

# Information Communication Tools for Aquaculture Development in Tribal Areas

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## Focal Points at a Glance

Referring to the need for spreading knowledge on aquaculture among tribal fish farmers, the authors highlight the information communication tools for the purpose, oriented towards aquaculture development in tribal areas. As part of this endeavour, the authors have dealt with information on the gadgets for the purpose, such as Radio and Television. Mobile phones, video conferencing and on integrated multi-media compact disc and e-learning modules and on information kiosks.

## Introduction

Communication between and among individuals/human groups having developmental initiative is a social process, designed to seek a common understanding among those having a development initiative, creating a basis for concerted action. To ensure this it is necessary to provide appropriate and relevant channels of communication at the disposal of the concerned people, if communication is to be made effective in developing countries. The cost factor in face-to-face information dissemination at the right time, and the difficulties in reaching the target audiences, has also created the urgency to introduce Information and Communication Technology (ICT). About 45% of the global ICT initiatives have been implemented in India which is considered as Asia's the highest rank. However, most of these ICT initiatives have been implemented in the socio-economically developed States of the country. There are a very few village level ICT initiatives, such as e-Arik in North-East India and Communication Information Centre (CIC) in Odisha, in the hamlets of the poorest tribal populations. In addition, due to non-availability of improved technological information to the tribal farmers, especially in coastal areas, aquaculture and fisheries exhibit, low unstable productivity, which creates food insecurity problem. Hence, it is expected that application of ICTs in aquacultural technologies to the tribal farming community of developing countries will help to foster the socio-economic empowerment of tribal farming community. With the shift towards an information society, the role of ICT based dissemination tools such as radio, television, mobile phones, internet, website, video conferencing, interactive multimedia compact disc (IMCD), e-Learning modules and information kiosk have made a significant difference in the delivery of services in aquaculture and its allied sectors in the recent past few years.

## Radio and Television

Radio and television are important mass media channels. Through community radio programmes, useful messages are regularly communicated to the farming community. Doordarshan covers the rural/tribal population and the impact of television on the practices of the farming community is enormous.

## Mobile phones

Farmers generally require

information related to weather, seed availability, season, harvesting, culture practices, disease outbreaks, availability of inputs, input usage, market rates, market demand, transportation, messages on new schemes, etc. Internet and mobile phones can do wonders for fisheries persons to reach the farmers with the necessary information. Mobile phone communication has been expanding fast in rural/tribal areas faster than the internet. A mobile telephone or cellular telephone is a long-range, portable electronic device used for mobile

communication. The Information Village Research Project of M.S. Swaminathan Research Foundation (MSSRF) has launched the icon-based mobile facility, a fishermen-friendly mobile facility, which has the potential to provide vital information like height of sea waves and weather status essential for fishing activities. The information being provided in English by the Hyderabad based Indian National Centre for Ocean Information Service (INCOIS) to the Village Resources Center (VRC) would be translated into the regional languages for the onward communication to the fishermen. The mobile phones with the required software facility are supplied to the fishermen.

### Video Conferencing

A video conference is a set of interactive telecommunication technologies which allow two or more locations to interact *via* two-way video and audio transmissions simultaneously. Video conferencing stands out as a rich communication technology that offers new and interesting possibilities for entrepreneurship development in aquaculture. This is because video conferencing offers researchers, teachers, trainers, service-providers and farmers with new ways of communication across geographical boundaries.

### Integrated Multimedia Compact Disc

The use of Integrated Multimedia Compact Disc (IMCD) is an innovative way to spread the ideas an expert has to farmers. Multimedia tools are ideally suited to demonstrate complex and dynamic processes that cannot be explained easily with conventional methods and media. Varieties of pictures related to respective topics are inserted while preparing the IMCD. Edited short video clippings are inserted in the IMCD where skill-oriented aspects are to be taught to stakeholders. Finally all the related text, pictures, photographs, video clippings are hyper linked with the different action buttons for better usability with interactivity. The speedy diffusion of new aquaculture technologies could only be achieved through active involvement and participation of stakeholders with the help of IMCD. In the light of the above factors, the Central Institute of

Brackishwater Aquaculture (CIBA) has developed a multimedia based CD on Soil and Water Management in Brackishwater Shrimp Aquaculture for aquafarmers. The CD is navigated in the menu format. The user can select their requirements on soil and water management using the structured menu. It contains the following topics *viz.*, site selection, pond preparation, culture period, test indicators for stocking, and application of pond conditioners, chemicals and probiotics to improve the water and soil qualities.

### e-Learning module

e-Learning provides new possibilities for personalised learning at home or in the workplace. It reduces the need for costly classroom training, and enables an optimal balance between traditional and innovative forms of knowledge transfer. Today, e-Learning techniques have drastically changed the way of disseminating the information, especially in the field of agriculture and aquaculture through ICT projects, such as e-Choupal, i-Kisan, and Information Village Research Project of MSSRF. The role and scope of aquaculture can be enhanced in coastal areas through ICT projects only after assessing the information needs and the level of skills and knowledge of potential users of ICT projects. The information needs assessment report and this will help to understand the system as a whole and serve as a baseline for planning and implementation of future interventions. Based on the overall assessment of the users of Village Knowledge Centres in Puducherry and in Ramanathapuram of Tamil Nadu, the CIBA has developed the following offline e-learning modules: Handbook of Fisheries Institutions, and Mud Crab Fattening (*Scylla tranquebarica*) in Tamil and Telugu. The mud crab module offers the following topics on mud crab fattening to users, *viz.*, introduction, culture systems, and contact addresses.

### Information kiosk

An information kiosk is a computer-like device located in a public place to provide self service access to products and services to the people of that area/village. Kiosks are accepted due to the availability of content in local languages or in multilingual platforms. They provide easy access of accurate information in time. Since the past few

years, the kiosks have been acting as the best information centres from where the kiosk owners or operators provide various services to the community members. Nowadays, kiosks are considered as one of the main sources for the development of rural/tribal areas in the country. This is particularly necessary to tribal women in coastal areas who face numerous hindrances in using most of the communication channels. An information centre is a key to the empowerment of women in all aspects of fisheries and aquaculture. These centres can help communities to identify sustainable opportunities and develop solutions that are within their reach.

Based on the needs of information centres in Odisha, an ICT based model "Communication Information Centre" (CIC) was developed by IRMA-India. This is one of the Divisions of Orissa State Volunteers and Social Workers Association (OSVSWA). The CIC mission is to touch the last person as well as to ensure the full participation of rural, coastal and isolated communities with a priority for women main-streaming into this development process through ICT. The Centre is equipped with computers with internet connections, printer, digital camera, web camera, and a small library of books and other materials. The centres are focused on providing information on subjects ranging from government schemes, programmes on various sectors like agriculture and its allied sectors like aquaculture, fisheries, and livelihood, etc. It is hoped that, through this intervention the women of Odisha will gradually increase their involvement in various activities such as agriculture, health, fisheries and aquaculture, which will eventually bring them a wide range of benefits and lead to their empowerment within their families as well as in society in general.

Although meetings, workshops, group discussions and demonstrations remain the mainstay of extension, new technology and electronic media can provide opportunities to aquaculture extension educators for innovative and effective ways of information distribution among various stakeholders. In the information society. The new communication technology is making this a reality by ICT tools in rural/tribal areas across the developing countries. 

