in Identification and Implementation of institute-Industry linkages for R & D, Consultancy, testing, Sponsored/joint industrial research, Use of industrial labs by institute, Research guidance from industry, Creation of collaborative labs & testing facilities, Solutions for field problems, Research fellowship support , Creation of industrial chair, Short-Term Training Programmes/ assignments to the industry experts, Collaborative Educational Programmes, Industry-Institute Exchange and Participation of industrial experts in curriculum design vii. Assistance in identification and framing collaborative education and R&D work programme with national and international reputed institutions to facilitate development of linkage and working relation for sharing the expertise, infrastructure and technical knowhow between this project sub unit and world-class national and international private and government institutes/organizations.
<p>3) An outline of the tasks to be carried out (Scope of services) including transfer of knowledge, if any</p>	<p>The consultant have to support and provide the guidance to IDP project members in :</p> <ul style="list-style-type: none"> • Layout plan for establishment of facilities of drone operating, image collection and analysis. • Purchase of various relevant equipments, instruments, machinery, consumables, etc. • Planning of students trainings, sandwich programme, entrepreneurship and exchange plan (National and

	<p>International)</p> <ul style="list-style-type: none"> • Planning of faculty exchange and training • Institute and industries linkages and collaboration plan • Consultant supposed to submit report
4) Schedule for completion of tasks:	<p>Most of the work related this project will be done at JAU, Campus however for certain specific works the consultant may have to go the other part of the Gujarat or other parts of India.</p> <ul style="list-style-type: none"> • Duration and Length of the Assignment: The Initial contract period of the assignment will start from February 01, 2019 to March 31, 2019. The length of this assignment will be about two months. However, the length of contract period will be subjected to expansion. But it is based on discretion of committee of JAU. • Financing and Payment Schedule: The assignment will be financed under IDP project entitled “JAU-IDP Project” under National Agricultural Higher Education Project. The payment will be made in two installments based upon submission and approval of the report related with all deliverables. This Contract shall come into effect on the date the Contract is signed by both Parties or such other later date as may be stated in the terms of reference (TOR). • The Consultant shall begin to carrying out the Services not later than the due dates after the Effective Date stated in TOR. • Unless terminated earlier, Contract shall expire at the Effective Date as specified in the TOR.
5) Description of key professionals whose CVs would be evaluated	<p>Educational Qualifications:</p> <ul style="list-style-type: none"> • M.E. / M. Tech. (RS GIS / EC) <p>Experience:</p> <ul style="list-style-type: none"> • Should have expertise in concerned area. • Substantial data management expertise: • Strong analytical and problem-solving skills. • Demonstrated ability to set priorities and to work with minimum supervision in order to meet challenging deadlines. • Fluency in English and Hindi language. • Preferably should have worked with reputed international/national organization/institution as a consultant.
6) Outputs and Deliverables (List of reports, schedule of deliveries, period of performance etc.)	<p>The consultant shall support IDP project sub unit and contribute substantively in writing report in English language containing the following information:</p> <ul style="list-style-type: none"> • Layout plan for establishment of facilities for drone operating, image collection and analysis. • Assistance in purchase of various relevant equipments,

	<p>instruments, machinery, consumables, etc.</p> <ul style="list-style-type: none"> • Assistance in planning of students trainings, sandwich programme, entrepreneurship and exchange plan (National and International) • Assistance in planning of faculty exchange and training • Institute and industries linkages and collaboration plan • Consultant is supposed to submit report
7) Data, services, personnel and facilities to be provided by the Client	The IDP project sub unit will provide office space, communication support and other pertaining resources required for smooth implementation of the assignment.
8) Composition of review committee to monitor consultants' work	<p>A review committee will formed to monitor the progress and performance of the service provider i.e. consultant. The composition of the review committee will be as follow:</p> <ol style="list-style-type: none"> 1. Hon. Vice Chancellor Chairman (Ex officio) 2. PI of IDP and Director of Research & Dean PGS, Executive Chairman 3. Nodal Officer, NAHEP-IDP and ADR, Member Secretary 4. Co-PI(s) of IDP Member 5. Procurement Officer, IDP Member
9) Procedure for review of progress reports, inception, status, final draft and final reports	The review committee will meet monthly or Executive Chairman can convene the special meeting at any point of the contract period to monitor the progress and performance.
10) Others	<p>A) Modifications or Variations</p> <p>Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any proposals for modification or variation made by the other Party.</p>
11) Force Majeure	For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party and which makes a Party's performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.
11.1) Extension of Time	Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party unable to perform such action as a result of Force Majeure.
11.2) Payments	During the period of their inability to perform the Services as a result of an event of Force Majeure, the Consultant shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and

	necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.
12) Termination 12.1) Termination by the Client	The Client may terminate this Contract in case of the occurrence of any of the events specified in following paragraphs <ul style="list-style-type: none"> a) If the consultant does not remedy a failure in the performance of their obligations under the contract, within twenty (20) days after being notified or within any further period as the client may have subsequently approved in writing. b) If the consultant becomes insolvent or bankrupt. c) If the consultant, in the judgment of the Client has engaged in corrupt or fraudulent practices in competing for or in executing the contract. d) If, as the result of Force Majeure, the Consultant are unable to perform a material portion of the Services for a period of not less than two (02) months. e) If the client, in its sole discretion and for any reason whatsoever, decides to terminate this contract
12.2) Termination By the Consultant	The Consultants may terminate this contract, by not less than thirty (30) days' written notice to the client, such notice to be given after the occurrence of any of the events specified in following paragraphs <ul style="list-style-type: none"> a) If the client fails to pay any money due to the consultant pursuant to this Contract. b) If, as the result of Force Majeure, the consultant is unable to perform a material portion of the services for a period of not less than two (02) months. c) If the client fails to comply with any final decision reached as a result of arbitration.
12.3) Payment upon Termination	Upon termination of this Contract the Client shall make the following payments to the Consultant: (a) payment for services satisfactorily performed only prior to the effective date of termination
13) Conflict of Interests	The consultant shall hold the client's interests paramount, without any consideration for future work and strictly avoid conflict with other assignments or their own corporate interests. The consultant shall not accept for their own benefit any trade commission, discount or similar payment in connection with activities pursuant to this contract or to the services or in the discharge of their obligations under the contract and the consultant shall use their best efforts to ensure that the personnel, any sub-consultants and agents of either of them similarly shall not receive any such additional payment. The consultant shall not engage and shall cause their personnel as well as their sub-consultants and their personnel not to engage, either directly or indirectly, in any

	business or professional activities which would conflict with the activities assigned to them under this contract.
14) Confidentiality	Except with the prior written consent of the client, the consultant and the personnel shall not at any time communicate to any person or entity any confidential information acquired in the course of the services, nor shall the consultant and the personnel make public the recommendations formulated in the course of, or as a result of, the Services.
15) IPR and Publication	All IPR and publication rights will remain with the client only. The consultant will not claim any IPR and will not publish any report/findings etc. in any form without prior permission of the client.
16) Arbitration	<ul style="list-style-type: none"> • It is hereby agreed between the two Parties that TOR shall be executed in manner and form outlined in this Agreement. Any dispute, controversy, difference of any kind whatsoever or claim arising out of or in relation to this Agreement, or the breach, termination or invalidity thereof, shall be settled amicably by negotiation between the Parties. If no amicable resolution or settlement is reached within a period of thirty (30) days from date on which above-mentioned dispute or difference arose, such dispute or difference shall be referred to an Arbitrator, appointed by mutual consent of both the Parties herein. • If the Parties cannot agree on the appointment of an Arbitrator within a period of two months from the notification by the party to the other of existence of such dispute, then the Arbitrator shall be appointed by JAU-Junagadh. • The seat of arbitration shall be Junagadh and arbitration shall be conducted in English language. • The arbitration will be carried out in accordance with the provisions of Indian Arbitration and Conciliation Act of 1996 or of any modifications or reenactments thereof. • The arbitral award will be final and binding, subject to legal remedies available under the law. • Existence of any dispute or difference or initiation or continuance of arbitral proceedings shall not postpone or delay performance by Parties of their respective obligations under or pursuant to this Agreement. Further, this Agreement shall remain subsisting and operative during the arbitral proceedings and no payment due and payable to either Party shall be withheld except payment in dispute, if any. • This Agreement shall be governed by, construed and enforced in accordance with the prevailing laws of India.

17) Recommended Presentation of Proposal	<p>Given below is the recommended format for submitting your proposal. The following headings with the required details are important.</p> <p>CVs with a proposed methodology addressing the elements mentioned under deliverables must be submitted by 27th January, 2019 electronically via email: caet@jau.in.</p> <p>Incomplete applications will not be considered and only candidates for whom there is further interest will be contacted.</p> <p>Proposals must include:</p> <ul style="list-style-type: none">• CV or written form addressing the evaluation criteria and why you consider yourself the most suitable for this assignment. The selected candidate must submit a signed form prior to contract award.• Three (03) most recent professional references• A brief methodology on how you will approach and conduct the work• Financial Proposal specifying the daily rate and other expenses, if any• Letter of interest and availability specifying the available date to start and other details. <p><i>Queries about the consultancy can be directed to the caet@jau.in.</i></p>
---	--

16. Educational Qualification details

Sl.	Degree	Subject	Name Board / University
1.	Graduation		
2.	Post-Graduation		
3.	Others (if any)		

17. Training details relevant to the position applied (mention 2-3 most relevant training, attach certificates):

Sl.	Title of the Training program	Duration of Training	Training organized by

18. Membership of Professional Associations/Societies

Sl.	Name of Association / Society	Type of membership	Remarks

19. Total Professional Experience : _____ Years _____ month(s)

20. Details of Professional Experience (Starting from latest **) (attach copies of experience certificates):

Sl.	Designation	Organization	From (mm/yyyy)	To (mm/yyyy)	Summary of Services provided

** Attach evidentiary proof.

21. Total Experience as consultant : _____ Years _____ month(s)

Provide most relevant similar works/assignment undertaken that best illustrates suitability for the position applied (*Add tables as per activity with following format*)

Name of Assignment or Project :	
Year(s): (<i>from - to</i>)	
Name & address of employer	
Contact No & Working email address of employer (for the sake of reference/testimonial)	
Main Features of the Project/ assignment:	
Position held:	
Activities Performed/Services Provided: (Maximum 100 words)	

22. Write a brief note describing why would like to be associated with us : (*Maximum 100 words*)

--

23. Languages proficiency: (please tick ✓)

Sl.	Language	Read	Write	Speak

24. Have you ever been convicted for any anti-law activity? (If yes give details):

25. Have you ever been blacklisted for performing similar activity : (If yes give details):

26. Have you ever been discharged or forced to resign from any position? (If yes give details):

Declaration

I certify that the statements made by me in this application are true, complete and correct to the best of my knowledge and belief. I understand that any misrepresentation or fraudulence or material omission made herein or in any other document requested by JAU, Junagadh would render dismissal and termination of my candidature and contract from the assignment at any point of time, if engaged. Further, I hereby declare that I have not been blacklisted and there is no conflict of interest with ongoing works.

Date :

Signature of the Candidate

Place :

Important Note:

- 1. Submit scanned copy of duly filled and signed application form along with self attested scanned certificates / testimonials / other relevant documents to caet@jau.in on or before 27/01/2019.**