Dissemination of Communication and Information in Inland Fisheries

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Introduction:

Flow of communication and information from the research station to the end user is *sine qua non* for the sustainable production as well as productivity enhancement in inland fisheries and the development of fishers as a whole. The resource poor who are often more in need than others of information on sustainable and low external input technologies is least likely to gain access to the information required. This has been seen particularly in the fisheries sector where the channels of information accessible to the resource poor delivered information on new practices and recommendations as well as the new culture technologies, while the richer had access to information on a much wider range of technologies through different means. The challenge for information providers external to the local social system is to enable key stakeholders in inland waters to access information which may be relevant to fishers. The efficiency and effectiveness of fisheries development depends upon several factors amongst which effective communication is one of the important. Effective information dissemination and services to fishers’ community will ultimately result in the growth in the fisheries sector.

The millennium development goals adopted by the international community during 2000 include the first goal is to eradicate extreme poverty and hunger and the eighth goal is to build a global partnership for development including the need to make available the benefits of new technologies, especially in information and communication. Keeping in view the mandates of the article 1 of FAO’s constitution “collect, analyze and disseminate information relating to food, nutrition and agriculture”. It was highlighted during the world food summit held in Rome 1996, that information is one of the priorities of achieving food security.

Communication methods in dissemination of information

Learning is defined as change of behaviour in response to well defined instructions. Instruction is a process of series of learning steps involving communication and interaction setup involving communication and interaction setup for a learner to move
from a lower level of competencies to higher level of competencies. Successful instruction is one by which a learner begins and direct self learning.

The choice of a communication method generally depends on the number and location of the target audience and the time available for communication. The communication methods used in the dissemination of information may be broadly classified into two categories, the traditional communication methods and the modern methods. Traditional media sources can further categorized in three different categories viz. individual communication, group communication and mass methods of communication.

**Traditional methods:**

*Individual methods:* in this method, the extension agent communicates with the people individually, maintaining separate identity of each person. This method is followed when the number of fishers are few, are conveniently located near by, and sufficient time is available for communication. The methods are Farm and home visit, Fishers call, personal letter, adaptive trial, fish farm clinic.

*Group methods:* A group may be defined as an aggregate of small number of people in reciprocal communication and interaction around some common interest. Group methods are adopted when it is necessary to communicate with a number of people simultaneously, who are located not far off, and reasonably good time is available for communication. The size of the group may vary on the number of persons involved viz. small (15-25), medium (25-50) and large (50-100). The group methods are Demonstration (method and result), group meetings, small group training, field day, farmers’ day, study tour etc.

*Mass methods:* In this method, a vast and heterogeneous mass of people, are covered without taking into account their individual and group identity. This method is followed when the audience is large and widely dispersed and to be communicated in a short time frame. The size of the audience may be a few hundred in mass meeting, few thousands in campaign and exhibition, and millions in newspaper, radio and television. These methods are farm publication, mass meeting, campaign, exhibition, newspaper, Radio and television.

**Communication and information flow in Beels of Assam:**

A survey was made covering 106 beels in 21 districts of Assam in 2005-07. The data were analyzed to know the various channels and sources of information used by the fishers in both the regions. A comparison was made between the two regions and between the different districts in terms of communication and information flow in beel fisheries. Based on the analysis a communication index was formed for three different methods of communication covering all 21 districts.

*Interpersonal communication index:* Karimganj in Barak valley and Nagaon, Morigaon, Kokrajhar, Kamrup, Golaghat, Bongaigaon in Brahmaputra valley (60 & above
Information flow score) have high inter personnel communication flow. Cachar, Hailakhandi in Barak Valley and Dhubri, Sonitpur, Darrang, Barpeta and Goalpara in Brahmaputra Valley (45-60) have medium interpersonal communication flow. Dibrugarh, Sibsagar, Tinsukia, Jorhat, Nalbari, Dhemaji and North Lakhimpur in Brahmaputra valley (0-45) have least interpersonal communication flow.

**Group communication index**: group communication index score were formulated based on the responses of lessee of 106 beels. The result shows that the beels located in Cachar, Hailakhandi, Karimganj in Barak valley and Golaghat, and Bongaigaon in Brahmaputra valley (50-67) have got higher penetration of new information through group communication media like demonstration, exhibitions and fish farmer days. Dibrugarh, Sibsagar, Dhubri, Kokrajhar, Morigaon and Nagaon (21-50) had medium group information flow while Barpeta, Kamrup, Sonitpur, Darrang, Nalbari, Goalpara, Dhemaji and North Lakhimpur (0-20) had least group information flow.
**Mass method index:** In the use of print and electronic media for information access the fishers of Bongaigaon, Dhubri, Kokrajhar, Morigaon, Nagaon, Sonitpur in Brahamputra valley and Cachar in Barak valley were in upper level (60 & above). In the middle level (45-60) the fishers of Karimganj, Hailakhandi of Barak valley and Lakhimpur, Goalpara, Golaghat and Kamrup districts of Brahamputra valley were included. Dibrugarh, Tinsukia, Sibsagar, Jorhat, Barpeta, Darrang, Nalbari and Dhemaji have got least penetration of print and electronic media in terms of gathering information.
Modern Communication Methods:

The new dawn of information and communication (ICT) has revolutionized the whole development planning process by making available the information from various sectors quickly and accurately. This new communication strategies and brought a paradigm shifts in globalised world. These methods are mainly mass methods of dissemination of information. Modern communication technologies applied when applied to the conditions in rural areas can help to improve communication. It is being said that, using ‘ICT’ would be major form of agricultural technology dissemination in near future.

The world today is an information society. Information is increasingly used in all aspects of human activity, and many technologies assist in providing information in a timely manner. Lack of technical advice on utilization of these resources for fishery development has been one of the reasons for low production.

It is expected that the future growth in the productivity of fisheries will largely accrue from the improvements of productivity from different aqua systems with regional specialization and sustainable management of natural resources. Furthermore, increase in the productivity is likely to come from more effective use of inputs. Technology recommendations will be tailored to specific groups of fishers and more narrowly defined production environment. Innovation will require more knowledge and information input from extension services with information transferred in an educational rather than directive approach.

Fishers need up-to-date information on sources availability and cost of inputs, also on the potential of different techniques and technology used for production and processing. It is important that this information is available in an appropriate format and language and that the fishers have the capacity to analyse it and act on it.

New frontiers of ICT

- Internet
- Experts system
- GIS
- Satellite communication
- Video teleconference
- Cellular radio telephony
- Server- information storage bank
- Web server

But the modern form of ICT is not so efficient in fisheries in India because of the inadequate infrastructure, further majority of the fishers are in rural areas possess less land holding and are not in a strong economic strata to afford the cost of information technology.

Problems in the use of ICT:
Operational problems
- Technical constraints
- Economic constraints
- Weak basic infrastructure
- Deficiency of weak labour resources

Contractual problem
- General conceptual inadequacy about the use of new ICT
- Weak fit of new ICT into socio cultural environment
- Psycho-cultural differences among the people
- Existing lower literacy rate among the rural adults

Strategic problems
- Absence of comprehensive policy support
- Dichotomous application of new ICT in rural areas.

Strategies to use ICT in Indian Context:
- Defining national development needs
- ICT infrastructure development
- IT manpower development
- Formulation of comprehensive ICT policy
- User education
- Easily affordability

Mass communication challenges:

The strong link needed between research, extension and farmers has been difficult to achieve. In the past, the fisheries technology developed by researchers and disseminated by extension staff has not always been relevant to the fishers' situation. In other cases fishers have considered the technology to be inappropriate to their needs and capacities. Better fisheries knowledge and information systems are being sought, systems that will be technically effective, cost-effective and people-effective. For these, too, communication would be an integral component.

The basic aim of the system would be to bring the three groups - fishers, extensionists and researchers - into an equal partnership to communicate and to share knowledge. Whatever the configuration of such a new system, both its energy and its linkage would rely greatly on the use of communication skills, materials and methodology.

In order to exchange information effectively among researchers, extension workers and fishers, there must be a dialogue among equals. Fishers opinions need to carry the same weight as those of the formally educated experts. A “demand-driven” mechanism would be the aim, where fishfarmers have enough status to demand and receive the best quality of fish research and extension services they require.
The greater challenge an extension agent face is to create a very strong communication link between the Indian fishers and competitive world market. The present communication skills of extension workers are not sufficient and they need latest mass communication tools to prepare Indian fishers as world competitors.

**How to meet these challenges?**

Do not stop communicating information only for production technology, but it should include market and other information i.e. value additions, storage and transportation. The information is such that it will help in increase quality consciousness and awareness.

To meet the above challenges use following mass media vehicles depending on their specific utility

1. printed information through website and internet
2. radio (two way communication)
3. audio conferencing
4. television, cable, telemarketing
5. video conference
6. interactive video computer system
7. visual media- Photograph, illustration, cartoons, logos and video
8. traditional folk media
9. verbal media- conversations, meeting, debates and seminars
10. multimedia

**Important Challenges**

Reach of the media, frequency of the media, impact of the media, its credibility, content, channel, continuity, capability, clarity and creativity.

**Conclusion:**

So far, we are adopting the traditional systems to disseminate the information to the fishfarmers. In this system, there is a plenty of time gap in reaching the information to the fishfarmers. The information should be accurate and should reach at right time. Unfortunately, many farmers may not be aware of new innovations and techniques to be adopted in fisheries and aquaculture systems.

The fishers need information for better practices, and they depends on the information supplied by the various means such as extension personnel, pamphlets, posters, radios, TVs etc. But the information, which he receives, may not be sufficient for better farming. To achieve maximizing profits and efficiency, environmental quality concerns, and sustainability must all be considered in keeping with constraints of resource characteristics of agro-climatic zones. To meet all these goals, a better understanding of the interrelationships among objectives in specific zones is needed. This approach leads
to site specific information and needs to develop site specific information system, which will cater the specific needs of the farmers precisely.

An integrated research extension approach emphasizes the importance of interactive, mutual learning between formal and informal knowledge/technology system and stresses linkages with fish farmers so that they actively participate in technology evolution process. The knowledge and information and its media should be appropriate so that the information shall not be distorted and easily disseminated to the end users for its early adoption. For effective dissemination of technological information from its source (researcher) to the end users (fishers) a effective linkage between researcher, extension and fisher is highly required.