

E-Learning System for Agricultural Education in India: A Brief Review

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Abstract— Education has a very significant and strategic role in all aspects of the development of any nation. e learning is a modern way of learning now a day. It includes electronic media in the field of education. E-learning makes the use of ICT (information and communication technology). Now a day in every field like learning in medical or learning in agriculture ,e-learning is popular to use. With the development in Agriculture Science and technology, the need for improved agricultural education throughout the world has also been realized. Quality education in agriculture is service that contributes to national development integration and regional cohesion. But compared to other business and management fields e-learning in the field of agriculture is still in initial phase of development. E learning involves various types of media that provide video, audio, image and text. E learning uses the intranet/extranet/internet and widens the horizon of traditional learning. E-agriculture is growing field that specialize in improvement of agricultural and rural development through ICT.E-agriculture involves the design, development, application, analysis and innovative ways in which ICT within the rural domain.

Index Terms— e-learning, ICT, E-agriculture, agriculture education

I. INTRODUCTION

E-learning is the use of information and communication technology to enable people to learn anytime anywhere .E-learning refers to the use of advanced technology of information communication in the learning process where the advanced technology comprises of electronic media. The alphabet “e” is used as abbreviation for electronics. Thus the world prefixed with “e” are currently emerging comes in many fields like e-learning, e-commerce, e-business, e-governance and many more. Being online, the e-learning system provides an opportunity to learn anything from anywhere. It may be helpful in saving resources in terms of time, money, paper etc. E-learning plays an important role in the field of education.

In the field of agriculture, according to Nelson “Today farmers feed 6 billion people. However, some 800 million people go to bed hungry every night and 166 million children are nourished. At the same time, current agriculture practices are responsible for dead zones at the mouth of world’s rivers

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and rapid species extinction. By 2050,the human population will grow by two to three billion. The challenge for agriculture is not only producing more food but producing it in a sustainable manner while raising living standard for the poor, many of whom live and work in rural areas. All this must be done while dealing with the uncertain consequences of global warming and geopolitics. The solution will includes new policies, new technologies and new productions practices.” (Nelson 2006)

There is a great potential for e-agriculture application in developing countries. However, e-agriculture applications such as precision agriculture and e-commerce can only work in environment where there is good ICT infrastructure. E-agriculture requires expansive advanced technologies which are only viable in intensive farming system. Participation of e-commerce activities requires that both buyers and sellers have access to the internet and that they are able to use the required hardware and software effectively. Unfortunately in most developing countries many constraints block the development of e-agriculture. These includes lack of sustainable ICT infrastructure, absence of appropriate skills among potential users of ICT’s (farmers, rural communities, extension staff and researchers) lack of appropriate content and lack of access to ICT facilities

The need for improved agriculture education throughout the world has never been greater. Agricultural technologies that can increase food security in the development world while developing income generating activities and conserving activities are conserving environmental resources do exist. Many of these technologies have existed for decades, yet famine hunger desertification and droughts continue to plague the world’s developing countries, which are least prepared to deal with these devastating problems.

E-learning is an emerging field focusing on the environment of agricultural and rural development through improved information and communication process. E-agriculture involves the conceptualization, design, evaluation and application of innovative ways to use information and communication technologies (ICT) in the rural area with a primary focus on agriculture.

II. APPLICATION OF E-LEARNING IN AGRICULTURAL EDUCATION:

For remote area institutions/faculty/students, e-learning courseware has been made available as downloadable component from the same portal. This will eliminate the process of e-courses on(CDs/DVDs) by post courier services.

Other initiatives taken in e-learning ,e-agriculture and related areas.

FAO initiative: The United nations Food and Agriculture Organization (FAO) has provided an e-agriculture platform by launching a new interactive web based site in 2007. The platform underscores the important role in ICT can play in promoting agriculture and rural development.

ICT initiatives in Agriculture Research: The Indian Council of Agriculture Research (ICAR) promotes e-learning and use of ICT as follows particularly through (NAIP).

1. Efforts towards setting up a “Secured internet and central data center for NARS” involving about 300 points under NARS have started. The project is to be implemented by ERNET.
2. Developing e-courses B.Sc.(Agriculture) and B.V.S.C.(Bachelor of Veterinary Science) degree programs in envisaged.
3. A digital library of Ph.D. thesis is being set up and it is proposed to digitize Ph.D. thesis submitted since 2000.
4. The consortium for e-resource in agriculture (CERA) has been set up at IARI New Delhi for providing access to e-journals and e-resources to about 120 NARS libraries.
5. A proposal on knowledge management in agriculture through the use of recent ICT tools and techniques in a consortium mode involving international Crops Research Institute for Semi Arid Tropics(ICRISAT), Indian Institute of Technology (IIT's) and ACAR institute and State Agricultural Universities(SAUs) is at advanced stages of approval.

It is contemplated to provide e-connectivity to ICAR units, Krishi Vigyan Kendras (KVKs) and some agricultural universities. The proposal comprises providing i)e-connectivity of KVK net ii)ICAR data center (DC) ICAR-net iii) video conferencing among ICAR institutes /SAUs. In this regard a component for linking ERNET's Delhi point of video conferencing proposal connectivity of 8mbps dedicated leased line from ERNET POP at New Delhi and ICAR's video conferencing gateway at NASC has been established. Similarly in case of ICAR's data center ICAR-net.

III. VIRTUAL SCHOOL AND LEARNING HOME (VSLH) PROJECT IN MAHARASHTRA

It is a unique project a statewide consortium of 15 organizations and educational institutes will launch VLSH project in Maharashtra, which will include various initiatives based on principles like open educational resources for all and learning through independent exploration and self organized groups.

The Indian Consortium for Educational Transformation (ICONSENT) consist of institutions like MKCL (Maharashtra Knowledge Corporation Limited) the Homi Bhabha Center for Science Education(HBCSE), Indian institute of Education (ITE) SNDT, Shreemati Nathibai Damodar Thakersey University and others.

As a part of initiative to train nearly two million teachers in the state HBCSE will establish an online resource of educational material that can be accessed by anyone at any time. MKCL will act as the nodal agency to set up Prayog Pariwar Kendras. As a part of this program, computer

equipped laboratories will be set up at 15 talukas as pilot project in Pune district, which will be digitally connected.

IV. BENEFITS OF E-LEARNING IN AGRICULTURE

E-learning can benefits every agricultural community around the world from researchers scientist in American universities to the poor subsistence farmers of developing countries. It can benefit of all ages, all locations and bridge the gaps created by oceans, wars and political boundaries. E-learning in agriculture can assemble resource and knowledge from distant places that may otherwise be unobtainable. It can connect farmers with far away researchers and experts.

V. ICT AND AGRICULTURE

The vast majority of poor people lives in rural areas and derives their livelihood directly or indirectly from agriculture. Increasing the efficiency productivity and sustainability of small scale farms is an area where ICT can make significant contribution farming involves risk and uncertainties with farmers facing many threats from poor soils drought, erosion and pesticides (organic and inorganic pesticides). ICT can deliver useful information to farmers about agriculture like crop care and animal husbandry, fertilizers and feed stock inputs, pest control, seed sourcing and market prices.

VI. E-AGRICULTURE

E-Agriculture is an emerging field focusing on the enhancement of agricultural and rural development through improved information and communication processes. Specifically e-agriculture involves the conceptualization, design, development, evaluation and application of innovative ways to use information and communication technologies in the rural domain, with a primary focus on agriculture.

VII. DISCUSSION

For e-agriculture to benefit rural communities in developing countries, the rural digital divide must be bridged. Locally relevant digital contents has to be developed or adapted and access to ICT's should be made affordable for rural populations. Otherwise e-agriculture applications will remain beyond reach of rural communities and merely exacerbate the existing rural digital divide, leading to an ever widening knowledge gap between information “haves” and “have not's”.

Information and communication have always mattered in agriculture, To continued increase in globalization and integration of food market has intensified competition and efficacy in agriculture sector, and has brought unique opportunities to include more smallholders into supply chains. Yet in the some vein, agriculture faces a range of modern and serious. Challenges particularly in developing countries exposed to price, climate change and continued deficiencies in infrastructure in rural areas.

CONCLUSIONS

Agricultural informatics is an emerging field which combines the advances in agricultural informatics, agricultural development and entrepreneurship to provide better agricultural services, enhanced technology dissemination and

information delivery through the advances in ICT and the internet. ICTs are crucial in facilitating communication and access information for agriculture and rural development. ICT are making tremendous impact on the rural economy due to its wide applications.

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