ICT MEDIATED AQUACULTURE EXTENSION—NEED FOR REPLICATION

H.K. De, G.S. Saha, A.S. Mahapatra, S. Pal and T.S. Satpati
Central Institute of Freshwater Aquaculture (Indian Council of Agricultural Research)
Kausalyaganga, Bhubaneswar, Odisha–751 002

ABSTRACT
Like agriculture, fisheries and aquaculture sector has witnessed spurt of ICT (Information and Communication Technology) mediated extension efforts in recent years. Both the government as well as non-government organizations are piloting innovative ICT applications for aquaculture development. While some of these initiatives are concerned with e-trading and e-governance, most of them are engaged in transfer of technology. 'Reaching the unreached' with timely dissemination of aquaculture information has been the prime focus. With shrinking public sector extension the role of private sector has become more prominent and aquaculture extension is increasingly becoming pluralistic in nature. ICT mediated aquaculture extension is here to stay. It is argued that successful ICT applications are replicated in other areas covering fish farmers across the country and thereby bridging the ‘digital divide’.

Keywords: Fish Farmer, Aquaculture Extension, ICT.

1. INTRODUCTION
In aquaculture extension ICTs can be used to facilitate the flow of information and technologies from R&D to farming communities and facilitate feedback on field problems to researcher. Different communication technologies are used by the fishermen, entrepreneurs, aquaculturists and the extension workers. The ICTs can enable an extension worker to gather, store, retrieve and disseminate a broad range of information needs of farmers, thus transforming the very nature of “extension worker” as “Knowledge worker” (Meera, 2008). The Indian Council of Agricultural Research lays emphasis on developing and piloting effective delivery systems and evolve institutional models to link research and development system with farmers and other stakeholders in the value-chain for accelerated adoption, cost-effective post-harvest management, value-addition and processing and efficient marketing through information and communication technology and e-extension (ICAR vision 2030).

2. ICT MEDIATED AQUACULTURE EXTENSION
Through ICT farmer would get instant information about the price of their product, weather, disease menace, feeding and other package of practices that needs to be followed for enhancing aquaculture production. This may also help to overcome the shortage of trained extension manpower by providing an automated solution for the farmers using internet. In the public sector revamped Kisan Call Centre by IFFCO Kisan Sanchar Ltd; Helpline by Agricultural Universities and Research Institutes; e-Sagu Aqua are notable examples. Private sector too initiated a number of ICT applications viz., mKrishi by Tata Consultancy Services; aAqua and eAgri Aqua. Few such initiatives are discussed below:

- **Aqua Choupal**: Aqua Choupal offers the shrimp farmers all the information, products and services they need to enhance productivity, improve farm gate price realization and cut transaction cost. Farmers can access information on weather, scientific farming practices and market prices through a web portal. Aqua Choupal also facilitate the supply of high quality farm inputs as well as purchase of shrimps at their doorstep (De et al., 2008).
- **Village Resource Centres**: To provide the space technology enabled services directly to the rural population, ISRO lunched the Village Resource Centres (VRCs) programme in association with reputed NGOs / trusts and state/central agencies. Total 473 VRCs have been set up in 22 States/Union Territories. The VRCs are connected to Knowledge/Experts Centre like Agriculture University, Skill Development Institute and Hospital.
- **Helpline**: Leveraging the increasing penetration of telephones in villages, many State Agricultural Universities and ICAR institutes have started helpline services. The helplines address queries related at specific hours. The Central Institute of Freshwater Aquaculture, Bhubaneswar has started helpline services (0674–2111849) since 2004. Currently it operates every Tuesday and Friday between 3.30–5.00 p.m. (De et al., 2008).
- **e-Sagu Aqua**: The e-Sagu Aqua is an innovative and unique model of information exchange which has been implemented in freshwater aquaculture in Andhra Pradesh State of India. The system essentially comprised four
components, *i.e.* farmers, coordinators, fishery experts and an information and communication system. The information and communication system consists of the farm history, crop details, soil details, weather data, farmer details, case sheets, photo bank and a library. This project serves the purpose of the transfer of technology from the lab to land very effectively. This project was one of the very successful projects where ICTs technologies were used (Vimala *et al.*, 2009).

- **IFFCO Kisan Sanchar:** Telecommunication is a fast growing arena to transform Indian rural landscape. Indian Farmer Fertilizer Cooperative Limited (IFFCO), together with giant Bharti Airtel and Star Global Resources Ltd., has promoted IFFCO KISAN SANCHAR LTD (IKSL) as a joint venture. In this model the same SIM card which is used for communication is turned into powerhouse of knowledge for empowering people living in villages through relevant & pertinent information which is being provided by IKSL. IFFCO is also educating the farmers to enable them use the best of the agricultural inputs to grow more food to the country, as well as, get a better income from farming.

- **mKRISHI:** mKRISHI is a personalized services platform that provides farmers with the benefits of Information and Communications Technology (ICT). It is being developed by Tata Consultancy Service at its innovation lab in Mumbai. It attempts to connect the farmer with a variety of rural stakeholders by packaging multiple services and offers them over mobile and web technologies. These services are based on real-time data as well as the needs of the farmers.

- **aAQUA:** aAQUA (almost All Question Answered) is a multilingual online question and answer forum—which provides online answers to questions asked by farmers and agri-professionals over the Internet. Using this, a farmer can ask a question on aAqua from a kiosk (cyber-café); experts view the question and answer back, providing solutions to the problem. It is available in English, Hindi and Marathi (Mondal *et al.*, 2011).

3. CONCLUSION

In recent years lot of ICT initiatives are being tried for disseminating aquaculture information to fish farmers. This has not only contributed in bridging the digital divide but also helped the farmer in reaping a good harvest. Government departments including agriculture, fisheries, etc. are also adopting ICT for reaching out to the farmers across the country. It has also become possible for people in interior rural areas of the country to access internet on their mobile handsets at an affordable cost. However, most of these ICT initiatives are operating in a limited geographical area benefiting a handful of farmers. ICT mediated aquaculture extension is beneficial for all the stakeholders—fish farmers, researchers and the extension workers. Successful ICT applications are to be replicated in other areas covering fish farmers across the country and thereby bridging the digital divide.

REFERENCES


Vision 2030: Directorate of Knowledge Management in Agriculture, Indian Council of Agricultural Research, Krishi Anusandhan Bhavan, Pusa, New Delhi 110 012.