

**Promoting Life Long Learning through ODL programmes**  
**Collaboration between Tamil Nadu Agricultural University and Global Open Food and**  
**Agriculture University**

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**Concept Paper**

India has a long history of developmental efforts in agricultural education. The country has a significantly well developed agricultural extension system. To develop an effective agricultural extension system in the country, the Government of India is committed in improving rural telecommunications and has plans to connect all the 500,000 villages in rural India by 2007. This provides the basic infrastructure and capacities needed to usher in a new chapter of ICT enabled ODL in agriculture. The contributions of conventional methods of delivering education had limited success. Innovative open, distance and technology-mediated learning offer a more realistic alternative as it allows for open access to quality education and increases the capacity of the university to respond to growing demands for quality undergraduate and graduate education.

**Landscape of TNAU education system**

**Traditional agriculture**

Tamil Nadu Agricultural University (TNAU) is offering ten undergraduate degree programmes and Twenty Nine Postgraduate programs in 11 colleges distributed in seven campuses all over Tamil Nadu.

Instructional areas offered in undergraduate and Post Graduate programs include Agriculture, Horticulture, Forestry, Home science, Agricultural Engineering, Bachelors of Technology programmes in Biotechnology, Food process Engineering, Energy and Environmental Engineering, Bioinformatics, Agricultural Information Technology and Agribusiness management.

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## **Distance Education**

CGIAR Centers are knowledge intensive institutions with adequate capacity in frontiers of E-learning, E-knowledge, and E-education. During the past 33 years, the CGIAR Centers have trained 75,000 people across the globe. As the demand for distance postgraduate education in agriculture is increasing rapidly at the global level, there is a need for training ten times more postgraduates in agriculture in the developing world as compared to present situation. To meet such alarming demand, conventional agricultural universities in the developing countries cannot alone meet this need.

Therefore, linkages are necessary between CGIAR centers and agricultural universities. With 15 centers, 63 members, 4 co-sponsors, and 7,600 scientists and technical staff spread across 155 countries, along with right technologies and the expertise in training, CGAIR can e-educate scientists of conventional agricultural universities to meet the demand. In order to meet the new challenges facing agriculture, TNAU has commissioned ODL to experts market in developing demand driven courses such as: Environmental Management, Sugarcane technology, bioinformatics, food biotechnology and production and quality control in medicinal plants along with other management courses. Through partnership with the CG Centers, TNAU expects the possibility of strengthening the existing curriculum and offering new frontier courses that can reach large masses. A collaborative work between the University of Guelph, Canada and TNAU, Coimbatore, funded by CIDA for a period of 6 years (1997-2003) has accelerated the growth of distance education programs at TNAU.

The Tamil Nadu Agricultural University, Coimbatore has launched an innovative approach of open and distance learning programmes – the first of its kind in the State Agricultural Universities during April 2005, with the active collaboration of Commonwealth of Learning (COL), Canada. In the ODL programme, courses are being offered through electronic media and the contents are supplied in both print and electronic media. TNAU is a pioneer in conducting contact program with five classes per semester. Ten practical classes are being offered during the contact program. Case studies, field visits and visits to industries are being undertaken in order to expose the students to real problems. Experts from TNAU— trained in the advance labs of US universities and CGIAR institutes, are offering the courses.

TNAU is offering distance learning programmes through correspondence mode *viz.* 3 PG Degree programmes, 3 PG Diploma programmes and 16 Certificate Courses for the benefit of various segments of the farming community, including entrepreneurs, self help

groups and other learners who aspire for correspondence education and are interested in establishing agro based industries in rural areas. During the last two years, over 3200 learners were enrolled for different ODL courses.

### **Open and Distance Learning in TNAU: Earlier attempts**

The Tamil Nadu Agricultural University was established during 1971 with the mandate of Education, Research and Extension Education through various Colleges campuses (10), Research Stations (34), Krishi Vigyan Kendra's (14), Agricultural Technology Information Centre (1) and Plant Clinic Centres (5). The TNAU has established effective and functional linkages with development departments like agriculture, horticulture, forestry, sericulture, agricultural engineering etc. to render quality extension services to the farming community.

### **Genesis of Directorate of Open and Distance Learning**

Farmers in rural areas in India face tremendous constraints in gaining easier access to information and knowledge that could improve their livelihoods. Given that ODL is a rapidly expanding field where new developments are occurring very quickly, a critical mass of human resource has been built through quality education rendered by the Directorate of Open and Distance Learning at TNAU in different disciplines, such as agriculture, horticulture, animal husbandry, fisheries, poultry, farm machinery, Post harvest technology and Value added products. In addition, this initiative has led to life long learning, generated entrepreneurship and employment generation, thus improving the livelihoods of resource poor farmers in rural areas.

### **Why Open and Distance Learning (ODL)?**

- To promote entrepreneurial skills among learners for creating self employment opportunities.
- To offer continuing professional education.
- To offer Agricultural Education to special groups of rural people in general, and school dropouts, small and marginal farmers and women in particular.
- To provide innovative, open system of education by using distance learning and teaching methods supported and enabled by modern Information Communication Technology (ICT) including e-learning mode.

**For whom ODL?****Primary**

Farmers, Rural youth, Entrepreneurs, School dropouts, Self help groups, Local institutions, Field service providers from local communities and Villages

**Secondary**

Entrepreneurs, State Extension personnel/Field service providers, NGOs, Administrators, Company officials and Private sector institutions

**Personal Contact Programme**

The college campuses, research stations and transfer of technology centers of the Tamil Nadu Agricultural University were identified as centers to organize personal contact programmes for the certificate courses on agriculture and allied sciences. Personal contact programme in respect of all PG programmes are being organized at TNAU Main campus.

**Resource Materials**

Resource materials play a pivotal role in enhancing knowledge and skill of the learners in any educational program. In this regard, the resource materials of high quality were compiled on Self Instructional Materials (SIM) mode to enable the learners to understand and learn the subject matter without any difficulty. The course materials were prepared by a team of experts in the respective disciplines with the inclusion of more illustrations and research base data to improve the quality of the content. The course materials were prepared well in advance and supplied to the learners at the time of enrollment of the course. Quality assurance of the study materials is being ensured in all aspects to promote continuous learning.

**How TNAU's courses relate to CGIAR mandate?**

The Tamil Nadu Agricultural University (TNAU) has already established very effective and functional linkages with the Consultative Group on International Agricultural Research (CGIAR) to promote quality research and educational programmes for the benefit of various stakeholders, in addition to strengthening the collaborative programmes for the mutual benefit of the institutions with a prime objective of reaching the resource poor farmers for their overall socio-economic upliftment.

Students from TNAU conduct research in different CGIAR centers such as IRRI, IFPRI, IWMI, CIMMYT, ICRISAT as part of their education programs of mutual interest. The students of TNAU pursued their thesis research with the help of scientists from different

CGIAR centers. This helped in faculty improvement and human resource development for the benefit of the State and Country. The overall goals of the alliance are to increase the overall impact of institution activities on poverty alleviation and to improve the efficiency with which the institution produces this impact through collective action.

The TNAU, by aligning with the goals of CGIAR, has developed adequate technical expertise through human resource development in the frontier areas of research programs, especially on biotechnology and related aspects including Postdoctoral programmes. The Global Open Food and Agriculture University collaboration proposed to be established by TNAU is a unique opportunity to improve on course content and delivery of the existing curriculum. This paper provides information on the landscape of ODL programmes in TNAU and outlines the areas for strengthening collaborative programmes through Global Open Food and Agriculture University.

### **ODL Collaboration**

In order to strengthen the efforts of the TNAU through ODL programs, it is essential to revamp ODL programmes through various activities. First, efforts on increasing ODL collaboration between partner institutions is one of the salient activities proposed. In view of the contributions made in open and distance learning by the Global Open Food and Agriculture University, the TNAU has proposed to initiate tech-mode collaboration on important dimensions, such as production of high quality agricultural graduates through continuing education, educating the next generation of stakeholders for implementing sustainable technologies and policies and maximizing the impact of CGIAR knowledge through need based programmes. Accordingly, TNAU is planning to develop the following divisions which could accelerate the dissemination of the courseware to reach in time to the learners.

### **e-Education Division**

The e-Education Division to be established at the Directorate will have to carry out five major functions to strengthen the open and distance learning programmes for the benefit of various segments of the learners who lack opportunities for campus based education.

1. Network Management
2. e-Content Development and Delivery
3. Learner Support Services
4. Research and System Development
5. Quality Assurance and Feedback Management

The main activities of the various units are as follows:

### **1. Network Management Unit**

The functions of the unit will include establishment, management and operations of websites, servers, databases, access centers, connectivity, maintenance of knowledge grid and access services. IT related training of teachers and students is essential for effective and efficient use of the Network.

### **2. e-Content Development and Delivery Unit**

The CGIAR has strong technical expertise to build and deploy customized web portal and e-learning solutions for offering ODL programmes for the benefit of various categories of learners ranging from farmers to extension agents. The proposed e-content and delivery unit would include creating e-content of static and dynamic nature including e-lectures by using media (print, audio, video, animation, simulation etc); creation of learning and knowledge resources in digital forms; continuous updating of course contents; management of interactions between students and teachers etc. The components of the e-content development viz., content creation, content development, quality assurance, IMS content packaging etc. are to be given much attention.

### **3. Learner Support Services Unit**

This would cover all student/learner related activities beginning with registration, selection of courses, tuition fees, record of performance of students, evaluation— both formative and summative, certification and communication for life-long-learning and development of students. The learner support services unit is mainly entrusted with the responsibility of sharing and exchange of ODL related information to the learners. This unit will provide the following services to the learners

- Provide meaningful, consistent and timely information to the end users.
- Update technology infrastructure to ensure flexible delivery of new systems
- Promote efficiency by converting hardcopy documents into electronic format
- Storing learners admission and progress of their study
- Documentation of students enrollment and related issues
- Access and sharing of real-time information

### **4. Research and System Development Unit**

The unit would include all the research and developmental activities with a view to improving e-education system and ultimately making it personalized and relevant to the needs, requirements and aspirations of the learners and learner groups & their communities. At present demand for agricultural education is expanding due to involvement

of various stakeholders in the production to consumption system. Stakeholders include farmers, farm women, rural entrepreneurs, school dropouts, self help groups, students and NGOs.

## **5. Quality Assurance and Feedback Management Unit**

The Organization and Management unit would evolve and operate feedback mechanism and use it for raising efficiency and effectiveness of all processes, products and services offered with built-in institutionalized quality assurance system. The Unit will have in particular

- i. Survey & Feedback System
- ii. System for learning needs analysis, and
- iii. Quality assurance cell.

### **Related initiatives of TNAU at National and International levels (Dual degree, joint degree and e-learning)**

The TNAU is a preferred destination for quality and affordable higher education in agriculture and allied sciences for international students, especially from developing countries in Africa, Asia, and the middle east. The TNAU has a long standing collaboration with many National and International universities / institutions for faculty and student exchange programmes with the following partner institutions.

#### **International Institutions**

- Cornell University, USA
- Michigan State University, USA
- Virginia Polytechnic and State University, USA
- Ohio State University, USA
- Florida International University, USA
- University of Missouri, USA
- University of Adelaide, Australia
- Universita Politecnica delle Marche, Italy
- University de Monterrey, Mexico
- Ciba University, Japan
- McGill University, Canada
- Durban University of Technology, South Africa

#### **National Institutions**

- Defence Research Laboratory, New Delhi, India
- National Remote Sensing Agency, Hyderabad, India
- Indian Institute of Spices Research, Calicut, India
- Indian Institute of Horticultural Research, Bangalore, India
- ICAR Research Complex, Goa, India
- Mahyco Research Foundation, Hyderabad, India
- Metahelix, Bangalore, India
- John Deere, Pune, India

- International Rice Research Institute, Philippines
- International Food Policy Research Institute
- Hebrew University of Jerusalem, Israel
- Volcani Center, Israel
- University of Reading, UK
- International Crops Research Institute for the Semi Arid Tropics, Hyderabad

### **Thrust areas to be addressed through the proposed collaboration with GO-FAU**

The proposed collaboration will ensure the partner institutions to revamp the ODL programmes on various dimensions with a major focus being reaching resource poor farmers through poverty alleviation efforts. The following priority areas need to be addressed by means of the collaboration with GO-FAU.

- Farming has become more knowledge intensive and requires quick communication of new knowledge to students in classroom, extension workers and farmers, with ODL being the mean to accomplish it.
- Programmes giving specialized training to the maximum number of rural youth and adult men and women especially in marginalized regions and communities.
- Limited scaling up of education and quality could better be addressed following, concept of ‘whenever and wherever’ and also ‘cost and time effective’ in ODL/E system.
- Human resource development through need based and specific skill oriented training programmes for the scientists so as to prepare the quality resource materials.
- Dissemination of technological interventions for the mutual benefit of the institutions
- Documentation of course materials developed between partner institutions by developing appropriate ODL repository.

### **Conclusion**

The proposed collaboration between TNAU and GO–FAU will facilitate exchange of ideas and technologies for the mutual benefit of partner institutions leading to improvement in ODL programs to benefit various segments of the stakeholders, who aspire for continued education and are interested in pursuing education as life long learning. In the long run, the collaboration will help to totally revamp the content and delivery mechanism of the ODL programmes in both the institutions to address the challenges of agricultural development in developing countries.