Sustain Fish







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Learning not to finish: participatory media development for responsible fisheries extension

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Abstract

This paper deals with the experiences and insights gathered during the implementation of a research project titled "Designing and Validation of Communication Strategies for Responsible Fisheries – A Co-learning Approach" at Central Marine Fisheries Research Institute (CMFRI) during 2001-04 under the National Agricultural Technology Project being implemented by Indian Council for Agricultural Research (ICAR), New Delhi. The paper is organized under the following heads i) Rationale and Objectives of the project ii) Methodology iii) Assessment of Responsible Fisheries Information Needs ARFIN iv) Communication Tools and Strategies developed under the project along with the insights (process and product phase) obtained v) Implications anc' vi) Conclusions. The project, which can be considered as first of its kind ever undertaken in the country, has clearly established not only the necessity but also the possibility of undertaking extension interventions by way of designing communication tools and strategies in a participatory mode and putting them into massive use for creating an awareness on the concept of responsible fisheries among the stakeholders of marine fisheries sector in the country. A model for communication of responsible fisheries is also suggested after explaining the various tools and strategies developed for responsible fisheries extension.

Keywords: *Media development, Fisheries extension*

1. Introduction

The marine fisheries sector in India is currently going through a phase of socio-economic cum ecological turbulence. The rate of growth in marine fisheries production, as evidenced by recent studies, is plateauing, if not, declining (Kalawar *et al.*, 1985; Murthy and Rao, 1997; Devaraj and Vivekanandan, 1999; Mohan Joseph and Jayaprakash, 2003). It is evident that the natural processes of rejuvenation have been imperiled (Devaraj and Vivekanandan, 1999). A major factor that endangers its sustainable utilization is the open access nature of marine resources and the veritable lack of an enforceable property rights regime or unanimously agreeable regulatory mechanisms (Sathiadhas *et al.*, 1995). This has unfortunately

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augured well only for indiscriminate exploitation practices that listen only to the market forces, thus producing a chaotic situation of over capitalization and under employment.

Apart from the stakeholder- induced unsustainable operations like juvenile fishing, shallow water mining, improper crafts, ghost fishing, destruction of breeding grounds and mangroves etc., other non-point disturbances like urbanization, industrial pollution and eutrophication of estuaries have jeopardized the fragile ecological dynamics of the coastal area.

The need for initiating management options that promote sustainable resource utilization and stable livelihood to the coastal community is never felt so urgent as of now. The propensity to kill the goose that yields the golden egg has to be nipped in the bud through well-planned and massive efforts in making the fisher folk imbibe the message of the FAO Code of Conduct for Responsible Fisheries through extension initiatives. However, the Transfer of Technology (TOT) based extension paradigm dominant in the country is insufficient to infuse a sense of responsible fishing and conservation among the coastal stakeholders (Ramachandran, 2001). It is imperative to start thinking about alternative extension strategies, which are firmly built on a "new professionalism" (Chambers *et al.*, 1989) among the facilitators and an ecological praxis of stewardship among the stakeholders.

This paper deals with the experiences and insights gathered during the implementation of a research project titled "Designing and Validation of Communication Strategies for Responsible Fisheries – A Co-learning Approach" at the Central Marie Fisheries Research Institute (CMFRI) during 2001-04 under the National Agricultural Technology Project being implemented by Indian Council for Agricultural Research (ICAR), New Delhi. The paper is organized under the following heads i) Rationale and Objectives of the Project ii) Methodology iii) Assessment of Responsible Fisheries Information Needs (ARFIN) iv) Communication Tools and Strategies developed under the project along with insights (process and product phase) obtained v) Implications and vi) Conclusions.

2. Rationale and objectives

That the sustainability of our precious marine resources at the current level of exploitation is at stake has been well documented. Though policy level interventions in the form of various regulatory

measures have been promulgated by almost all the maritime states in the country their effective implementation remains doubtful.

Inculcating an ethos of conservation by means of official caveats in the context of an open resource amenable to a multiplicity of stakeholders vested with unequal socio political patronage is an insurmountable task. In a free-choice, democratic society like ours Human Resource Development (HRD) efforts that invoke "conscientisation" of the stakeholders assume greater significance (Burkey, 1993). The corner stone of such approaches is the realization that people are part of the problem as well as its solution.

The facilitation of such enabling contexts squarely depends on the fidelity and credibility of the extension intervention made by the extension professionals. Though it is preposterous to assume that the stakeholders are unaware of the conservation issues, the extent to which they have imbibed the gravity is obviously under–studied. The need of the hour is to break this apathy through powerful communication tools that help to kindle the subliminal levels of concern already present in the minds of the stakeholders.

A major challenge the fisheries extension functionaries face, in this context, is the virtual lack of reliable and proven communication strategies and tools. It is high time that this lacuna is filled and the present project is an attempt in this direction.

The documentation of telltale evidences of unsustainable fisheries management practices as well as successful ameliorative initiatives, (indigenous or induced) wherever attempted in the country is a prerequisite. The phenomenological database thus obtained along with an Assessment of Responsible Fisheries Information Needs (ARFIN)-which was attempted for the first time ever in the country – from different locations of our coast was to be utilized to construct meaningful communication strategies and tools. A co-learning approach, instead of the conventional centralized method of message production, was found to be ideal in designing and validating these facilitation modules.

It is with this rationale in mind that the research project *"Designing and Validation of Communication Strategies for Responsible Fisheries –A Co-learning Approach"* was conceived. The project with the following objectives was undertaken at the Socio-Economic Evaluation and Technology Transfer Division (SEETTD) of Central Marine Fisheries Research Institute (CMFRI) during 2000-2004.

2.1 Major objective

The main objective of the study was *to design and validate communication tools and strategies meant for Responsible/Sustainable Fisheries.*

There were four specific objectives which were to act as guidelines for the various activity milestones of the project.

1. To assess the information needs for responsible fisheries from various stakeholders by analyzing cases of mismanagement or unsustainable fisheries as well as successful initiatives of amelioration –indigenous or induced.
2. To design and develop Responsible Fisheries Extension Module (RFEM)
3. To evaluate the effectiveness of the RFEM in different locations through various interventions.
4. To release the module for scaling up.

3. Methodology

The whole logic of the methodology chosen for the project is given in fig.1. The main objective of producing a well-validated Responsible Fisheries Extension Module (RFEM) consisting of various strategies as well as tools for communicating the tenets of responsible fisheries has been achieved after conducting an Assessment of Responsible Fisheries Information Needs (ARFIN) from a wide spectrum of stakeholders. Cases of mismanagement /unsustainable fisheries as well as successful management initiatives were identified with the help of the regional research centers of CMFRI, located in Kerala, Tamil Nadu, Karnataka, Maharashtra and Andhra Pradesh. The selected cases were studied in detail and documented.

Fig.1 The Logic of the methodology of the project

3.1 Salient features of the methodology

1. The characteristic feature of the methodology was the emphasis given on setting the entire process in a decentralized, co-learning mode.

2. The entire process of designing and validating different communication tools for responsible fisheries has been conceived under eight phases.

3. A combination of different research strategies like survey, case study, PRA, media development &testing and impact assessment has been utilized in each of these phases.

3.2 Methodological steps

The project was conceived to progress through eight phases or steps in the methodological ladder. Each phase is described below.

3.2.1 Phase 1: Assessment of responsible fisheries information needs (ARFIN)

This involved a combination of survey and PRA methodologies. The criterion for responsible fisheries was formulated based on the Code of Conduct for Responsible fisheries prepared and published by FAO, (1995) as well as various FAO Technical Guidelines released in this connection. In general, five major areas have been covered under responsible fisheries. They are:

1. Fishing operations
2. Precautionary approaches to capture fisheries management and aquaculture development
3. Integration of fisheries into coastal area management
4. Post harvest practices and trade
5. Fisheries research

The information needs regarding responsible fisheries were collected using a set of schedules developed for the study. A combination of research methods like survey, PRA tools, focused group interactions etc., was utilized. The data were collected from selected locations in Andhra Pradesh, Tamil Nadu, Orissa, and Maharashtra using field investigators. The field investigators were given training in data collection by the project team. The main objective was to assess various parameters like the extent of mass media contact, the media preference, and conservation orientation existing among the stakeholders. The criteria and reference points for responsible fisheries were based on the Code of Conduct for Responsible Fisheries as well as the technical guidelines of FAO. The guidelines were suitably reinterpreted to suit the peculiarities existing in the Indian scenario.

3.2.2 Phase 2: Identification, analysis and documentation of cases

Cases of mismanagement /unsustainable fisheries as well as successful management initiatives were identified with the help of the regional research centers of CMFRI, located in Kerala, Tamil Nadu, Karnataka, Maharashtra and Gujarat. The selected cases were studied in detail and documented.

3.2.3 Phase 3: Content analysis

The phenomenological database thus obtained was subjected to content analysis by a selected group of stakeholders as well as extension experts from the State departments /Agricultural Universities /NGOs to decide the nature, content and treatment of the tools and message constructs which were to be designed under the next phase.

3.2.4 Phase 4: Designing the responsible fisheries extension module (RFEM)

The intended stakeholders along with extension /subject matter experts in a co-learning mode designed the communication tools and extension strategies (extension module) for responsible fisheries.

3.2.5 Phase 5: Validation

The modules were tested by different group of stakeholders and communication experts. Media –mix studies were conducted to find out the best combination of tools.

3.2.6 Phase 6: Demonstration of RFEM

The module was used in extension interventions like massive campaigns in selected villages after analyzing the levels of knowledge and attitude of stakeholders in responsible fisheries management.

3.2.7 Phase 7: Evaluation

The evaluation of the module was done through a pre & post evaluation of the behavioral patterns of fisher folk.

3.2.8 Phase 8: Enrichment and release of the module for scaling up

The RFEM consisting of well-validated communication tools was released in a formal function by handing it over to the concerned line departments and other stakeholder agencies.

4. Assessment of responsible fisheries information needs (ARFIN)

The assessment of information needs of different stakeholders in the marine fisheries sector formed the core activity in the initial

phase of the project. In fact it was conceived as the prerequisite for designing various communication tools / strategies. The Code of Conduct for Responsible Fisheries (CCRF) promulgated by the Food and Agriculture Organisation (FAO) was the basic guideline to define the contours of information needs. But the very broad scope of the code posed a major difficulty in operationalising the information needs of specific stakeholders. For example, as far as the active fisher folk were concerned it was difficult to get articles of the FAO CCRF specifically pinpointing the action points or viable practices related with responsible fisheries.

According to the general principles enshrined in the code, "states and users of living aquatic resources should conserve aquatic ecosystems. The right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources". But a clear postulation of these obligations is lacking in the code as it is the State, which has been entrusted with the duty of honouring or implementing the provisions under each of the 12 articles of the code. However, conservation orientation, awareness about the concept of responsible fisheries, (including the very availability of the FAO CCRF in the local language) awareness about rules and regulations contained in the State Marine Fishing Regulation Acts, and extent of adoption of conservation measures were taken as general variables that influence the attitude of the fisher folk towards responsible fisheries. In addition to these variables information was also collected on aspects like access to different communication media, media preference, extension agency contact etc., apart from typical socio-economic variables like age, education, income, fishing experience, crafts and gears used, etc.

4.1 ARFIN findings

The response on different variables like awareness of the concept of responsible fisheries, conservation orientation, awareness about fisheries regulations, media preference etc., showed variation across locations in study states (Table 1). The preference for visual media as well as animation movies was markedly high.

A very significant observation was the absence of the FAO CCRF in any of the maritime vernaculars but for Tamil. Similarly the extension agency contact was rated to be poor indicating the lack of attention being given to the issues in an extension perspective.

Table 1. Comparative response pattern across ARFIN study states

S.no	Variable	Kerala	TN	AP	MR	Orissa
1	Awareness of the concept of responsible fisheries	poor	low	poor	low	poor
2	Conservation orientation	medium	low	low	low	poor
3	Preference for visual media	high	high	high	medium	low
4	Preference for animation/films	high	high	high	high	high
5	Preference for print medium	high	low	low	low	poor
6	Awareness about regulations	medium	low	low	low	low
7	Availability of translation of FAO CCRF	No	Yes	No	No	No
8	Extension agency contact	low	poor	poor	poor	poor

(TN=Tamil Nadu; AP=Andhra Pradesh; MR=Maharashtra)

The mass media preference indicated that the use of TV was highly prevalent followed by newspapers. Since the most preferred media identified were TV and print media they were given priority while designing the communication tools under the project.

Documentation of cases of mismanagement or unsustainable fisheries as well as successful initiatives of amelioration –indigenous or induced.

A number of cases for unsustainable fisheries as well as successful initiatives were documented. Detailed case studies were prepared on various initiatives/events like *Kadakkodies* (sea courts) -an indigenous *sui-generis* co- management institution of Malabar coast, initiatives of an NGO namely "Green Seas" located at Munambam, in getting the fisher folk take a collective stand against night fishing and the detrimental effects of mini trawling, an innovation brought out by fishers themselves in Kerala. (For a detailed case study on *Kadakkody* as well as stakeholder –induced initiatives of Green seas see Ramchandran, 2004).

5. Communication tools and strategies developed and process and product phase insights

5.1 Responsible fisheries extension module (RFEM)

The final outcome of the project is a well –validated extension module for Responsible Fisheries. The details of the different tools in the module are given in Table 2. The module consists of books (in Malayalam, English, and Hindi), brochures, animation films (in all the maritime vernaculars of India) and campaign materials.

Table 2. Components of the Responsible Fisheries Extension Module (RFEM)

No	Medium	Title/Content
1	Book in Malayalam	FAO Code of Conduct for Responsible Fisheries (FAO CCRF)
2	Illustrated book in Malayalam	What, Why and How of the FAO CCRF
3	Illustrated book in Hindi	"*Sagar Sada Bahar*" ('Ever green seas')
4	Illustrated brochure in Malayalam	Need for responsible fisheries
5	Animation film in 10 Indian languages	"Little fish and tiny net" (English, Malayalam, Hindi, Tamil,Telugu, Oriya, Bengali, Kannada,Marathi and Gujarathi)
6	Animation Film	'The Greedy Fish Farmer'
7	Video film (English)	"Colourful Voices for Responsible Fisheries"
8	Video film	*Kadakkodis* of Malabar coast
9	Participatory painting	Responsible fisheries
10	Book in English	"Teaching Not to Fi(ni)sh-A constructivist perspective on reinventing a responsible marine fisheries extension system"
11	Campaign materials	1.T-Shirt with the message "save the seas first and catch fish next" on the front and "Fish for all for ever , Let us practice responsible fisheries " in the back
		2.Wall hanger with message

5.2 Communication tools and insights

Though these tools can be considered as important *products* of the project, it is equally important to consider the *process* that went behind them. It is the process part of the project that has given more valuable insights from the extension point of view. The process of learning originates in the various strategies followed in the design, validation and scaling up of these tools. This is also discussed under each tool.

Each communication tool or product is accompanied by a process consisting of various dimensions like the genesis of an idea, its creative expansion, selection or choice of the treatment/medium,

designing, evaluation and enrichment. The overall aim of the project was to make the process as participatory and decentralized as possible. A centralized approach may not be the right one for efforts aimed at development communication. In this approach the various parameters that define the Stimulus – Response praxis would be taken for granted. The antidote to this malady is to make the process democratic and decentralized. Since no *a priori* assumptions are conceived for the Stimulus – Response praxis, contextual learning in a phenomenological sense gets the upper hand. This augurs well for the creation of an enabling space for dialogue and collective learning.

5.2.1 Translation of the FAO code of conduct for responsible fisheries into malayalam "Utharavadithvapara Matsyabandhana Perumattachattom"

One of the major achievements of the project is the document/ publication titled "*Utharavadithuvapara Matsyabandhana Perumattachattom*" which is the translation of the FAO Code of Conduct for Responsible Fisheries into Malayalam. This has been brought out in collaboration with FAO, Rome based on the *Local Language Co-publishing Agreement (FAO ref: No IN 17/9 (Malayalam –India) LL/2002/ 3 dated 22/5/2002)* signed between FAO and CMFRI. Dr C Ramchandran, PI of the project did the translation. The publication filled a long – felt need of having a translation of this landmark document of the global fisheries scenario in Malayalam language, thus making it the second Indian vernacular after Tamil to have this document in any Indian language.

5.2.2 The process of translation

The translation was a three- step process consisting of 1) translation 2) verification 3) validation. The code was first translated word by word without taking any freedom either in the syntax or connotation. In finding out exact vernacular words for the scientific and technical terms the scientists of CMFRI were frequently consulted.

To verify the correctness of the translation an expert linguist (Dr. Gopinathan Nair, former Head, School of linguistics, Kerala university, now working in the International School of Dravidian Linguistics, Trivandrum) was consulted.

For validating the translation a few of the stakeholders who could understand both English and Malayalam were selected. The English text juxtaposed with the translated portion in Malayalam was prepared and the selected stakeholders (which included two retired fisheries scientists, three working scientists, two officials of the sate Department of fisheries and a fisherman) were asked to rate the translation on the basis of an evaluation tool developed for the purpose. Though it

was difficult to get an active fisherman who had sufficient knowledge in English, the patience and interest rendered by Mr. Jossy Palliparambil, of "Green Seas", Munambam proved to be invaluable. But the validation job, as most of the selected stakeholders pointed out, was a "taxing job". (See Ramchandran, 2004 for the various linguistic challenges faced while doing the translation)

5.2.3 Booklet, titled "Uthravadithuvapara Matsyabanthana Perumattachattom- Enthu, Engane, Enthinu?"

This booklet describes the What, Why and How of responsible fisheries in a non-technical language. Illustrated with a number of cartoons, the book, meant especially for the fisher folk, has its content and layout designed in such a fashion that it arouses immediate interest among fisher folk on the need for responsible fisheries. In fact the motivation for this book came from the feedback that the full text of the code was perceived to be very cumbersome by the fisher folk to whom copies of the translated version of the code were supplied. The basic objective of this book was to convey the spirit behind the concept of responsible fisheries to the fisher folk in as simple a way as possible.

5.2.4 Official release of the translated version of the Code of Conduct

The above two books were formally released by Hon. Minister of Fisheries and Tourism, Govt. of Kerala, Prof. K .V Thomas on 2nd December, 2002 at CMFRI, Kochi.

5.2.5 Dissemination of copies

The details of the dissemination are given in Table 3. The details of the dissemination are given in Table 5.

Table 5. Distribution of Copies of FAO CCRF in Malayalam brought under the project

S.No	Institution	Number of copies
1	State Department of Fisheries/Matsyafed/ADAK	736
2	College of Fisheries, KAU	100
3	NGOs	400
4	Coastal Panchayats	252
5	FAO	10
6	World Fish Center/IAC/BOBP	10
7	Fishermen	342
8	Fisherwomen	110
9	Fisher organisations	100

5.3 Animation films on responsible fisheries

Based on the preliminary analysis of the data on information needs it was possible to infer that there was a marked preference for dramatized experiences like animated film as one of the most effective communication channels for inculcating the message of responsible fisheries among the stakeholders. Hence, it was decided that the communication tools to be developed should be based on some animated form. Thus two animation films were produced in Malayalam, titled 1) *Kunjumeenum kothukuvalayum* (Little fish and Tiny Nets) 2) The Greedy Fish Farmer. The first film was dubbed into all the nine maritime vernaculars of the country. The second film is devoid of dialogue and thus language is not a barrier.

5.3.1 Development of the films

The development of the animation films involved the following steps

a. Co-learning session to finalize the theme
b. Co-learning session with animators of Center for Imaging Technology (CDiT) Trivandrum
c. Development of prototype version
d. Participatory evaluation of the prototype and feedback study
e. Incorporation of changes
f. Production of final version and Pre view
g. Telecast through "Doordarshan"
h. Feedback study

a. Co-learning session to finalize the theme

a. Co-learning session was organized at CMFRI to decide the topic of the film. Though different topics like adherence to regulations, hygienic practices in harvest and post harvest operations, measures to increase fuel efficiency etc., came up for discussion there was agreement to take juvenile fishing as the most suitable one. The highly destructive practice of juvenile fishing- catching the young ones using nets of very small mesh size- has been found to cause immense economic damage to the fisheries wealth of the state. The loss was estimated to be to the tune of Rs.600 crores every year in Kerala alone. Fisheries scientists have recognized banning juvenile fishing as a very significant conservation measure. Thus, this theme was finalized for preparing the storyboard.

b. Co-learning session with animators of CDiT Trivandrum

The story prepared by the project team was discussed with animators of Center for Imaging Technology (CDiT), a government of Kerala enterprise, Trivandrum.

c. Development of prototype versions

Accordingly two prototype versions i.e., one with animation alone (V1) and the other supplemented by a dialogue (V2), were developed.

d. Participatory evaluation of the prototype and feedback study

At this stage the prototype was subjected to a participatory feedback evaluation at two coastal villages, Chellanam and Vypin in Ernakulam district. The main objective of the evaluation was to assess which version was perceived to be better in making the fishermen interpret the message effectively. The methodology followed in the study is given below;

Each stakeholder was individually exposed to the two versions (V1 and V2) of the film separately. Feedback was collected immediately after each exposure. The number of exposure was limited to two. The questions asked were (1) what message did they get from the film (2) whether they liked the film? If so, why? (3) what did they consider as the most striking thing about the film-visualization, music etc and (4) suggestions for changes if any. Answers to these questions were collected after every exposure. Once all the fishers were exposed to the film they were invited for a group discussion over a cup of tea.

Apart from the theme of the film the concept of responsible fisheries was also brought for discussion. Though there was agreement among the fishers on the need to avoid the harmful practice of juvenile fishing by using nets with recommended mesh size, some of them highlighted the difficulties in adopting this measure. It was also pointed out that even the factory owned by Kerala government was producing illegal nets! The main difficulty was due to the multi-species nature of our fisheries.

e. Results of feedback study

The results of the feedback were very interesting. The V1 was perceived in different ways by fishermen and the discrepancy in perception was found to be minimum for V2. For eg. many fishers who saw the version 1 failed to get the intended message. Instead they got the main message as the spread of diseases (by flies) caused by unhygienic conditions on the beach. But a majority could interpret version 2 correctly. The results of the feedback study are given in Table.4.

Table 4. Perceived interpretations for the two versions of the animation film

	Interpretation (%)	Version I	Version II
1	Bad effects of juvenile fishing	33.3	86.7
2	Trash fish posing heath hazards	86.7	13.3
3.	Message not clear	13.3	Nil

f. Incorporation of changes suggested by fishers

It was clear that version 2 was perceived to be more effective in conveying the message. There were other very important suggestions made by fishers. They pointed out that the picturisation of boats were not representative as trawlers were not shown among the crafts. In fact they alleged that the main culprit in destroying the juveniles were trawlers. Another interesting suggestion was the demand to put the music scores of the famous film "*Chemmeen*" as background music. This indicated the popularity of that film which was released in the early sixties. These changes were incorporated in the final version.

g. Production of final version and pre view

The final version was previewed first at CMFRI and later at the same locations where the participatory evaluations were conducted. The film in general was appreciated well.

h. Telecast of the film through "Doordarshan"

The animation film was telecast through the Malayalam regional channel of 'Doordarshan', the official TV channel of Govt. of India during June-July 2003. These months were selected for the telecast on the assumption that there would be more viewer ship due to the monsoon trawl ban imposed during these months. It was telecast at a frequency of weekly twice at 3 P.M. and 6.30 P.M. A feedback study was conducted at selected locations in all the coastal districts. The results indicated that the film effectively conveyed the message and it was a new experience for the fisherfolk. The results of the feedback study are given in Table 5. It is to be noted that the total estimated viewer ship of Doordarshan is about 20 lakhs.

5.4 Versions of the film in all the Indian maritime vernaculars.

The animation film is now available in all the nine Indian maritime vernaculars like Hindi, Gujarati, Marathi, Kannada, Malayalam, Tamil, Telugu, Oriya, and Bengali. The same procedure was followed in validation of these versions.

5.5 Animation film on responsible aqua/ mariculture

This film titled 'The Greedy Fish Farmer' deals with the issue of excessive dependence on chemicals like antibiotics in aqua/mari culture activities. The storyboard of the film is given below:

"The greedy fish farmer day dreams about the immense profit he is going to fetch from his shrimp farm - jerking himself out of the slumber, he dashes to his farm to check the growth of his shrimps - finds that they are not growing to his expectation - some look very weak and unhealthy - following the advice of a feed seller he applies

antibiotics copiously - his shrimps are exported -but alas, it gets rejected after the detection of antibiotics in it - he to his shock finds that the whole lot of shrimp has comeback - his dreams get shattered - he decides not to use antibiotics but to follow responsible aquaculture practices".

The film being self-explanatory is devoid of any dialogues. Hence it is not constrained by any linguistic barriers.

Table 5. Perceived feedback response in different locations

Items	Place	Viewer's Agree	Perception in % Disgree
The presentation of the film theme is very interesting	Ernakulam	75	25
	Alappuzha	40	60
	Thiruvananthapurum	90	10
	Kollam	80	20
	Kozhikkode	70	30
	Kasaragod	60	40
The film has conveyed the message very effectively	Eranakulum	80	20
	Alappuzha	65	35
	Thiruvananthapurum	85	15
	Kollam	75	25
	Kozhikkode	65	35
	Kasaragod	60	40
The film has failed to convey the message	Eranakulum	5	95
	Alappuzha	6	94
	Thiruvananthapurum	3	97
	Kollam	4	96
	Kozhikkode	5	95
	Kasaragod	7	93
I would like to see the film once again	Eranakulum	98	2
	Alappuzha	95	5
	Thiruvananthapurum	99	1
	Kollam	98	2
	Kozhikkode	97	3
	Kasaragod	96	4
Mesh size regulation is relevant	Eranakulum	70	30
	Alappuzha	55	45
	Thiruvananthapurum	85	15
	Kollam	78	22
	Kozhikkode	65	35
	Kasaragod	60	40

Using very small mesh size cause immense economic loss	Eranakulum	80	20
	Alappuzha	40	60
	Thiruvananthapurum	70	30
	Kollam	65	35
	Kozhikkode	60	40
	Kasaragod	50	50
Using very small mesh size cause immense economic loss	Eranakulum	80	20
	Alappuzha	40	60
	Thiruvananthapurum	70	30
	Kollam	65	35
	Kozhikkode	60	40
	Kasaragod	50	50

5.6 Campaign materials

A campaign on responsible fisheries is an effective extension intervention to get the message of responsible fisheries close to the hearts of fisher folk and other stakeholders in a massive way. A campaign provides the opportunity to use a number of communication tools. A few tools have been designed in this line. Here also the opinion of the fishers was sought. One important suggestion was that the tools should be of longer utility to them. Thus a T- shirt and a wall hanger showing messages related to responsible fisheries in an effective and attractive ways were designed. One interesting thing observed was the preference for the use of English while depicting the message on T-shirt. The tools designed are shown below.

5.7 Communication strategies

The spirit behind the code of conduct for responsible fisheries is voluntary action. This implies that extension intervention has to go beyond mere supply of information. The typical extension approach of creating awareness among fisher folk about the need of responsible fisheries using centrally designed communication messages would not be sufficient. The act of communication itself is equally important as that of the tools devised for communication. Thus the main communication strategy was to convert the very process of designing various communication tools as *conscientisation episodes.*

When the intended audience themselves get a chance to actively participate in the process of message construction it becomes an experience of *meta- communication.* It also offers a shared learning experience to all the participants. The co-learning in turn provides a unique empowerment experience. The dynamics of this process is captured in fig.5.

It is with this theoretical background that the communication strategies were attempted in the project. The major strategies composed of

5.7.1 Co-learning workshops on responsible fisheries

a. Designing and validation of communication tools as conscientisation episodes.

b. Mass contact through telecast of animation film through television

c. Mass contact through radio talks on responsible fisheries

d. Popularization of the code of conduct through fisheries-related media

e. Individual and group contacts with the FAO code of conduct for responsible fisheries acting as a talking point.

f. Campaign on responsible fisheries

g. Mass contact through Internet

5.7.2 Co-learning workshops to design visual communication tools for responsible fisheries

a. All Kerala painting competition on responsible fisheries

In order to design visual communication tools in a participatory manner, an All Kerala painting competition on the theme "Responsible fisheries" was conducted at CMFRI on 6.11.2002.

A video-documentary has been prepared covering the entire event. It is titled "Colourful Voices for responsible fisheries".

5.7.3 Campaigns launched on responsible fisheries

A statewide campaign on responsible fisheries was launched in August 2003. As a curtain riser event, a two –day co learning workshop was held first at Kozhikkode and later at Kannur and Kochi.

a. Communication characteristics of co-learning workshops

(1). The titles of all the sessions were supplemented with a qualification- "As We know". For eg. Fisheries Resources-As We know or Fisheries Biology-As We know. This was to avoid the perceived hegemony of institutionalized or "official" fisheries science and thereby to encourage participation of all stakeholders in the discourse.

(2). Each session was conceived as freewheeling interactions initiated by a short presentation by the facilitator.

(3). All the participants were given the copies of the Malayalam version of FAO CCRF and the illustrated booklet.

b. Mass media extension interventions (newspapers, TV, radio and Internet)

Various mass media were effectively utilized at various stages of the project.

The Malayalam translation of the FAO CCRF as well as the illustrated booklet was serialized through the weekly newspaper for the fisher folk namely *'Coastal times'* during 2003-2004.

c. Internet

The potential of Internet was also harnessed in putting the message of responsible fisheries across. The activities and outputs of the project have been placed on Internet.

6 Implications

The most important portent of the project is the affirmation of the potential utility of a communication model, which has been vindicated during the implementation of the project, in the context of Responsible Fisheries Extension. The model, as given below, is built on the proven possibility of making use of the very process of designing any communication tool as a conscientisation episode in a co-learning mode, which engenders a phase of meta communication in the cognitive domain of the communication actors. Since this augurs well for the active participation of the stakeholders in a decentralised mode of message construction the consequent tools go beyond the mere function of communication tools (either as individual contact or mass contact points) but act as empowering platforms.

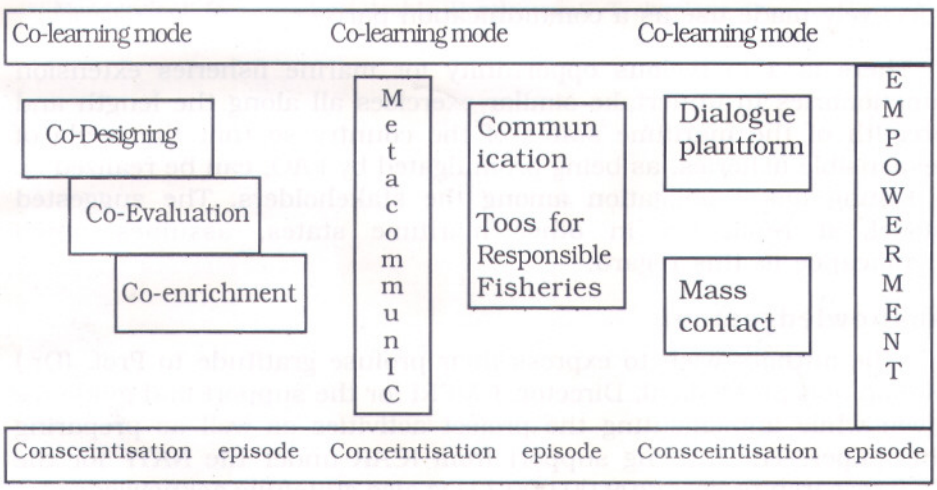

Fig.2 Implications of the communication model for responsible fisheries

7. Conclusion

The project, which can be considered as first of its kind ever undertaken in the country, has clearly established not only the necessity but also the possibility of undertaking extension interventions by way of designing communication tools and strategies in a

participatory mode and putting them into massive use for creating an awareness on the concept of responsible fisheries among the stakeholders of marine fisheries sector in the country.

The marked preference for, as well as the effectiveness (as indicated by the results of the feedback studies) of animation films indicate that these tools, especially when designed in a co-learning, participatory mode have very big potential in bridging the communication gap existing between research/extension institutions and fisher stakeholders. The animation film, which has been made in all the maritime vernaculars, signifies a very important step in the process of responsible fisheries extension in our country. The periodic telecast of this film through the regional channels of Doordarshan can play a big role in making the fishers refrain form the harmful practices like juvenile fishing.

It is to be noted that the FAO Code of conduct for responsible fisheries till date is available, even after its original release in 1995, only in two of the Indian maritime vernaculars. The very process of translating the code can be undertaken in a participatory mode, and it is more effective as has been shown through this project. Along with assuring active participation by the stakeholders, the location specific niche media, if any, being utilized by the fisherfolk should be effectively made use as a communication partner.

There is a marvelous opportunity for marine fisheries extension functionaries to undertake similar exercises all along the length and breadth of the maritime states of the country so that the credo of responsible fisheries, as being promulgated by FAO, can be realized as a lasting moral obligation among the stakeholders. The suggested model, if replicated in other maritime states, assumes much significance in this regard.

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