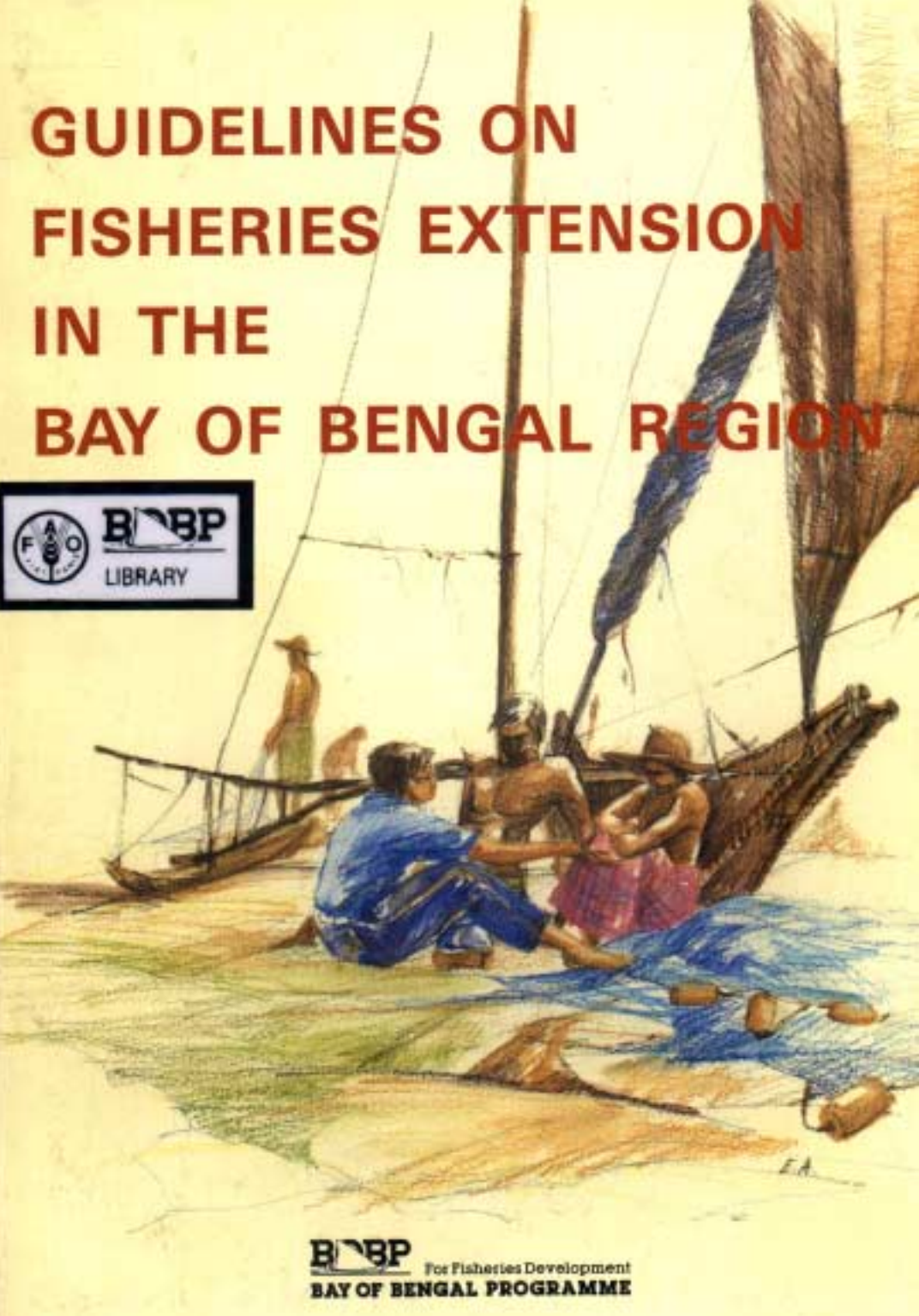


GUIDELINES ON FISHERIES EXTENSION IN THE BAY OF BENGAL REGION



GUIDELINES ON FISHERIES EXTENSION

(IN THE BAY OF BENGAL REGION)

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AUTHOR'S NOTE

Fisheries extension is a concept that is not always very well understood. One reason is that extension, in general, involves a rather complex process that requires clear objectives, clear programmes and the resources to implement its programmes. Another reason is that the effects of extension are not always clearly visible in a short period of time; extension is often just the starting point of helping people to help themselves, and this may require time. And then again, fisheries extension has its own complicated features, compared, for example, to agricultural extension. Fisheries extension cannot always be given 'on the job', which is at sea. And in a fishing village it is often difficult to gather together a group of fishermen, for they are frequently away from their homes at irregular times. Furthermore, while an agricultural community might have relatively homogeneous farming systems, most fishing communities have diverse ranges of 'fishing systems', each with its own extension requirements.

This paper is, therefore, NOT a manual; it does not provide a step-by-step approach to fisheries extension. Rather, it explains that every single programme has its own specific features, depending on such factors as the target group and the resources, and that a learning approach has, therefore, to be used, the different situations having to be analyzed before the most appropriate extension service can be provided.

The paper provides, in this context, **guidelines** for the planning and implementation of fisheries extension programmes and activities in the countries of the Bay of Bengal region. The main focus is on

field-level fisheries extension activities. However, an effective extension service at the field level requires sound management at the various other levels, based on an understanding of what is happening in the field. The guidelines can, therefore, be utilized as a textbook for training of lower and middle level FEAs as well as to provide reference material for extension policy-makers and programmers at higher levels.

Much of the work in this paper was done in Shri Lanka and the considerable contribution of the following persons there needs to be acknowledged: K.B.S. Wijayaratne, Project Director of the Extension Training for Fisherfolk Project and Assistant Director at the National Institute of Fisheries Training, S.A. Sugathasrilal, Senior Lecturer, National Institute of Fisheries Training, Cyril Binduhewa, Fishing Gear Technologist at the same Institute, A. Atapattu, Director, Department of Fisheries and Aquatic Resources, Jord Neuteboom, communication specialist, and the staff of the Bay of Bengal Programme (BOBP). Work on this project, originally targeting only Shri Lanka, was made possible by the BOBP.

The Bay of Bengal Programme (BOBP) is a multi-agency regional fisheries programme which covers seven countries around the Bay of Bengal – Bangladesh, India, Indonesia, Malaysia, Maldives, Shri Lanka and Thailand. The Programme plays a catalytic and consultative role: it develops, demonstrates and promotes new techniques, technologies or ideas to help improve the conditions of small-scale fisherfolk communities in member-countries. The BOBP is sponsored by the governments of Denmark, Sweden and the United Kingdom, by member-governments in the Bay of Bengal region, and also by AGFUND (Arab Gulf Fund for United Nations Development Organizations) and UNDP (United Nations Development Programme). The main executing agency is the FAO (Food and Agriculture Organization of the United Nations).

This document is a training guide and has not been cleared by the governments concerned or the FAO.

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1

FISHERIES IN THE BAY OF BENGAL

Fisheries is an important economic activity in countries with coasts along the Bay of Bengal, viz. Shri Lanka, India, Bangladesh, Myanmar, Thailand, Malaysia and Indonesia. In the Maldives (which is not in the Bay of Bengal, but is deemed to be one of the Bay of Bengal countries from the fisheries' point of view), fisheries is an important activity in terms of employment. The contribution of the fisheries sector to the GNP of these countries may be marginal; yet fishing is important to their economies for several reasons.

- Fish is the most important animal-based protein food of the people in these countries, primarily because it is the least affected by cultural and religious biases and prejudices. The contribution of fish to the animal-based protein supply in some of these countries is: Bangladesh 52 per cent, Indonesia 68 per cent, Malaysia 61 per cent, Shri Lanka 65 per cent and Thailand 52 per cent.
- The fishing industry in the Bay of Bengal area provides employment and sustenance to large numbers of people. Based on a recent estimate, the total number employed on a full-time basis in fisheries in the area covered by the Bay of Bengal Programme (BOBP) is 1.85 million (see Table 1). In addition, a large number of people are engaged in fishing as a part-time activity. The total population in the households

of those engaged in fishing, full-time or part-time, in this area, is estimated at around ten million.

Table 1. Active fishermen in the BOBP countries

Country	No. of active fisherman.
Bangladesh	1,100,000
India	486,000
Indonesia	60,118
Malaysia	39,054
Myanmar	22,025
Shri Lanka	1 10,000
Thailand	33,556
Total	1,850,753

- In recent years, the fishing industry has developed into an important earner of foreign exchange through the export of marine and aquatic products. In the Maldives, 77 per cent of the total foreign exchange earnings is derived from the export of fish and fish products and in Bangladesh fish exports account for 15 per cent of the total export earnings. Though the percentage contribution of the fisheries sector to total export earnings of the country is yet marginal in the other countries in absolute terms, the export earnings have been increasing very fast. As export items, fish and fish products are very important, as the net earnings from these products are extremely high, a result of their being almost one hundred per cent local resource-based.

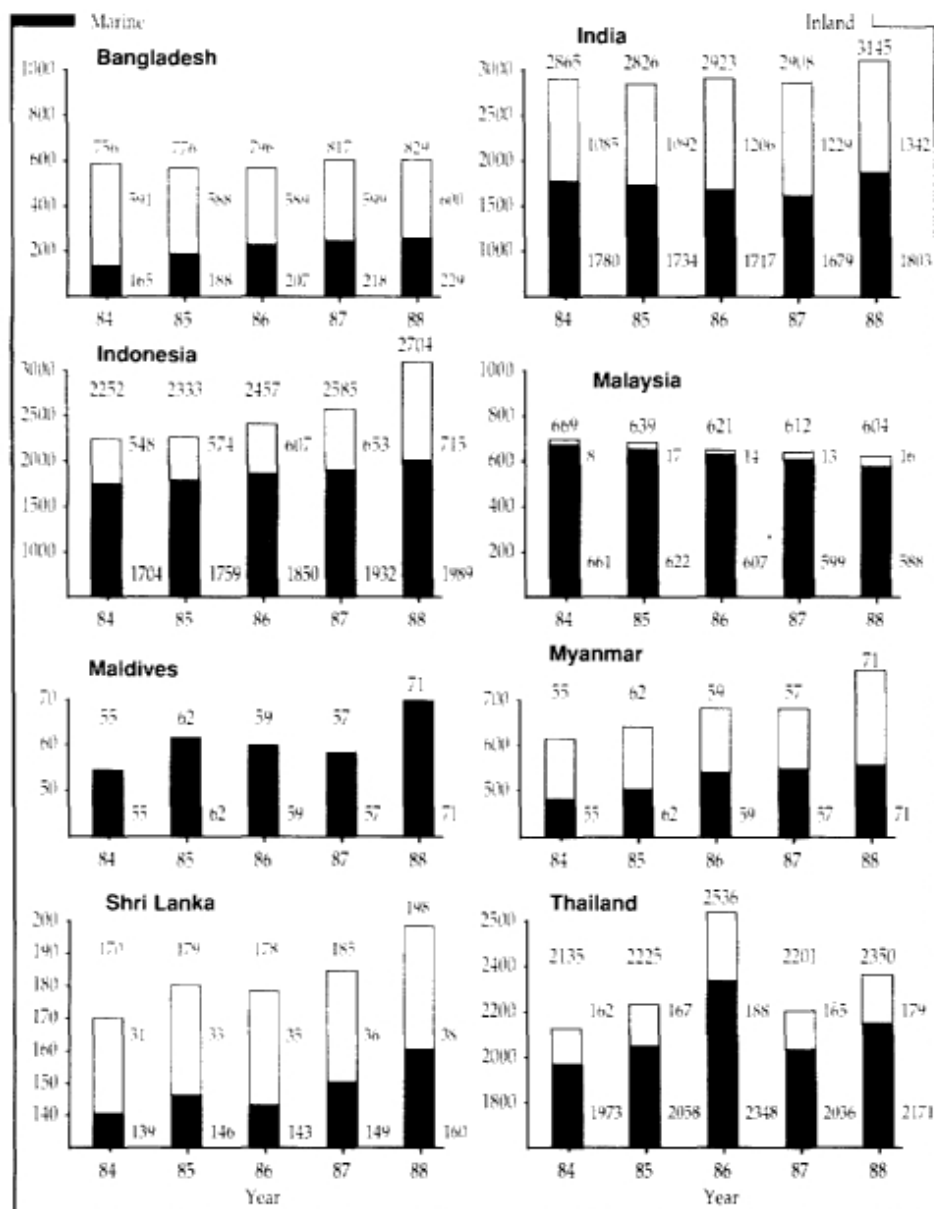
One feature common to all Bay of Bengal countries, with the exception of Thailand, is that it was only after World War II, when they emerged as independent nations, that serious attempts were made to develop their fishing industries. This development was with a view to provide protein for their growing populations and to create and sustain employment opportunities for the thousands of their people living in the coastal areas and in areas in proximity to inland water bodies.

Another common characteristic of the fisheries in the Bay is the importance of the small-scale fisheries, except, perhaps, in Malaysia and Thailand. The predominant role of small-scale fisheries in Maldives, India, Bangladesh, Indonesia and Shri Lanka is reflected in the large numbers of people engaged in marine fishing, the relatively high percentage of traditional and non-motorized craft still operational and the very significant contribution made by these craft to fish production. Further, the formation of companies for fishing activities is still in a rudimentary stage in these countries.

In most of the countries in the Bay of Bengal region, there have been spectacular increases in the production of fish over the past 15 years (1975-1989). In Indonesia and Maldives, there has been a two-fold increase, while in the case of Malaysia, Myanmar, Shri Lanka and Thailand the increases have been 45-55 per cent. In the case of India, the increase is just below 40 per cent. Bangladesh is the only country in which overall production increases have not taken place during this period.

As far as the total production of fish is concerned, important changes have also taken place during this period in respect of the relative contributions of marine and inland fisheries subsectors. In Bangladesh, the contribution of marine fish has grown from 11 per cent in 1975 to 27 per cent in 1989. There have also been increases in the contribution of the marine fisheries sector in Myanmar and Thailand. In the case of most other countries, the contribution of inland fisheries to total production of fish has increased progressively, eg. in India from 35 per cent to 43 per cent, Indonesia

Fig 1: Trends in marine and inland fish landings in the Bay of Bengal Region (1984 - 1988)



from 17 per cent to 27 per cent, Shri Lanka from 12 per cent to 20 per cent. In Malaysia and Maldives alone inland fisheries remain quite negligible in terms of total production.

Figure 1 indicates the trends in respect of marine fish and inland fish production over the period 1984-1988.

The increased production of marine fish has come primarily through the motorization of traditional craft, the introduction of new craft and the introduction and popularization of new types of synthetic gear, which have replaced the traditional gear. In almost every country, this process has been either instituted or actively supported by the governments in the form of generous subsidies and credit schemes. It is in Thailand alone that the private/commercial sector has taken the initiative of introducing and extending craft and gear; there has been very little state support or intervention in these activities in this country.

However, the increased fishing efforts, mainly in the inshore areas, have resulted in resource problems. Reduced catch per unit effort, fisheries conflicts between different fisherfolk groups and even within the same group are some of the symptoms of these resource problems.

Information relating to fishing fleets of the countries concerned is given in Table 2 (overleaf). These fishing fleets have registered a very substantial increase over the past 15 years. In addition to the increase in numbers, motorization has resulted in a massive expansion of the fishing capacity, resulting in very impressive increases in the production of fish in all these countries. But the resource problems have also got compounded as a consequence, in some of the countries and in certain fisheries/resources.

Table 2: Fishing craft in the Bay of Bengal region

	CRAFT			Total
	<i>traditional</i>	<i>motorized</i>	<i>mechanized</i>	
Bangladesh	437	14,014	2932	17,383
India (east coast states)	1673	98,671	5779	116,117
Indonesia (North Sumatera Province)	715	5500	1211	7,426
Malaysia (Peninsular Malaysia)	779	7029	15,326	23,134
Maldives	3758	—	1754	5512
Myanmar	N.A.	N.A.	N.A.	N.A.
Sri Lanka	9920	14,896	3544	28,360
Thailand	N.A.	N.A.	N.A.	N.A.

NA. = Not available

In **most countries**, the opportunities which exist for the introduction of new capture fishing technologies with a potential for positive impacts on production seem to be very limited. Instead, the pressing need in most countries appears to be to diversify capture fishing methods and gear and also to extend the fishing grounds beyond the areas (continental shelves) which have come to be fished quite intensively. In Bangladesh, for instance, in the area of marine capture fisheries, the urgent need seems to be to effect a wider diversification of the fishing methods in order to reduce the fishing pressure on some of the target species of fish captured through certain fishing methods, particularly set bag-nets. In India, the most pressing need is to extend fishing beyond the continental shelf and, for this, a suitable craft with a longer operational range, greater endurance and with the capability of capturing large pelagic species has to be designed, tested and proven. In addition, energy and cost/energy effective methods for small-scale fishing, suitable gear for small trawlers to diversify fishing and the use of by-catch excluder devices

need to be developed. For Shri Lanka, deep sea fishing development continues to be a priority and there is a need to undertake exploratory fishing in the deep sea areas. Connected with this is the need to have better designed vessels, cost-effective both in terms of investment as well as operations. Safety is another aspect which needs to be improved.

In several countries, including India, Thailand and Myanmar, the use of alternative boat-building materials is an urgent need, as the cost escalation in the production of boats has to be contained if fishing units are to continue to be viable.

The increasing emphasis accorded to the development of coastal aquaculture is another feature common to almost every country in the region. In countries such as Bangladesh, Shri Lanka and India, a primary reason for the increased emphasis on coastal aquaculture is the vast potential that shrimp farming/culture has far increased foreign exchange earnings. In countries such as Thailand and Malaysia, coastal aquaculture has helped to absorb a part of the redundant coastal marine fisherfolk who have been affected by deteriorating fisheries resources, and has also contributed to increasing production of fish in the context of the serious limitation on the capacity of marine capture fishing.

However, coastal aquaculture happens to be an area which presents several very complicated problems. In India, Bangladesh and Shri Lanka, shrimp seed continues to be a major problem. Not only is seed not available in sufficient quantities but it is also not available at the right time of the year as required for growing. The collection of seed from the wild is done on a massive scale in Bangladesh and West Bengal in India, resulting in considerable loss of seed. The expansion of brackishwater pond production requires a rapid increase in shrimp hatchery production. While Thailand seems to have made considerable headway in this field, through 'backyard' hatchery development, it will require a greater effort, investment and considerable time in other countries.

A second major problem in coastal aquaculture is connected with shrimp feed supplies. This is a problem common to India,

Shri Lanka and Bangladesh. Due to the non-availability of proteinous ingredients and other necessary inputs, the local compounding of suitable shrimp feed of acceptable quality will continue to be a problem. In the meantime, it is necessary for shrimp feed to be imported at considerable cost, thus reducing, by about half, the net foreign exchange benefits available to these countries from coastal aquaculture activities. Effective coastal zone management to tackle the conflicts between aquaculture and other sectors over land and water use and to prevent water pollution is also vitally necessary for brackishwater fisheries development in all these countries.

Fisheries development 'plans' have, from time to time, been formulated and implemented by the governments in all the BOBP countries. But there is considerable differences in emphasis on the role of the state sector in these plans. In countries like Malaysia and Thailand, where private sector enterprises are quite well developed, there has been less involvement by the state, the plans being generally of an 'indicative' nature, defining the development goals and the strategies required to achieve them. In all the other countries, the state plays a much more dominant role in undertaking investments and directing and controlling major activities. However, there has been a growing trend in recent years in these countries to encourage more private sector involvement. Whatever activities the private sector can do better than the state sector are generally being left to the private sector. This policy has led to privatization of the major activities of several state fisheries agencies in Shri Lanka, Bangladesh, and India, while the power base of the State Trading Organisation is generally being eroded in the Maldives.

The objectives of fisheries development plans vary little from one country to another – the main differences being of emphasis rather than substance. The objectives common to most countries are:

- Increased fish production;
- Increased per capita consumption of fish and, thus, improved nutrition standards;

- Increased opportunities for employment; and
- Increased exports and, as a consequence, foreign exchange earnings.

One noteworthy feature of Fisheries Plan objectives is that, in recent times, more and more plans have included resource management/conservation as an important objective. This is particularly important in the case of Thailand and Malaysia, where many of the capture fisheries seem to have reached, or even exceeded, maximum yield levels. In Shri Lanka too, the catch rates of some of the small pelagic resources show a decline. A UNDP supported Marine Fisheries Project is expected to strengthen the management process in Shri Lanka.

Bangladesh and Maldives are also taking fisheries resource management seriously and mention it in their plan objectives. An analysis of the development plans of five countries (other than India and Malaysia) reveals, in addition to the already listed objectives, focus on resource management/enhancement and infrastructure development. There are also other specific objectives, such as promotion of regional balance (Indonesia and Thailand) and rectifying ethnic imbalances (Malaysia).

It will not be easy to ensure that all the listed objectives can be reached. But they can only be attained if there is a fisheries extension service capable of playing a significant role in implementing and shaping the programmes to support these objectives in such a way as to ensure that progress is made towards reaching the goals. Such extension activity will have to ensure that the programmes are attuned to the needs of the fisherfolk and present them with opportunities within their capabilities. Some **guidelines** to this end are suggested in the following pages.

2

WHAT IS EXTENSION?

However important extension is, it remains a concept that is not always understood well. Many think that it is something vague, as its impact, they believe, cannot be measured. Yet, the impact of extension can (and **should**) be measured, provided the programme has clear objectives and sufficient means for implementation.

Others are not very interested in understanding extension better because they feel that the impact of an extension programme is often not clearly visible within a short period of time, especially when it concerns income-generating activities, such as fisheries. But, they forget that this is exactly the challenge of extension, as extension often takes the starting point of helping people to help themselves – and this may require time.

To eliminate the vagueness that surrounds extension and its impact, it is necessary to discuss what extension exactly is, particularly, in this book, with reference to what fisheries extension is and what it can do.

A definition of extension

There are many definitions of extension. Here is one rather detailed definition:

Extension is the collective word to describe all organized communication efforts by which an individual or agency tries to bring about changes in the knowledge, attitudes, skills and/or behaviour of a client population, in order to

reach one or more objectives that have been established within the framework of an overall development policy.

At first this may seem a complicated definition, but it clearly specifies what the main action is and what the main features of extension are. The main action of extension is the communication effort and its main features are the following:

- It is an organized, collective effort;
- It works with, and for, a client population; and
- It serves a development policy.

Sometimes people give extension a very broad meaning, such as ‘informal adult education’. However, informal education cannot always be called extension, as, for instance, when it is not a collective or an organized effort, or when it does not focus on a specific client population, or when it does not operate within the framework of an overall development policy. Extension can also address children, *FOR EXAMPLE*, during a campaign to promote proper brushing of teeth. But, the main purpose of extension is to provide information.

Some authors suggest that extension focuses only on the rural population and for the purpose of rural development (e.g. Oakley and Garforth, 1985, Jacobsen, 1987). In fact, extension can be applied to any type of activity meant for any type of target group in any type of country. *FOR EXAMPLE*, a country-wide health extension programme whose objective is the eradication of rabies.

The information that the extension service communicates to its clients is called the **extension message**. The contents of the extension message are, in the ideal situation, adjusted to the needs and experiences of the clients. **But if the extension message is based entirely on the needs of the government that supports the extension service, extension becomes propaganda** (Freire, 1973).

Fisheries extension as an intervention instrument

Extension is often mistaken for community development. Community development usually aims to improve the living conditions, both economic and social, of the population or of a

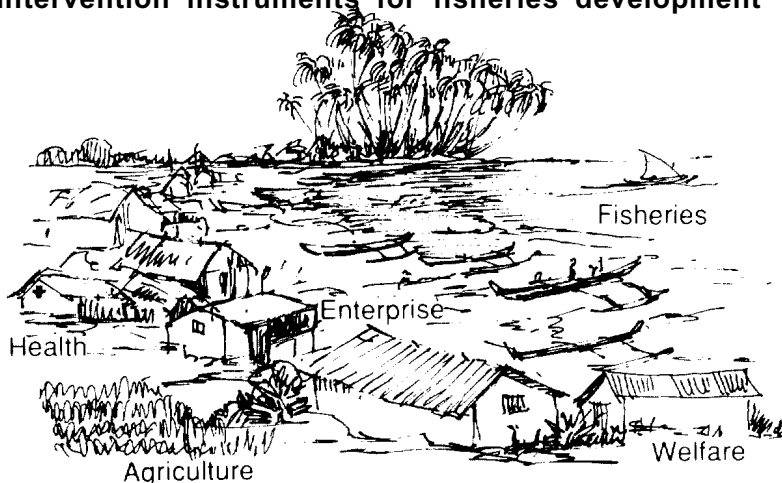
certain target group in a community. The activities initiated to improve living conditions can be very diverse, depending on the needs of the client population in a particular community and/or the wishes of the supporting organizations, if such organizations are involved. The activities may comprise various components, such as a health component, an agriculture or livestock component, an environmental component, a fisheries **component**, an **enterprise** component, a welfare component (such as the construction of houses and community centres) etc.

To support the development of one of these components within the **community**, **outside assistance is sometimes** deemed necessary. Such support can be in such fields as: **research, legislation, savings and credit** schemes, business advice, **marketing support, subsidy** schemes, formal education or training, and extension. When applied to a **specific programme**, these fields are called **intervention instruments**.

A successful programme usually incorporates more than one instrument and relies on a carefully thought out mix of intervention instruments. These instruments are then developed into subprogrammes that are integrated with **the other subprogrammes** within the programme, such as a research subprogramme or an extension subprogramme.

An **extension programme** is, in fact, often an extension subprogramme that is part of a larger programme. *FOR EXAMPLE, a programme that aims to introduce a new type of outrigger canoe incorporates a large mix of intervention instruments: a research instrument, to develop an appropriate boat; a training instrument to train carpenters to make the boat; an extension instrument to create awareness about the boat and inform interested persons about the various relevant aspects of the boat; a credit programme to facilitate fishermen or fisherwomen to buy the boat etc.*

Intervention instruments for fisheries development



Support Programme
for fisheries
development:

- * Fisheries legislation
- * Fisheries research ,
- * Savings and credit
- * Marketing support for fish and fish products
- * Subsidy
- + Training
- . **Fisheries extension**

Community development in relation to fisheries extension and other support services.

What becomes clear here is that

FIRSTLY, fisheries development is only one component of community development, although this may include fisheries and fisheries-related activities. A certain overlap between components can easily occur. *FOR EXAMPLE, to improve the hygienic conditions of a fish market, the Municipal Council, the health officer and the Fisheries Extension Agent (FEA) should be involved.*

SECONDLY, extension is only one of the many support services or intervention instruments that may be required for community or fisheries development, besides such instruments as, *FOR EXAMPLE, credit supply.*

These two boundaries mark the area of competence of the FEA.

However, in extension, there are various extension methods, and the choice of a certain extension method depends on such factors as

- The type of message to be conveyed;
- The number of people to be reached;
- The client population;
- The resources available to conduct the specific extension programme; and
- The individual initiative of the FEA.

Extension methods may include

- Mass media, such as the radio;
- Group methods, such as group discussions, demonstrations, workshops or excursions; and
- Individual extension, whereby the FEA communicates with one person only (Van der Ban and Hawkins, 1988).

The FEA can be directly involved in the group or with individual extension methods and can provide assistance in developing a mass media programme. He can also help explain in the field the message propagated in the mass media programme. These extension methods are discussed in Chapter 4.

Of course, it can be argued that fisheries development would be of little use if other components, such as health, are not attended to. That may be true in many cases, but that does not mean that the FEA should engage in health activities: that is the area of competence of the health agent. However, the different field level agents can provide valuable assistance to one another in their respective areas of competence.

In some countries in the region, for example Malaysia, Shri Lanka and, to some extent, Thailand, it is not necessary for the FEA to be directly involved in activities not related to fisheries. In these countries, when compared to such countries as the Maldives, and

certain parts of India, Bangladesh and Indonesia, many government organizations are represented at the village level and/or at the divisional level.

Many non-government and even private organizations are also active in the region and it might be possible to obtain their services as well. However, to obtain such assistance, there would have to be at least some coordination of the programmes engaged in community development at the community level.

Extension tries to bring about changes in knowledge, attitudes, skills and/or behaviour

Changes are necessary when

- fishermen or fisherwomen are convinced that their present situation does not correspond with the desired situation, and/or
- when an outside organization, such as the **Fisheries Agency (FA)**, argues that the present situation should be changed.

FEAs often have to work with a variety of interests that may sometimes contradict. Fisherfolk within one community may have opposing interests. *FOR EXAMPLE, some fishermen may like to improve their ringnet operations, while those who do not use ringnets might oppose a more extensive use of ringnets in the area, especially in inshore waters.*

Furthermore, the interests of the Fisheries Agency and that of the fisherfolk do not always coincide. *FOR EXAMPLE, a Fisheries Agency might have adopted a policy to ban ringnets from the inshore waters, while fishermen might find it very convenient and rewarding to use ringnets in these waters.*

The FEA will always have to work with such contradictions, more so than even agricultural FEAs, because fishing usually means tapping a common, not entirely renewable resource' that, in itself,

The fish resource is usually a common property resource, but in certain cases fishermen and fisherwomen have obtained user rights to parts of the sea or lagoon for the purpose of fishing.

requires more coordination among fishermen and more regulation from the government. This is probably the biggest challenge that FEAs have to meet. The agent must always be aware that

changes in one situation might influence the situation of other fishermen, and

- changes in principle have to be in line with government policies.

Fisherfolk's situations that may require changes and, thus, perhaps, outside intervention, may be grouped as follows (after Van den Ban and Hawkins, 1988:10):

1. Inadequate insight to recognize the problem or to think of a possible solution.

In some cases the fisherfolk may have obtained incorrect information. Here, extension can assist in providing the required information or help the persons to identify the problem and find a possible solution. FOR EXAMPLE, a fisherwoman might

10.5

2. Inadequate incentive to improve the situation.

Often there are very clear reasons for this and these could be beyond the control of the persons concerned. *FOR EXAMPLE,* if may be wondered why fishermen are often unconcerned with spoilage *of fish during onboard fish handling.*

Often the reason is that there is little price incentive to spend more time and money on better fish-handling; due to the high demand for fish, the fish can be sold anyway. Also, better fish-handling would mean increasing the price of the fish, and many consumers might not be able to pay the higher prices.

Another reason might be the relationship between the crew and the boat-owner, if the boat-owner does not go out fishing himself. If the relationship is not very **good**, the crew may not be concerned at all with the condition of the fish they bring ashore.

The FEA should be aware of the reasons and consequences of certain behaviour and, in that context, propose changes. One

change might be to ask the municipal council to look after better the daily cleaning of the fish market, if this is indeed required. Such a change would hardly affect the price that consumers will have to pay for the fish.

3. Inadequate resources, for instance, capital, to change the situation.

Extension might, in such cases, provide information on how the persons concerned could obtain credit or the required material. But a direct involvement of the FEA in obtaining or supervising the supply of credit or subsidies has nothing to do with extension.

4. Inadequate power to change the situation.

To try to solve this is, in general, an unfeasible extension activity, as it is unlikely that mere provision of information would change the situation. In some cases, the FEA might suggest a person or organization through whom the person concerned could better channel his or her interests. The agent might also be able to suggest and support the formation of certain interest groups. However, it is important that the FEA retains, as much as possible, his or her neutral position and does not become too involved with the local-level power centres, although this might not always be easy.

It should be noted that this situation concerns the political and economic organization in a fishing community. In case the lack of power can be overcome by increased knowledge, we have to refer to Situation 1, above.

It may be seen from the foregoing that fisheries extension, by its very nature, cannot solve all social problems in the fisheries sector. On the other hand, it is impossible for a FEA to have ALL the technical knowledge required to address ALL problems relevant to fisheries extension. Therefore, it is important that the agents know how to obtain such information, either through their Ministry or Department, research organizations or other organizations. In that

case, the FEA acts as an intermediary between his or her clients and other sources of knowledge. Here, it is equally important for the FEA to candidly admit that he or she does not have the appropriate knowledge, if that indeed be the case in a particular occasion. How information on various technical fields of fisheries extension can be obtained is described in Chapter 7.

Extension addresses the needs of a client population

A frequently heard statement among government officials is, “Yes, extension is important because we have to educate the fishermen”. Behind this statement is the implication that fisherfolk

- do not know what is good for them;
- are not aware of the opportunities to improve their situation; and
- have often developed bad habits (such as not fulfilling their social obligations), which reduce their motivation to improve their situation.

Such a statement normally does not tell you in what way the fisherfolk should actually be educated nor whether education is a part of the responsibility of the extension service.

In general, the statement often contains a number of prejudices. First, do fishermen and fisherwomen really not know what is good for them? How do we know that they do not know, and do we really know what it is to be a fisherman and what hardship the occupation entails? Are there not many among the fisherfolk who know very well what is needed to improve their situation? Are we, therefore, referring to ALL fishermen and fisherwomen or only to a certain segment of the fisheries community, namely the most deprived? Also, are there no influences beyond the control of the fisherfolk that have worsened their living conditions? *FOR EXAMPLE, there are the influences of those programmes which aim to introduce new fishing technologies and there are such non-fisheries influences as the increasing prices of consumer goods.*

To be able to answer such questions, the FEA needs to have a good understanding of the fisheries community he or she is working for. In general, to analyze the best way of providing help, the FEA should first learn and understand a fisherman's or fisherwoman's situation. In extension, the assistance provided is useful only when it really addresses the **needs** of the client population. This basic tenet of extension also determines the way communication efforts should ideally be pursued, namely in the listening mode and **NOT** in the teaching mode. This is the main difference between formal adult education, or training, and extension. As stated by UNDP (undated:2), "Extension education is different from the conventional education institution; it is informal, without regular classes, grades, degrees or diplomas".

Thus, while in formal education, the teacher, the school or the national education programmes decide what the students have to learn, in extension the extension message should be tailor-made for specific client groups of fisherfolk or for individuals. But for an extension programme to become tailor-made, it is important that fisherfolk or specific groups of fisherfolk are able to voice their **need** for certain information or assistance. This is called **the demand side of extension**. The way the fisheries extension service of the Fisheries Agency or other specialized organizations are able to **meet** this demand is called **the supply side of extension** (Jiggins and Roling: 1982). The demand side is discussed in Chapter 5 and the supply side in Chapter 3.

It is only recently that fisheries extension organizations in the region, as well as funding agencies, have realized that an efficient extension service requires the development of both the supply side and the demand side, and that specific groups of fisherfolk have different demands, thus requiring different support services. *FOR EXAMPLE*, in the case of fish processing, the management of a fish processing plant might like to obtain information on new fish products developed by a certain Institute of Post-harvest Technology, whereas a fisherwoman involved in small-scale fish processing might like to know how she can construct low-cost fish-drying racks. Different extension

methodologies may be required to meet the demands of these different client groups.

Extension objectives and the overall development policy

Often the overall development policy for the fisheries sector is outlined in a national fisheries plan that, usually, has a five- year duration. This is the context in which the fisheries extension service would try to implement its programmes. Yet each programme developed by the extension service would have its specific objectives. *FOR EXAMPLE, in the context of a government policy to increase safety at sea, the fisheries extension service might develop an extension programme with the objective that, at the end of the two-year extension programme, 80 per cent of all fishing boats in the country that sail offshore would be using a compass.*

In agriculture extension programmes, usually clear objectives or targets are set, such as, for instance, promoting certain crops on a regional basis. This is as yet not usual for fisheries extension. One reason is that it is not very easy to control fish resources, when compared to plant production, for instance. The development policies and the objectives for extension will be further discussed in the next chapter.

3

PLANNING FISHERIES EXTENSION PROGRAMMES

The overall development policy and the emergence of a fisheries extension service

As mentioned earlier, a fisheries extension service works within the context of an overall development policy. Such a policy may have objectives that are related to an increased production of fish and/or objectives that are related to the increased well-being of the fishing families involved in fishing.

In order to attain these development objectives, the Fisheries Agency, or any other organization, designs a number of programmes. Extension support can be one of the instruments for a successful programme. The extension service may, subsequently, design (sub)programmes.

In agriculture, extension services are often clearly defined, in the sense that there are separate extension divisions with extension staff at various levels, and the divisions have tasks clearly distinct from other divisions, such as research, training etc. Not all countries in the Bay of Bengal region have a fisheries extension service (such as Shri Lanka's), but among the countries who have such a service there is a great variability in the organizational set-up and in the

availability of field staff. The Maldives, for instance, has a clearly defined fisheries extension service, but no field staff due to the distances between the islands and a labour shortage. In other countries, such as India and Bangladesh, the field staff are assigned part-time extension duties, but because there is no actual line of command between the extension service and the field staff, extension receives a limited priority. In Thailand and Malaysia, such lines of command exist through a decentralisation of authority to provincial or state levels, but it is clear the field staff have many other duties besides extension. In Indonesia, the district fisheries offices have recently been assigned clear authority over fisheries extension.

Often, government fisheries extension activities are taken care of by the same units which engage in other activities, such as enforcement of fisheries legislation, supervision of credit and subsidy schemes, implementation of such schemes as the formation of societies, and the collection of statistical data. Although some of these activities may have an extension component – such as, for instance, providing information on a credit programme – it often does not explicitly involve the services of a fisheries extension service. However, for further discussion on planning and implementation of fisheries extension, we will assume that a fisheries extension service exists.

Based on the outlined development policy, several support programmes may have been identified, including fisheries research, fisheries legislation, extension, and community mobilization and organization. As mentioned in Chapter 1, the programme may have an emphasis on fish production and output, through management improvements and the application of appropriate technology, while other programmes may emphasize the well-being of the fisherfolk/families through human resources development.

The two approaches cannot be entirely separated: emphasis on technology transfer can affect the well-being of one group of fisherfolk/families positively, as their income might increase, whereas another group may be negatively affected because of

increasing competition and a loss of fishing grounds. On the other hand, human resources development in the field of fisheries and fisheries-related activities can very well benefit from the introduction of appropriate management in fisheries and fisheries-related technologies. It is not so much that fisheries technology development and dissemination is a bad thing, as is nowadays believed by many people, but that technologies have been, and are being, introduced without worrying about the effects on the different groups of fisherfolk/families. *FOR EXAMPLE, the introduction of a simple technology, beach hauling devices, on selected islands benefited the whole fisheries community in the Maldives. On the other hand, due to larger scale fish marketing operations, 'basket women' who market fish in the Shri Lanka villages are being displaced by male vendors who use bicycles.* Negative effects are unavoidable, it is, therefore, important that such negative effects are acknowledged and, if possible, alternative opportunities sought for the groups negatively affected. The role of the FEA can be very crucial in identifying such effects and in finding the possible solutions to avoid such effects.

The limitations of intervention and the area of competence of the fisheries extension service

Policy-makers should be concerned with defining the general outline of programmes, but not with deciding the actual content of the programme. That should be left to the experts concerned, such as extension officers for extension programmes. As mentioned earlier, it is important that policy-makers find an appropriate mix of production- and output-oriented programmes and human resources development programmes. In addition, while identifying the programmes, policy-makers should consider the following questions:

Will government intervention be effective to reach the objective?

It is very important to realize how far government intervention, or intervention by the Fisheries Agency or any other organisation, can really change an undesired situation into a desired situation.

Governments usually like to believe that they can. *FOR EXAMPLE*, can the government really reduce the gap between producer prices and consumer prices of fish through the purchase of fish by cooperatives? It is a waste of public resources to design a programme that will have limited effects.

Is the programme within the area of competence of the Fisheries Agency or the fisheries extension service?

Another consideration that should be taken into account by policy-makers is whether a programme identified is indeed within the area of competence of the Fisheries Agency and, in particular, of the fisheries extension service. As mentioned in Chapter 1, fisheries extension services should ideally be involved in fisheries and fisheries-related activities only and not in all aspects of community development. Yet, in some cases, it may be necessary for the fisheries extension service to become involved in non-fisheries activities, simply because there are no other services available. This is especially crucial in areas with severely diminishing fish resources and where, therefore, there are reducing employment possibilities in the fisheries sector.

On the other hand, even the field of fisheries and fisheries-related activities is vast and it is simply not possible to provide extension services in subjects that are unknown to the FEA, or in topics that cannot be taught within the context of available time and resources, or in topics about which the agent cannot obtain information as and **when** required. Yet, the longer the fisheries extension service functions, the more prospects there are for building up expertise in various fisheries and fisheries-related subjects.

Which instruments are effective in the proposed intervention?

Usually an extension programme does not stand on its own, but is part of a mix of intervention instruments that make up a certain programme. Therefore, extension will only be effective in such a programme if the other required instruments (such as research, legislation, savings, credit schemes etc.) are available as well. Furthermore, it should be clear what function extension has in the mix of extension instruments.

Can another organization implement the programme more effectively or at less cost?

Some programmes identified may, indeed, be in the area of competence of the Fisheries Agency, but it should still be considered whether a particular programme among those identified can be implemented more effectively by another organization, like a private or a non-government organization. In such a case, the Fisheries Agency may try to arouse the interest of the appropriate organization in implementing the programme. In some cases, the Agency might even consider contracting the organization involved to implement the programme. *FOR EXAMPLE*, the extension service can obtain the services of an organization specialized in small-scale fish processing to conduct field workshops or develop pamphlets.

However, the interests of the extension service and private companies can sometimes be in conflict. But in some cases it might be possible to match these interests. *FOR EXAMPLE*, the main interest of a motor manufacturer is to sell as many motors as possible. In principle, if fishermen maintain their motors badly, there will be a higher turnover of motors and the manufacturers will sell more. But there are different companies that sell motors and the fishermen will, in due course, prefer those companies that provide maintenance services for the repair of their motors. Therefore, the companies will have to provide those services, at least to some extent. The extension service can assist or support the motor manufacturers to develop and make available manuals, in the appropriate languages, on the operation and maintenance of the different types of motors.

Are resources available to implement a programme?

It is impossible to implement a programme without the required resources. Although policy-makers should not be concerned with details, such as the exact resources required to implement an extension programme, the programme should, broadly, fit within the resources available for the programme. Alternatively, the necessary funds to procure the required resources should be allocated, such as, *FOR EXAMPLE*, in-service training to develop certain skills among the PEAs. It is impossible for TEAs to conduct field

training in navigation when they are not trained in this subject. It could be decided in such a case, that other experts for instance, experts from the navy be contracted to conduct field training in navigation.

In general, resources required for fisheries extension should comprise of:

- The required cadre of extension staff: FEAs², subject matter specialists, district officers, extension specialists at headquarters;
 - The facilities available to this cadre;
 - Required budgetary arrangements;
- Sufficient skills and knowledge levels of staff and/or appropriate in-service training programmes; and
- Appropriate management of the extension activities (including management of the staff).

Compared to other (sub) programmes, such as research, savings and credit and subsidies, the cost of extension (sub) programmes are relatively low.

The client orientation of fisheries extension: WHO?

When the policy-makers have broadly specified

- the programmes,
- the programme objectives that should be developed to achieve the national fisheries objectives, and
- the budget allocations available for the purpose of fisheries extension,

the fisheries extension experts can go ahead planning and implementing the fisheries extension programmes.

Here again we should realize that, in principle, an extension service can also function without field-level extension agents. An extension service can fully rely on mass media programmes and on a single head office. This is common for extension in legal matters and, to a certain extent, in health concerns.

Here again we assume that the Fisheries Agency does indeed have a fisheries extension service, with extension experts responsible for planning and implementing the fisheries extension programmes.

In planning the extension programme, the first question of concern should be **WHO** should be reached to best improve the situation, or **WHO** should be the target group. *FOR EXAMPLE, in promoting methods for demersal fishing in coastal waters, the target group could be all fishermen who are presently involved in pelagic fishing in these waters.*

The identification of the target group should be done very carefully, because an extension programme is much more effective when it is very clear for whom the programme is designed. We should realize that there are many 'different' fishermen and fisherwomen and that extension programmes suitable for one 'type' of fishermen or fisherwomen may not be suitable for the other.

The programmes should generally focus on those persons responsible for decision-making in respect of particular aspects of the extension programme. Whereas fishermen are often involved in the actual fishing operations, it is not always these fishermen who take important decisions. Instead, important decisions can be made by boat- and net-owners, who do not go out fishing, or by the family as a whole, rather than by a fisherman alone.

Also, in fisheries extension programmes, target groups other than fishermen or fisherwomen can be involved. **FOR EXAMPLE:**

- *Consumers of fish, if a programme aims to change the demand for a certain type of fish;*
- *Fish traders, if improvements in the marketing system are envisaged; and*
- *Engine mechanics, if the objective of the programme is to support maintenance and repair of engines.*

The problem analysis: WHY?

If the target group is defined for a certain programme, the next concern is to define the exact **aims of the programme**. Here come the questions of **WHY** certain sections of the fisherfolk experience

GROUP #1: FISH HANDLING**PROBLEM ANALYSIS****Table 3: Problem analysis of an extension programme that aims to reduce post-harvest losses in fish production**

EXTENSION PROGRAMME OBJECTIVE		To reduce post-harvest losses in fish production			
(a)	(b)	(c)	(d)	(e)	
KEY PROBLEMS	TECHNICAL CAUSES OF 'a'	GROUPS RESPONSIBLE FOR 'b'	CURRENT BEHAVIOUR OF 'c' WHICH RESULTS IN 'b'	KNOWLEDGE, ATTITUDES AND SKILLS REQUIRED TO CORRECT 'd'	OTHER FACTORS TO CORRECT 'd'
Fish spoilage	temperature • bacteria - enzymic action - physical damage - rancidity (in fatty fish)	fishermen dealing in short periods (i.e. tishing between 4-10 hours) - fishermen dealing in long periods (i.e. tishing up to 6-7 days) - wholesale traders - retail market traders	- poor handling and preservation methods - poor designat fishing vessels - unhygienic condition of fishermen boats landing sites transportation market centres cold rooms - types of fishing gear being used	FOR FISHERMEN 1 proper chilling and storage conditions on board 2 de-gutting and cleaning of fish at sea and on land before storage 3 correct handling and preservation... at sea on land whilst transporting FOR TRADERS 4 correct methods for transportation freezing storage FOR FISHERMEN AND TRADERS 5 environmental conditions at landing Sites market places	availability at clean water at landing sites and markets - proper drainage at both sites - facilities for disposal at spoilt fish and garbage - suitable materials for transportation and packaging (eg tish boxes and ice)

(Source: DTCP/UNDP course in Production of Publications, 1990.)

problems in their fishing and fisheries-related activities, and **HOW** they can best be helped to solve these problems. This initial stage in an extension programme may be called **problem analysis**.

Analyzing a problem

FOR *EXAMPLE*, why do some fishermen prefer to practise *pelagic fishing in coastal waters instead* of demersal *fishing*? To say that they do not know about the techniques of demersal fishing is not an adequate answer: there must be more convincing reasons. Maybe demersal fishing is less rewarding than drift gillnetting or, may be, it is less convenient during the rough season or, may be, it is difficult to obtain the required equipment or, maybe, the consumer does not favour Rockfish or other demersal fish. Only when there is a rather clear picture of why a desired situation has not materialized, is it possible to define what an extension programme can do to change this situation.

In Table 3 a recommended layout for problem analysis is given and it has been filled in with answers applicable to a particular extension programme being considered here as an example. This programme has the objective of reducing post-harvest losses in fish production. Such a layout is not only useful for extension specialists in the extension service, but also for FEAs who have identified a certain problem in their area and would like to analyze what could be done to solve the problem. This will be further discussed in Chapter 5.

As mentioned in the previous chapter, extension can assist in changing the knowledge, attitudes, skills and/or behaviour of clients, but not if the problems are related to lack of resources, lack of power or, sometimes, lack of incentives. If there are reasons behind an undesired situation that are beyond the knowledge, attitudes, skills and/or behaviour of the selected target group, another programme could be planned to focuss on a target group that is in a position to change the specific circumstances. FOR *EXAMPLE*, if it is clear that demersal fishing is hampered by a lack of consumer demand for such fish, the extension service can consider starting a programme to promote the consumption of demersal fish, such as squid.

In that case, the target group of the programme becomes the consumers of fish rather than the fishermen. Thus, the question of WHO should be the target group also becomes relevant during the problem analysis.

Problem identification

Problem analysis:

WHY and WHO

Realistic solutions

What can fisheries
extension do:

HOW and WHEN



Changing an undesired situation

The extension experts in the extension service often have insufficient practical knowledge in identifying the reasons why an undesired situation exists. Therefore, it is very important at this stage that they consult the FEAs, who know the field situation, and, if possible, fisheries research agencies, if research has been done in the relevant topic. But it is also very important that the extension experts get a picture of the real situation, talk with potential clients and take a look into their working and living conditions.

To that end, the extension experts should make field trips to certain locations to conduct short appraisal studies. The extent and duration of such field trips are often constrained by the remoteness of certain areas and by the financial resources provided for such purposes. But as much as possible, such field trips should be made. Visits to the district fisheries office³ on office days can also be made by the FEAs to discuss the situation in the field.

Setting the extension aims of a programme

When the reasons for an undesired situation are clear and the target group is redefined (if necessary), the exact aims of the programme can be set. Such aims should not be vague, but should be very specific, including the timespan and expected outcome of the programme. *FOR EXAMPLE, the aim of the programme to promote demersal fishing is that, by 1993, 50 percent of all fishermen who are at present using drift gillnets in coastal waters should have changed to the use of either bottomset nets or bottom longlining.*

A major advantage of making the aim of a programme very specific is that you can measure its effectiveness after the programme has ended. By the end of 1993, you can evaluate whether indeed 50 per cent of all fishermen who are at present using drift gillnets in coastal waters have changed to bottomset nets or bottom longlining. Such information is very important for a Ministry's fisheries policies and for the fisheries extension service in particular.

³ This is not possible in the Maldives, where fisheries district, or any other regional fisheries, offices do not exist.

As mentioned previously, national fisheries objectives may emphasize fish production and output as well as the well-being of the fisherfolk families. Programmes resulting from production and output types of objectives are often easier defined and often have a clearer government interest than objectives relating to the general well-being of fisherfolk families. Our example of the demersal fishing in the coastal waters comes under the production and output type of objectives, and in this case the interest of the government (to promote a sustainable use of fish resources> is even clearer than any interest fishermen might have in implementing this programme. The short-term interest of this programme might not be clear to all fishermen — *FOR EXAMPLE, to those who use prohibited fishing gear* — but the long term interest — a better conservation of the fish resources — will, in the long-term, benefit all fishermen.

Hence, with regard to programmes with the objective to improve the well-being of fisherfolk families, more elaborate assessments of the target group and the programme aims are required, with more involvement of the target group in the planning and implementation of the programme. Here, especially, the needs of the target group should be the basis for planning the programme. *FOR EXAMPLE, to improve the living conditions of fisherwomen, it can be decided to assist them in their income generation activities. The Fisheries Agency can assist as far as those activities relate to fishing activities. However, before any programme in a certain area can be designed, it should be clear whether or not fisherwomen in that area have a real desire to start or to improve their income generating activities. This can be done by means of a needs assessment. If the women turn out not to be interested, there is no use in starting such a programme. It is vital that the interests of the government are not the starting point, but that the interests of the target group are.*

Choosing the right extension method(s): HOW?

When decisions are made about the target group and the extension programme aims, the question arises HOW we can best reach the target group and achieve the extension programme aims. This is a

matter of planning the communication efforts or to find the most suitable extension methods. There are several extension methods, such as mass media, group methods and individual methods. The extension methods will be further discussed in the next chapter. However, in planning for extension methods, it is important to identify which methods can be applied and to compare the different possibilities with respect to their effectiveness and efficiency. For that purpose, a number of questions can be asked:

To which aspect(s) of learning does the programme try to contribute (knowledge, skills, attitude and/or behaviour)?

Not all extension methods are equally suited to changing the different aspects of learning. Radio, *FOR EXAMPLE*, can hardly be used to teach people a skill, such as how to repair a net. Group methods are probably most effective for that.

For which extension methods are the resources already available, or is it possible to generate the resources within the required timespan?

It is impossible to conduct individual extension on a national scale if there is no cadre of FEAs. But an extension method at present available in most of the Bay of Bengal region countries is the fisherfolk radio programme. This could be used for various extension programmes. *FOR EXAMPLE*, in the Maldives, the fisherfolk radio programme is used as one of the extension method in a programme that aims to improve reef fisheries resources management.

In some cases it might be within the possibilities to generate the resources so that a certain extension method can be applied. *FOR EXAMPLE*, to use the group extension method in a programme to improve onboard fish handling, it is important that the FEAs have the technical knowledge to guide the group sessions. Such technical knowledge can be provided through in-service training. Hence, it would be required that the Agency has an in-service training programme for FEAs.

Which of the possible methods has/have the most comparative advantage/s from the quality control and cost control points of view?

Although one method might be highly effective, this might be unrealistic in view of the often, very restricted government budget. Also a choice has to be made between implementing more programmes that are less effective or less programmes that are more effective. An optimum balance of quantity and quality will have to be sought.

Can the target group be reached with the most suitable extension method?

Some target groups cannot be reached by a particular extension method. *FOR EXAMPLE, it will be difficult to organize a one-week workshop for fishermen during the fishing season. Or it will be difficult to reach fisherwomen by radio if they seldom listen to it.* Thailand, Malaysia, Sri Lanka, the Maldives and Indonesia have, to some extent, an advantage in this respect – their high literacy rate. This makes it easier to use written extension material, such as pamphlets and mass media methods, such as newspaper articles.

Which combination of extension methods is most effective for implementing the programme?

A choice for one extension method does not exclude other methods. On the contrary, mass media methods can be very well supported by group and individual methods. It would be rather strange if an extension programme is launched through the radio and the FEAs are not able to further explain the extension message when questions arise in the field.

Often, in books and articles about extension, much emphasis is put on extension **methods** and on the advantages of one method over the other. This sometimes gives a static picture about when to use which methods for which purposes. More important is the relationship between development objectives, extension aims and extension methods. Conditions in countries change rapidly, as do conditions in the fishing industry. This requires continuous adaptation of the development objectives and the resulting extension aims. With adapted extension aims and with changes in the package of extension methods available (such as, for instance, that people have more access to mass media), the real strength of the extension

service is to be able to successfully adapt the extension methods used to achieve the envisaged extension aims.

Timing the extension programme: WHEN?

If a deliberate choice about the extension methods is made, the question arises WHEN the programme should be implemented. As mentioned earlier, programmes are tailor-made to the needs of the government and/or the specified target group. It is not effective to start a programme when the target group has no time to participate in the extension activities. *FOR EXAMPLE, it is of little use to start a one-week workshop on the operation of outboard engines for fishermen during working hours in the fishing season.* You can be sure that the participants will not be fishermen, since hardly any fishermen can afford to forego a week's income. But one person, in this case the FEA, has impossibly imposed his or her time preferences on the client group for whom the programme was designed.

Rather, the workshop should be held at a time that is convenient for the fishermen, which might, however, be less convenient for the FEA (*FOR EXAMPLE, during the evenings*).

Extension requires resources and has a cost

As mentioned earlier, it is impossible to implement a certain extension programme when the resources to do so are not available. On the other hand, the resources might be available in some instances, but are not allocated to the fisheries extension service. The extension service should be aware of this and should plan programmes according to what its staff are able to do. A frequently heard statement is that it is not possible to implement a certain programme because resources are not available. But this is a matter of planning. It is impossible to expect an FEA to visit fishermen or fisherwomen in a large area regularly when proper transport facilities are not made available. The activities of the FEA should be planned according to the resources available.

Many people, however, tend to think that once the resources are made available, any programme will be successful. This is often

not the case. If FEAs have obtained transport facilities, this does not mean that they can immediately start visiting all the fishermen or fisherwomen in their areas regularly. Such travelling requires carefully planning, implementation and management of the extension programme.

It is important that there is a line of authority between the fisheries extension service and the FEAs. Otherwise, it is impossible to implement and guide extension programmes. Ideally, therefore, the extension service should come under the same directorate as the division that manages the FEA.

In-service training is important for the operation of an extension service, especially when the extension programmes rely heavily on the activities of FEAs. Through regular in-service training, the FEAs and their superiors can update their technical knowledge and communication skills. They also get a chance to exchange views during such training. The Fisheries Agency should have an in-service training programme. But it is preferable that training and extension come under different authorities, because the training service will then be able to provide services not only for extension but for other divisions as well, such as, FOR *EXAMPLE*, enforcement of legislation or coast conservation.

Each extension programme has a cost. The costs are covered by the government budget and are generated from the taxpayer. Generally, it has not been a practice in this region for fisherfolk to pay for extension services provided. Instead, for some field extension workshops (or field training courses), it has even been the case that the participants are paid small allowances to attend. The argument for this is that, otherwise, the likely participant may not come, particularly if he or she is too poor to pay any costs. If all the participants are really poor, this may be a valid argument. In fact, if an extended skills training is being proposed, provision of an allowance for all participants ought be considered in the initial stages itself.

There are other reasons also why people may not come to the workshop. The most important one is that the intended participants

are often not involved in its planning; in other words, the organizers have not considered the wishes, needs and experiences of their clients. The result is a workshop that has not been well planned.

Another reason is that the workshops are scheduled at times convenient for the officers, namely from 9.00 a.m to 4.00 p.m, and not for the participants, who have to earn their living and/or attend to household duties. Times should be adjusted as much as possible to the schedules of the clients. But there can be constraints to this. In Bangladesh, the Maldives, India and Indonesia, for instance, there are remote areas, where workshops can be held only at certain (limited) times of the day, as the agents and resource persons would have to travel from far. Another constraint is that it might not be socially acceptable or might even be dangerous for women FEAs to attend in the evenings.

Yet another reason is that the subject of the workshop might not exactly be of interest to the participants. Or the topic might be of some interest, but the issues discussed may already be known to them.

In all these cases, the allowance might be some inducement for participation. But if the participants receive any such allowance, the FEAs might not be overly motivated to do a thorough job, as attendance by the participants might then be more due to the allowance than to any interest in the subject. In principle, extension is more likely to address the real needs of a client group if the clients shoulder some of the costs involved (Antholt, 1990:12). This might not be preferable if the target group is constituted of the real poor, but if this is not the case, some contribution, at least in time, should be expected from participants really interested in obtaining the benefits of extension in a particular subject.

Monitoring and evaluation of extension programmes

Monitoring of an extension programme means assessing during its implementation whether the programme effectively and efficiently meets the extension aims. Monitoring is part of the overall

management of the extension programme. Effective monitoring can result in adaptations being made to the aims and the extension methods, if such changes are within the scope of the programme.

Monitoring of the programme is very important in assisting the FEA in his or her duties. It also helps to find out whether the needs of the client population and/or the government are really being adequately addressed.

Monitoring should be conducted regularly and should, therefore, be as simple as possible. Monitoring methods are:

- Regular (for instance, monthly) discussions with FEAs and their supervisors, at the district offices, about the progress of the programme and the problems encountered;
- Reviews of the reports of the FEAs;
- Informal discussions with the client groups; and
- Frequent field visits by supervisors.

In this context, the reports of the FEAs should clearly reflect the opinions of the clients.

While monitoring is a continuous exercise, evaluation of a programme is normally only done **once**, at the end of the programme. A programme evaluation aims to assess whether the extension aims have been met. But evaluation of extension programmes appears to be an activity that is not often done. Extension services are usually more valued for the number of programmes implemented and the number of clients reached than for the real effectiveness of the programmes. In fact, it is often not even in the interest of the extension service to evaluate its own effectiveness.

Furthermore, extension programmes are often implemented without a clear analysis of the problems that are supposed to be addressed and without clearly stated extension objectives. This makes it difficult to evaluate the extension programme. *FOR EXAMPLE, if* a programme is lunched to promote safety at sea without specifying what type of safety is to be improved and how many fishermen should

have adopted safety measures within a particular period of time, there will be no way of finding out whether the programme has been effective or not.

Yet, for an extension service to become more effective and more efficient, it is very important that the service comes to know which extension methods have been successful, and for what reasons, and which extension methods have not been effective and why. **This requires that the extension service be allowed to admit that certain programmes have not been very successful.**

It is very important that evaluation is planned for, even **before a programme is launched**, because

- evaluation will involve a cost that should be incorporated into the programme budget, and
- there is often little initiative to plan an evaluation exercise once the programme has been implemented.

An evaluation should be as cost-effective as possible. Evaluations often comprise of large surveys – which only involve more costs and time than expected and result in thick reports that may be too comprehensive even to be read by the people involved – whereas, it might be sufficient to have group discussions with the clients, or small surveys in selected areas. The choice of an evaluation method should be carefully made, depending on the scope of the programme, the extension objectives and the extension methods used.

Usually an evaluation should be conducted by a person or organization outside the extension service. This is to guarantee a certain degree of objectiveness.

Extension and research

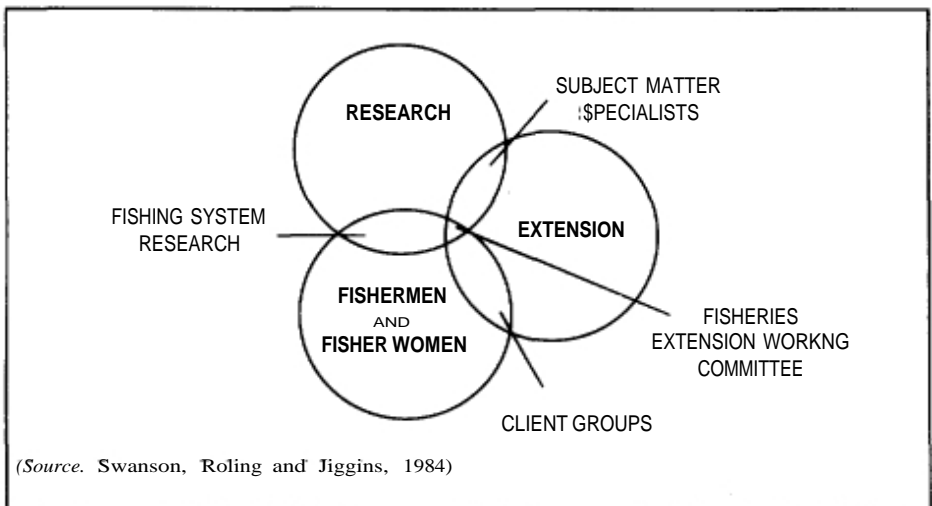
In agricultural extension, there is often a clear linkage between agricultural research and extension. Agricultural production has greatly benefited from the results of research. Extension has played a role in disseminating the research results, although many research

results appear to have reached the farmers without an intermediary FEA (Antholt, 1990).

In fisheries, the linkage between research and extension is less clear and, therefore, probably less well established. One important reason is that the common fisheries resources are difficult to control. Consequently, research results always remain uncertain, and not very suitable for extension. On the other hand, national fisheries research institutes do not often get demands from the field for practical research topics, because of the non-existence of a fisheries extension service or the poor functioning of the service there is.

As a result of the adaptive on-farm research in agriculture and the linkage with extension, the concept of **farming systems research** has evolved. Farming systems research tries to understand the different integrated aspects of farming in different types of farms. In fisheries, no synonymous concept – such as a fishing systems research – has been developed. The linkages between extension, research and fisherfolk in an ideal situation are visualized in Figure 2.

Figure 2: Conducting fisheries extension: linkages between extension, research and the client groups



The bridge between research and extension can be provided through the services of so-called Subject Matter Specialists. This post is common in agricultural extension organizations, where Subject Matter Specialists operate from divisional, district and headquarters levels. These officers are usually experts in certain technical fields, and give support at the divisional levels to the FEA. In the ideal situation, they maintain contacts with the relevant research institutions and receive regular training to update their knowledge and skills. In fisheries, such fields could be, *FOR EXAMPLE, inboard and outboard engines, seamanship and fish processing.*

Institutionally, the linkage of research, extension and the client groups can be made through a fisheries extension working committee. This committee, representing the three components, would normally operate from the national and perhaps also from the district or provincial levels, depending on the plan and implementation structure within the government set-up. In Indonesia, such decision-making formally takes place at the national as well as at the district levels.

Despite the constrained linkages between fisheries research and fisheries extension, there is a wealth of information on the fisheries sector generated by numerous institutes all over the world. Some of this could be particularly applicable to various countries. The fisheries extension service should do all it can to establish lines of communication and exchanges of information and should try to get its FEAs involved in relevant research activities, such as 'on-boat' field trials.

FEAs are often involved in the collection of statistical data for the Fisheries Agency. Such statistical data can be of interest to policy-makers setting the national fisheries objectives and to extension experts planning extension programmes. However, this work has no practical value for extension, because it does not involve clients nor does it involve the FEA in analyzing the problems and prospects of what occurs in the field.

4

EXTENSION METHODS

Mass media

Mass communication techniques involve using the mass media – newspapers, magazines, radio, television and printed material – to reach large numbers of people quickly. Newspapers, radio and television can be the least expensive way to reach many people (Van den Ban and Hawkins, 1988). The mass media can also alert a large number of people to a sudden emergency, such as, *FOR EXAMPLE, radio broadcasts of storm warnings to coastal dwellers and craft at sea.*

Media make people aware of innovations and stimulate their interest. But **media have little influence when it actually comes changing behaviour.** At that stage, the judgement of known or trusted people is of more value. Therefore, it is **very important that the FEA understands the details of the extension messages that are propagated in the mass media**, so that he or she can further explain the message to the client groups.

To meet the set extension aims, mass communication techniques should be used

- in combination with group or individual extension methods,
or
- with other mass communication techniques, or
- in one medium alone.

The most common mass communication techniques, may be grouped into **printed media** and **audio-visual media**, are discussed below.

Printed media

NEWSPAPERS

Newspapers vary according to the type of people that read the paper and according to the type of news that is printed. It is therefore very important to find out whether

- any newspapers are available at all,
- the client groups in a certain area read a paper, and
- if so, which papers are read by them.

Different papers may be read within a single community and even within a single household. *FOR EXAMPLE, the fisherwomen may prefer to read papers the men are not interested in.* But which paper is used, it is very important that **the language and the style used in the newspaper is UNDERSTANDABLE to the client groups**, what appears in it is written for them.

Newspapers generally prefer to carry articles with news in them, though different newspapers may have different views on the news and different styles of presenting it. But most newspapers do not appear to consider common day-to-day issues as news. The more sensational the news the better, is their viewpoint generally, and negative issues often appear to have more news value than positive messages.

However, there are still many ways national extension experts or FEAs individually could use newspapers as extension methods (Behrens and Evans, 1984). For instance:

- Announcements of events, such as a fisheries credit programme, an extension meeting, a fisheries survey or a field extension workshop, could be made in brief reports. The person or organization to be contacted for further information or for enrolment, the starting date and time, the

location, and a description of the event could all be included in the report.

- Follow-up reports to inform readers about the results of programmes, meetings or study-tours. These reports should give such information as date, purpose, location etc. of the event and should detail the outcome. The outcome can be reported in various ways: quotes from speeches, comparing the different views of the participants and listing the decisions made.
- Informative articles on any subject or message that is part of the extension programme, including statistics on fish prices, research findings, experiences of innovative fisherfolk. *FOR EXAMPLE, the article could elaborate on the advantages and disadvantages of a new type of outboard motor.* Such articles should not emphasize only the scientific; they should incorporate human interest as well as any entertaining aspects.

POSTERS OR WALL NEWSPAPERS

Posters or wall newspapers can be used the same way as newspapers: to provide information on events or particular topics. However, posters or wall newspapers leave more room for drawings, pictures or text.

Usually, posters or wall newspapers are printed by a central office and distributed through mail or hand-delivered through people attached to the organization. Depending on the purpose of the poster, mailings can be made to village leaders, school teachers, religious leaders, island chiefs etc.

NOTICEBOARD OR BLACKBOARD NEWS

The noticeboard or blackboard can be used to disseminate news to a local audience. The FEA can design a written message for a centrally located (public) noticeboard or scribble it with chalk in a publicly exhibited blackboard.

BOOKS

Many books have been written on fisheries and fisheries-related topics. However, few of them are of relevance to fisherfolk and hardly any of them have been written in, or translated into, local languages.

For extension purposes, it is important to acknowledge that books are likely to be too expensive for the clients and that they presuppose an interest in reading and the ability to read in the language used in the book. If a book is decided on, the following will also have to be done:

- A careful client and problem analysis made to decide on the contents.
- An affordable price for fisherfolk fixed. If it is too highly priced, few would be able to buy it, no matter how relevant it is. The extension service, on the other hand, may not have the financial resources to distribute books to all, or even a part of, the people employed in the fisheries sector.
- Discussions made on how the book is to be distributed and whether a subsidized rate is necessary.

It must also be remembered that, although people may be literate, this does not mean that they actually like to, or want to, read books. Often, writing and reading capabilities diminish when people do not use them regularly. In these circumstances, the client group may prefer to read short information stories with many illustrations, such as, *FOR EXAMPLE, comic books*. Information pamphlets or folders should also be considered as alternatives.

MAGAZINES AND NEWSLETTERS

In a number of countries, magazines play an important role as an agricultural extension method. Farmfolk genuinely interested in the information published in the magazines pay all or a large part of, the costs involved in producing such magazines. The quality of the information offered in these magazines is high, and results from an effective linkage between farmers, the extension service

and research organizations. Even agricultural FEAs often obtain much of their information from these magazines.

Magazines on fisheries are, however, few. Fisheries extension services are as yet unable to regularly generate high quality information of interest to their client groups. And when they do, the diverse interests that exist among fisherfolk makes it difficult to sell a magazine to a large enough client group to make it viable.

While magazines are usually sold to anyone interested, newsletters often contain information for certain organized groups of people. *FOR EXAMPLE, local or national level farmers clubs may issue newsletters.*

Newsletters are often of lower cost than magazines and can, therefore, be produced in larger numbers to reach more people. But they are not often used as a national extension method, for it would require too many copies to reach all, or even a part of, the persons employed in the fisheries sector and would, consequently, prove too costly. Government departments, therefore, prefer to produce folders or pamphlets on specific topics that can be mailed to persons who request the department concerned for a particular folder.

FOLDERS AND PAMPHLETS

Folders and pamphlets can be used in many ways in extension programmes. They have the advantages of

- being low cost,
- needing a short preparation time, and
- taking a limited time to get their message across.

However, because the explanation on each topic is brief, extra attention should be paid to ensure that the message is relevant and clear to the reader.

It is of little use to produce pamphlets on subjects that are well known to the fisherfolk or to produce pamphlets in such a way that they give too little information on how to do the activity

propagated. The assessment of the exact information needed on a certain topic by certain client groups may well be the most time consuming part of the production of a good pamphlet. This study should be conducted before the pamphlet is produced. The pamphlet should then be written in a single language that is easily understandable to the client group. Therefore, it is recommended that extensive field testing of the draft pamphlet be conducted with the various client groups before it is finally printed.

Folders and pamphlets are often more effective when appropriate illustrations are included. For some purposes, the illustrations could even dominate the text, as in the case of **comic books**.



A comic book used as a fisheries extension method in India

Audio-visual media

RADIO

Radio can be a very important extension method, especially when used in combination with other, individual or group, extension methods. When used in fisheries for the following purposes, it can be very valuable:

- Messages that have a value on the day of the broadcast, such as weather forecasts, fish prices and emergencies;
- Messages that try to arouse the clients' interest in certain new topics that could improve their livelihood, such as the use of better fishing gear or new methods of fish processing;
- News of events of special interest to the fisherfolk, such as the implementation of a credit programme or field extension workshop;
- Further information available and how it can be obtained.
FOR EXAMPLE, the radio can announce that the fisheries extension service has produced pamphlets on the efficient use of gillnets or on the operation and maintenance of outboard engines, and that to obtain them the listener should write to a certain person in the service; and
- 'Question and Answer' programmes on various fisheries and fisheries-related topics, as a forum to communicate local problems and solutions.

While radio can arouse listener interest in a certain subject, it usually cannot change the actual behaviour of a person. For that, the advice of a trusted person is necessary. Furthermore, radio has limited capacity to give detailed and complex information. People easily forget what is said shortly before, especially when they cannot see what has been described. As a method for propagating improved technologies, radio is therefore only effective when used together with other appropriate extension methods.

To justify the costs involved in broadcasting a regular fisheries radio programme,

- it should be made as interesting as possible to the fisherfolk families;
- it should be broadcast at times when the fishermen and their families listen to the radio;
- it should be based on local experiences and problems, thereby establishing rapport with the listeners and gaining their confidence; and
- it should be in a simple language the fisherfolk can understand (Van den Ban and Hawkins, 1988:142)

It is, therefore, very important that the radio team spends adequate time in the fishing villages.



In Sri Lanka, many people in fishing communities listen to the radio.

The FEA can also play a very important role in radio by voicing the problems faced by fishermen or fisherwomen or by narrating interesting experiences in the area to the radio broadcasters. The broadcaster could, in turn, follow this information up with a visit to the PEA's area and make a programme on the problems or experiences there. The radio team can also obtain through FEAs information on how interesting the programmes being produced are to the listeners.

On the other hand, it is very important that the FEAs are informed about the extension messages that are discussed in the radio programmes. As mentioned earlier, a good extension message becomes more effective when the PEA explains the details to the clients and answers all questions that arise. It is the duty of the fisheries extension service to ensure that communication between the fisheries radio team and the PEAs is optimal.



Recording for the Sri Lanka fisherfolk radio

All countries in the Bay of Bengal region have a radio programme targeting the fisherfolk. Some programmes have a long history, such as the Fisheries Radio Programme in the Maldives. However, these programmes are usually only part of a regular programme on agriculture. Also, these programmes are generally not very responsive to the wishes of the fisherfolk, as they do not incorporate opportunities to voice such wishes or their needs. At the time of writing, the Shri Lankan fisherfolk radio programme appears to be the programme that gives fisherfolk the biggest voice.

TELEVISION

Broadcast television (and this does not include video, which is an audio-visual extension aid and not a mass media extension method) offers several very interesting possibilities for extension programmes. However, unlike radio, few fisherfolk can afford television at present. Broadcasting television programmes is very costly, far more costly than even a radio programme of the same duration. For these reasons, it is not a recommended method for regular fisheries extension in this part of the world.

However, a television programme can have a great impact if it is

- short, say five to ten minutes,
- well-designed,
- educational, but has an entertainment component as well, and
- broadcast regularly over a certain period of time.

The major advantage of television is that, in general, extension messages can be **demonstrated**. *FOR EXAMPLE, the fish processing expert can demonstrate how to make dried fish and the fishing gear expert can demonstrate how to rig a gillnet.* All types of visual aids, such as blackboards, maps, graphs and charts can be shown on television and used to increase the learning effectiveness.

Another opportunity for fisheries extension that broadcast television allows is to make people more aware about the necessity to protect the marine flora and fauna as well as the coast. To that end,

interesting documentaries on the marine environment can be broadcast.

THEATRE

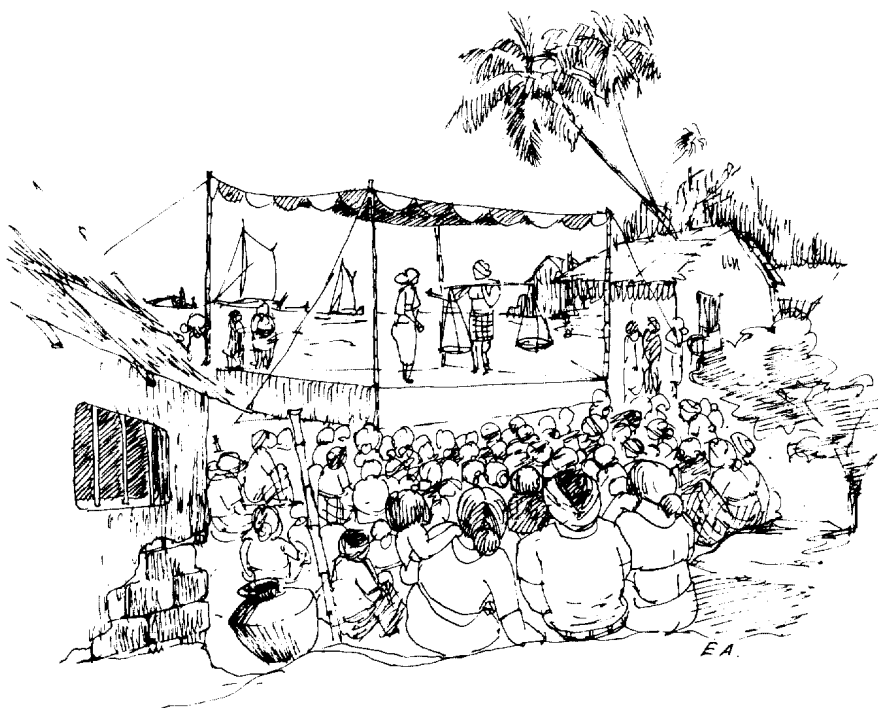
Another mass media method is the stage, but it is not often used in fisheries extension. Many people like the entertainment provided by plays and other stage forms. Extension messages can easily be included in theatre performances to arouse people's interest and awareness which would help to improve their situation and their immediate environment. *FOR EXAMPLE, theatre can be used as an extension method to create awareness about depletion of fish resources and the common efforts needed to solve the problem.* But it is not a very appropriate method for demonstrating technical innovations.

A theatre performance could be developed either on the initiative of the fisheries extension service or on the initiative of the FEA, who could produce a village play based on local experiences and problems. Alternatively, the FEA could encourage a village group interested in the performing arts to produce a theatre performance with a local fisheries message.

Theatre can take any form, with many or fewer people participating and with much or little material used. In some African countries, national extension services have solved the problem of manpower by designing puppet plays for extension and community development programmes. Only one person is needed to operate the puppets, some of which "take the part of the family which listens to advice and is successful, while others take the part of those who do not take advice and who voice typical local criticisms". (Bradfield, 1966:94).

Nearly all countries in the region have centuries-old traditions of theatre and many villages have their own theatre groups. If there are such groups in fisheries communities, they could play an important role in fisheries extension. *FOR EXAMPLE, successful extension work being done by a traditional street theatre group in a fisheries community near Madras, in Tamil Nadu, India. The group incorporates issues on health, environment and depleting fish resources*

in their plays. Initially, this was supported by a non-government organization from outside the community, but now the group works on its own.



Village theatre as an extension method

Individual extension methods

Individual extension is practised when the FEA conducts extension on a one-to-one basis with client fisherfolk (Kang and Song, 1984). The following are various individual methods of fisheries extension:

- Formal visits to clients;
- Informal contacts;
- Office calls; and
- Monitoring and evaluation of other extension methods.

It has, however, to be borne in mind that these methods can only be called extension if they are part of an organized effort and their objectives are established within the framework of an overall development policy, such as outlined in the National Fisheries Development Plan. Thus, not all informal exchanges of information between the FEA and his or her clients can be called extension.

FORMAL VISITS TO CLIENTS

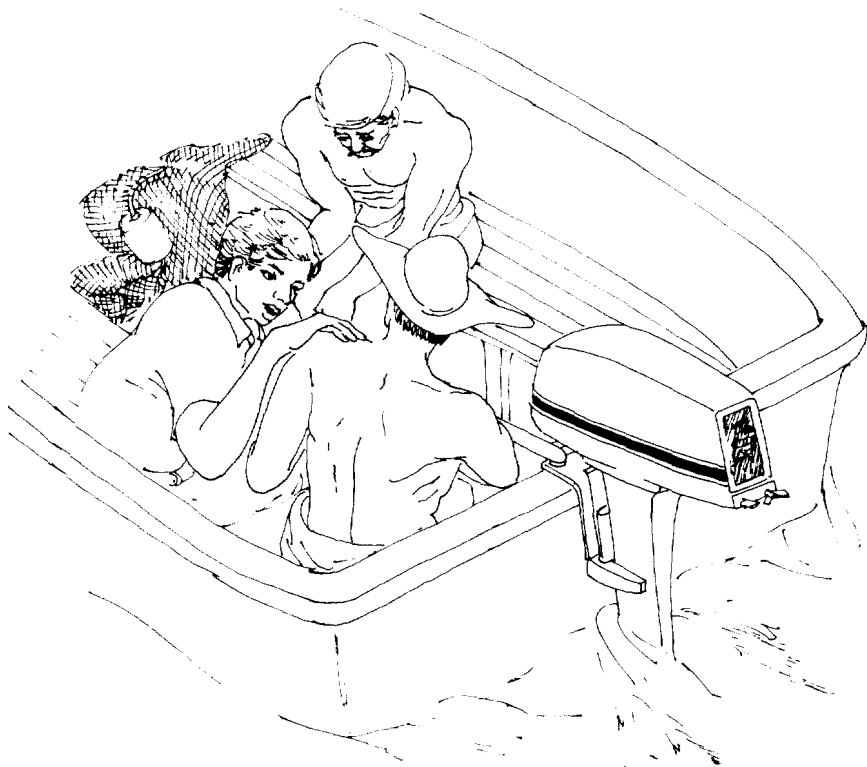
Formal individual extension, when the FEA has to visit a certain number of clients during a certain period of time to meet the extension aims of a certain extension programme, is not common in the fisheries sector. This is for a number of reasons.

FIRSTLY, fishermen often operate in groups; only certain fishing methods, like handlining, castnetting, squid-jigging, set bagnets fishing, and different types of traps, can be practised by one person. If the FEA interacts with more than one client at a time, the extension method is a group method. Group extension methods are discussed in the next section.

SECONDLY, individual extension ideally happens at the client's place of work. In fisheries, this would mean at sea. For some types of fishing units this can be a rather impractical meeting place — *FOR EXAMPLE*, when the fishermen use the smaller types **of craft**, such as the kattumaram, theppam, vallam, or certain types of outrigger canoes.

The FEA often does not have the skills, or courage, to join a fishing trip in a small craft. At the same time, these boats are often too small to comfortably accommodate an extra person on board. Still, because many of the fisherfolk in the region use these small craft, the FEA should try to learn as much as possible about their operation in his or her area. Otherwise it would be impossible to understand the opportunities and problems experienced by these fishermen.

As far as larger boats are concerned, it is easier for the FEA to join on one or more day-trips. As the agent would, on such trips, be able to interact with a group of people, this can be a very efficient



On-board fisheries extension

extension method. But for such interaction to be meaningful, the FEA would indeed have to have useful advice to offer the fishermen; otherwise, such a fishing trip becomes more a learning experience for the FEA than for his or her clients — though that in itself may be considered useful.

To some extent, the constraints of conducting extension at sea can be overcome by using video to show fishing operations at sea.

Clients engaged in onshore fisheries-related activities are usually easier to reach. But even here there could be constraints: some, such as Prawn farmers, may live dispersed; others, like traders, are very mobile.

THIRDLY, individual extension methods are not (yet) very common in fisheries extension because there are, often, no practical fisheries extension programmes to promote recommended fishing practices. Such programmes are more common for aquaculture than for marine fisheries, because it is easier to control the fish resources in aquaculture environments such as ponds and reservoirs.

However, in view of the growing need to manage the common fisheries resource, it is likely that practical programmes will be developed. *FOR EXAMPLE, with regard to the use of a minimum mesh size and to the principle of fishing seasons.* Such programmes call for strong links between fisheries research, legislation and extension. **Equally** important, they call for sound in-service training and information programmes for the FEAs themselves, if they are to be involved in passing on the message of fisheries management.

FEAs generally have limited technical knowledge about fishing practices. They also have little professional motivation to understand more about the practical experiences and problems of fishermen in this field. Consequently, they have little extension advice to offer fishermen about fishing practices. This often also applies to fisheries-related activities, such as fish-handling and fish-processing. At the same time, many FEAs do have knowledge and skills that could benefit at least certain aspects of the fishing industry.

INFORMAL CONTACTS

Fisherfolk may **want** to benefit from the knowledge and skills of the FEA at **any** time. This could often happen during **an** informal discussion or chat at **the** beach, in the market or in any other place, when the agent is asked about certain problems or he or she notices them. He or she can make a suggestion for improvement or show how a particular aspect could be improved. *FOR EXAMPLE, better maintenance of an outboard engine or better handling of fish.* During these informal exchanges, the FEA could also learn a lot from the experiences and problems of his or her clients.



Informal fisheries extension

OFFICE CALLS

Individual extension is also conducted when a fisherman or fisherwoman comes to meet the FEA in his or her office, or at home, for advice. The more confidence the fisherfolk have in the

FEA, the more likely they are to visit him or her. The FEA should encourage these clients visits, informing the clients where the office is and the most convenient visiting hours. The FEA should make such visits purposeful by trying to understand the reasons for the advice being sought and by providing adequate information.

The FEA should make adequate arrangements in the office (however small the office might be) to put his or her visitors at ease and make them understand the activities of the office (Oakley and Garforth, 1985:73). The following arrangements are suggested:

- Make access to the office easy, with small signboards showing the way;
- Display a notice-board with useful and up-to-date information and/or provide other extension literature, such as pamphlets, circulars etc., which the visitors can pick up; and
- Have chairs or benches available for the visitors if they have to wait.

MONITORING AND EVALUATING OTHER EXTENSION METHODS

Individual extension can be conducted to monitor or evaluate the effectiveness of other extension methods, such as mass media or group discussions. *FOR EXAMPLE, if an information meeting has been conducted about safety measures at sea, the FEA could visit individual fishermen to find out whether safety measures are indeed now being applied or whether the meeting was effective in achieving its aims OR if an extension workshop had been held on the maintenance of outboard engines, the agent could visit some participants to see whether their engines are being better maintained and to find out whether the course was effective in achieving what it set out to do.*

In general, the individual extension method is time-consuming, but "...its importance cannot be stressed enough, because it is through working individually with the clientele that the extension worker learns about the people of the area, how they think, what their needs are, and how they carry on their work. Equally

important is the opportunity individual contact provides for the local citizen to get to know the extension worker so the personal bond between the extension worker and the community can be established” (Kang and Song, 1984:130).

Group extension methods

The FEA can reach more people through group methods than through individual extension. Group methods are effective only if the problems and opportunities discussed are of interest to all or most of the group members. Group discussions also enable the FEA to obtain a more thorough picture of the situation discussed, as more people will express their views. However, in every group there are different types of people. There are always some persons present who are more influential, because of their economic, social or political status, and these persons might dominate the discussion. To obtain a balanced view about a situation, it is important that as many views as possible are heard and taken into account. This requires the FEA to

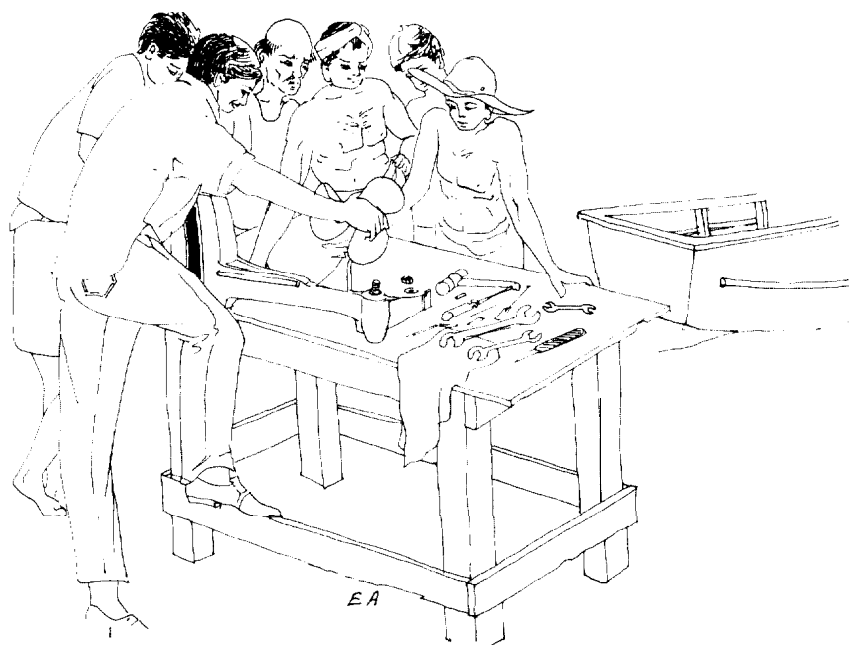
- Possess considerable communication skills;
- Be open to all possible views;
- Be able to motivate people to express their views; and
- Respect all views as much as possible.

Some categories of group methods that may be applied in fisheries extension are discussed below and in the next few pages.

DEMONSTRATIONS

Demonstrations are traditionally the cornerstones of agricultural extension, recommended farming practices being shown and discussed with groups of farmers. This method is less used on a systematic basis in fisheries. There are usually no national programmes to propagate recommended fishing practices. However, demonstrations can, *FOR EXAMPLE, be used to ~~propagate~~ improved methods of fish drying, methods for proper maintenance of engines, use of safety measures at sea and management of prawn ponds.*

As a demonstration usually does not take more than half a day or a day, it is sometimes too short to teach a skill. But such demonstrations may enhance the clients knowledge about a certain subject and, as a result, change their behaviour. More complicated skills would better benefit from workshops, a method which will be discussed later. Demonstrations are usually conducted in the areas where the client groups live.



Demonstrating the operation and maintenance of an outboard engine.

A demonstration can be conducted by anyone who has something useful to demonstrate and also is knowledgeable on the subject. In some cases, the FEA may conduct the demonstration, but it is quite possible that the FEA will invite someone else to conduct the demonstration. This can be an officer from the Fisheries Agency, other fisherfolk or a person from the private sector. These persons may have more technical knowledge about the subject than the FEA. In such cases, the FEA is instrumental

- in organizing the demonstration;
- in ensuring that the demonstration addresses the needs of the client groups; and
- in seeing to it that the clients have the opportunity to attend the demonstration and actively participate in the discussions that follow.

In organizing a demonstration, a number of important aspects should be considered:

- The participants should become involved enough with the topic to actively think about the advantages and disadvantages of following the recommendation. It is only then that the demonstration could be considered successful. Such involvement of participants depends on the communication skills and creativity of the FEA or the demonstrator.
- The practice recommended should be of use to the participants. *FOR EXAMPLE*, if is of *little* value *to* demonstrate improved methods of *fish drying if the methods already being used are more appropriate*. The FEA, through his or her knowledge of the area, should be able to decide whether a certain recommended practice is of practical value or not.
- The demonstration should be as close to the real situation as possible. Preferably at sea, when it concerns a subject related to fishing at sea. And preferably using real material, rather than only audio-visual aids, to show how the material can be used. *FOR EXAMPLE*, *in the case of engine maintenance, real engines should be used, and in the case of fish processing real fish should be used*.
- The recommended practice should be as appropriate to the area as possible. One way to ensure this is to use the required material from the area. *FOR EXAMPLE*, *in a demonstration of proper maintenance of outboard engines, the type of outboard engine(s) mostly used in that area should be used in the demonstration* as well. The most practical way is to borrow

the engine(s) from fishermen: this is very time- and cost-effective. With a little bit of creativity you will find that it is not always costly to conduct an effective and efficient demonstration.

- If possible, the demonstration should focus on results and not only on the process necessary to reach them. For participants it is very convincing to see the actual results of a recommended practice. *FOR EXAMPLE, a fish drying rack, in a demonstration on making these racks.* Sometimes it might not be possible to have the results in a day, *FOR EXAMPLE in a demonstration of dry fish making.* In such cases, the organizers should bring the end products with them.

EXCURSIONS

An excursion is when a group travels from its village to another location to observe and discuss fishing practices that are not followed by it at 'home'. An excursion can be an interesting and effective experience, especially as it provides fisherfolk the opportunity to look at and discuss the (successful) practices of colleagues in another fishing community.

The same aspects considered important in demonstrations are valid for excursions too. But one important difference is that the demonstration **comes** to the client, whereas the client goes on an excursion. Hence, **an additional cost is involved.**

It might well be possible that the FEA does not have a budget that covers the cost of an excursion. In that case, the clients would have to bear the costs themselves, in one way or another. This might be a problem, especially for poor people. Here again, it will depend on the creativity of the FEA and the clients to find a solution to this problem, if it arises. *FOR EXAMPLE, clients may agree to save small amounts of money regularly to cover the costs, or the excursion may be combined with a cultural outing.*

Especially because of the cost aspect, it is important that the excursion be well planned. The FEA should also involve the clients as much as possible in the planning and preparation.

Ideas for excursions can be exchanged among the FEAs. *FOR EXAMPLE, when one agent has a very interesting experience in Iris or her area, this can be discussed during an office meeting attended by all the FEAs of one district. The agents, On returning to their posts, could then discuss this experience with their clients and, possibly, suggest an excursion to the place the agents had been fold about.*

INFORMATION MEETINGS

While demonstrations and excursions often involve tangible objects, such as outboard engines, prawn ponds or fish drying racks, an information meeting is a verbal presentation only. During information meetings, programmes or topics of interest to fisherfolk,



An information meeting

or of interest to the government or of interest to both, are explained. Such programmes or topics may include, *FOR EXAMPLE*, new credit schemes, coastal conservation, fish resources management, navigation rules *at sea for fishing hats*, *new legislation introduced by the ministry and the legal status of various types of fishing*.

Such meetings can be held in various ways. One or more lecturers may be invited or the FEA may conduct the meeting alone. It is important that the participants get the opportunity during the meeting to ask questions and discuss the various aspects of the information provided. Discussions may be plenary, but might be more effective in groups, depending on the extent of feedback expected from the participants.

Not all information discussed in the meeting can be retained by the listeners. Therefore, written documentation may be required in addition, such as, *FOR EXAMPLE*, *pamphlets for distribution among the participants*.

INFORMAL MEETINGS

Although much is written about formal group methods, much of extension information is, in practice, exchanged in informal meetings or discussions, for instance, when an FEA meets fisherfolk on the way to somewhere and exchanges information about fisheries or fisheries-related topics. However, it is important that the FEA does **not** always meet the same people or becomes identified with one specific group of people in the village. This is one of the most difficult aspects of extension work. As much as possible, **the FEA should maintain his or her independent position in the village.**

Informal meetings are very useful when FEAs, other extension experts or research officers want to obtain feedback on certain subjects from the fisherfolk. During an organized meeting, the participants might not be as representative as during an informal gathering on the beach. Also, people are more likely to discuss subjects more openly in an open environment, such **as**, *FOR EXAMPLE*, *on the beach or while at work in the fish market*. For a fisheries radio team, informal meetings are the best ways of collecting information.

FIELD WORKSHOPS

It is possible to learn only skills that are simple during demonstrations and information meetings. For more difficult skills, a field workshop should be organized. Such a workshop should be where the client group lives and at a time suitable to the group. It should also have a practical orientation. The field workshop is NOT training nor does it give certificates to the participants at the end of the workshop.

The duration of the workshop depends on the skills that have to be acquired by the client group. *FOR EXAMPLE, experience has taught that it does not take a very long time for a person who does not know how to construct a certain type of trap to obtain this skill, say about 40 hours only. However, a person who does not know how to operate and maintain outboard engines will need a long time to learn the ins and outs of the engine, a duration probably beyond the scope of the workshop. However, in ten hours it might well be possible to learn some of the basic aspects of outboard engine operation and maintenance. To acquire the skills to repair an engine, a much longer **training** will be required.*

For some skills, additional written information is essential. This might not be necessary for a workshop on trap-making, but for a workshop on navigation it would be very valuable.

The workshop could be conducted by any knowledgeable person who has a feeling for or experience teaching people practical skills. For some skills, like trap-making, a fisherman or fisherwoman who is experienced in the skill could be a very good workshop teacher when assisted by the FEA. For other skills, such as navigation, more advanced knowledge might be required. In such cases, either the FEA has sufficient knowledge to conduct the workshop or else the assistance of an expert has to be obtained. If an expert conducts the workshop or a part of it, it is the duty of the FEA to inform the expert about whom the workshop participants are.

The most important aspect of the workshop is that **it should suit the needs of the client group** the topic should be of sufficient interest to the client group that they are willing to donate time to

participate in the workshop. Therefore, it is preferable that workshops are organized at the request of clients.

It cannot be expected of fishermen and **women to** forego one or more weeks of income to participate in a workshop. Therefore, the workshop has to be held at times **that** are convenient to **them**. Fishermen definitely have more time to participate in the off-season. Fisherwomen, on the other hand, have to attend to their income-generating work as well as to household activities daily. For them, the late afternoon, or the evening, is often most suitable.

One difficulty of workshop organization is selecting the participants. The best option is for the clients themselves to select the people likely to most benefit from the workshop. The FEA can assist in this process, by ensuring that the equity aspects are well looked after. This issue will be further discussed in the chapter on working with the client group.

Workshops are, in general, likely to be the most expensive extension method, especially when expensive material is required. It cannot always be expected of **the** clients to meet all the costs. In these circumstances, the workshop can only be held when the FEA is able to draw from a budget to cover the costs of the workshop teacher and the material. In principle, the more the participants contribute themselves to the workshop, such as, *FOR EXAMPLE*, tea or some material, the more incentives there are for them, the instructor and the FEA to make a success of the workshop.

Visual and audio-visual extension aids

Visual and audio-visual extension aids, such as slide-projectors, blackboards, flip charts, video films etc., cannot be called extension methods; they are tools that help make the group or individual extension method chosen more effective. Visual and audio-visual aids cannot replace the personal contacts between the FEA and his or her clients. Audio-visual extension methods can be used on their own, but, as discussed earlier, most mass media extension methods, such as radio, are more effective when used in combination with group or individual extension methods.

People learn through all their senses; that is to say, what they see, what they hear, what they smell, what they taste and what they feel. When more than one sense is used, learning is increased. In the context of fisheries extension, this is especially so when a learning situation allows people to see, hear and do. Hence, the use of audio-visual extension aids can greatly enhance the effectiveness of an extension activity.

Visual extension aids include the following:

- Real objects.
- Samples and specimens.
- Models.
- Photographs.
- Posters.
- Flip charts and wall charts.
- Blackboards and magiboards.
- Magnetic boards and flannel boards.
- Overhead projectors.
- Slide and film projectors.

Audio-visual extension aids include the following:

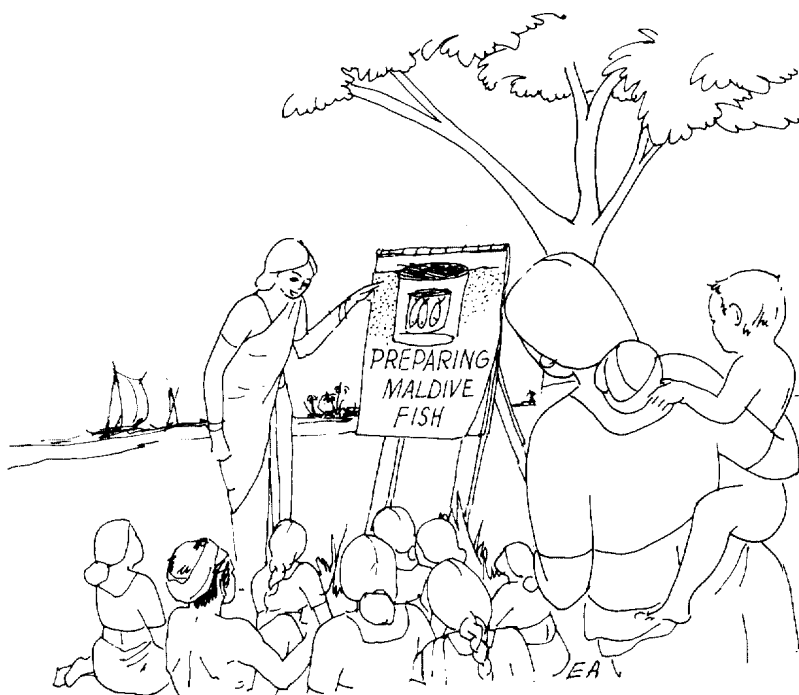
- Slide shows.
- Film shows.
- Video.

Because there are many FEAs in a country, and because the budgets for extension work are limited, they normally have to work with rather simple visual aids. As in many other aspects of extension work, the ability to **invent** effective and low-cost visual aids and a sense of **creativity** are important attributes. Expensive visual and audio-visual aids, such as video, do not make ineffective extension work more effective; rather, the extension activity will have to prove that it is worth using such expensive aids.

When extension is conducted at the field level, real objects are abundantly available. *FOR EXAMPLE, a workshop on outboard engine*

operation and maintenance becomes more meaningful when the participant⁵ *can see and discuss an engine that is badly maintained and an engine that is well-maintained. AGAIN, fish can be used in extension on fish handling and fish processing.* The FEA can borrow these engines from fishermen in his or her area.

The FEA can use blackboards to further explain the extension message. If writing and drawing on blackboards or magiboards is intended or if wall charts and flip charts are planned to be used,



A flipchart on the preparation of dried fish

it is important that every participant can read what is written Or understand what is drawn. Extension agents who like to draw can make their own illustrations. But when he or she feels unsure about drawing on a blackboard, the agent should prepare wall or flip

charts in advance, *FOR EXAMPLE*, by cutting out illustrations from other literature. Those who like to draw can make their own illustrations. A number of wall or flip charts used in sequence can make a flip book to show, *FOR EXAMPLE*, the steps involved in a recommended method of making dried fish.

It cannot be expected of the FEA to organize the more expensive visual and audio-visual aids; the extension programme should arrange for such extension aids and make them available to the FEA on request. *FOR EXAMPLE, the regional fisheries office (if such an office exists) could keep an appropriate collection of posters, photographs or slides on relevant topics and could borrow a slide projector on request.*

Video or film equipment has to be transported carefully. It also usually requires someone to operate it. A solution to these problems is the operation of special vehicles equipped with audio-visual material. But experience has shown that these 'mobile units' can operate successfully only when teamed together with an effective extension service and when the use of the audio-visual equipment is well-planned in the context of the extension programme.

5

WORKING WITH CLIENTS: THE DEMAND SIDE

In Chapter 4, we discussed the various extension methods that can be applied in fisheries extension. Usually, a national fisheries extension service plans and manages the fisheries extension programmes to be implemented nation-wide or in certain specific areas. The involvement of the FEA will vary according to the scope of the programme and the extension methods used. For mass media methods, such as radio or the production of pamphlets, FEA involvement will be relatively low, whereas for individual extension methods it will be high.

Apart from programmes planned by the extension service, initiatives for fisheries extension can be taken by the fisherfolk or by the FEA. These initiatives are, initially, to be implemented on the local scale only. It generally then depends on the personal commitment and initiative of the FEA to organize extension services that result from such local initiatives, *FOR EXAMPLE, field extension **workshops or excursions.***

As discussed in Chapters 1 and 2, programmes planned at the national level do not always appear to be of immediate or short-term benefit to those on the beach. This is particularly true of legislation. Yet, management of the common fish resource often requires legislation, such as, *FOR EXAMPLE, a law that forbids the*

use of set bagnets below a certain mesh size, aimed at protecting juveniles from being caught. Legislation, then, is one of the intervention instruments used in a fisheries development programme. But fisheries extension programmes should go hand-in-hand with such legislation. *FOR EXAMPLE, when related to trawling or ringnet fishing, certain trawl or ringnet fishermen may not like such a programme because it would make their fishing more expensive (when the licence fee for these nets is increased) or it may make fishing impossible (when a complete ban is in force). However, in the long run preservation of the fish resource would be beneficial for those fishermen or their children.* And it is to explain the complicated, and often unfathomable, aspects of fisheries legislation and regulations that fisheries extension often has to be conducted. To explain the purpose of sound regulations and to provide information on alternative (fishing) activities is indeed a challenge for the fisheries extension service.

But whether the initiatives for the extension activity come from the national level, or from the clients, or from the FEA, the agent has to work with his or her clients. Even national extension programmes can be successful only when the FEA is able to tailor the extension message to the situation, to the levels of knowledge and skills to the attitudes and behaviour of the various clients. *FOR EXAMPLE, it is of little use to provide basic skills on the operation and maintenance of outboard engines to fishermen who already have those skills.*

Negative attitudes of clients towards certain programmes can be because they have inadequate information to judge the benefits of the programme or may have had bad experiences with similar programmes in the past. Hence, the FEA has to work closely with his or her clients to build confidence. How the FEA should go about working with his or her clients is discussed in the rest of this chapter.

The principle of the client's self-reliance in decision-making

The FEA basically offers a service to individual clients or to specific target groups. A very important principle of fisheries extension

services is that it should help the clients to remain, or to become, self-reliant decision-makers in improving the economics of their fisheries activities. In some countries, it has been a tradition to offer government services to people in such a way that the people have become dependent on these services. For certain sectors, such as health and education, it is usual for people to become **dependent** on the basic facilities offered by the government. But when it concerns economic enterprises, and each fishing unit is an economic enterprise, such dependency is likely to be disadvantageous in the long run⁴.

Each enterprise requires constant investment (however small), as well as decision-making on how such investment should be made in the most economical way. By issuing subsidized fishing equipment, or by outsiders (such as the FEA) making decisions for the fisherfolk on how to proceed with the enterprise, the dependency of the fisherfolk on the government increases. As a result, the client may become reluctant to think about future investments or make decisions, as they would expect government, at least partly, to take care of it. This can be detrimental to the enterprise, especially because government services may not arrive in time. Also, the provision of these services is a relatively costly public expenditure. However, in recent years, awareness of these disadvantages has grown and now there is more support to the principle of self-reliance, as *FOR EXAMPLE in a recent, Shri scheme Of credit to fisherfolk.*

Making decisions for a client may give the individual FEA a sense of authority, because it makes him or her directly responsible for the benefits attributed to these decisions. But, the FEA should take a modest position, and the responsibility for decision-making should be left as much as possible to the client. The following *EXAMPLE* will illustrate this:

A FEA has given advice to a client on how to make better quality

⁴ In the previous chapter we have excused (very) low income groups getting subsidies, but this arises more from a welfare point of view than that from any aims to build up viable fishing enterprises.

dried fish than she was making before. *The client succeeds in making the better quality processed fish. But there is no direct market for it in the village because of the high price. The FEA, by chance, knows a shopkeeper in a nearby town and gets him interested in the dried fish. The agent negotiates the price, the quantity and other terms with the shopkeeper, because his client has no experience of such dealings. From time to time, the agent helps to mediate between his client and the shopkeeper, especially when problems arise.*

After one year, the FEA is selected by the national extension service to participate in a three-month in-service training in the capital. During this period, his client and the shopkeeper again have problems in their trade relationship. The client is dissatisfied with the price she is getting for her dried fish and the shopkeeper maintains that he will buy from her only if she can guarantee a regular supply. The client appeals to the FEA, several times for assistance, but he has no time to visit the village because of his training programme, which also includes multiday fishing trips. After a few months, the relationship between the client and the shopkeeper deteriorates to the extent that the shopkeeper decides to buy dried fish from another supplier. The fish processor has to stop her business, because she does not know of any other sales outlet, and, even if she knows one, she feels that she would not be able to negotiate a price that would allow her to make a profit.

In this case, although the efforts of the FEA are laudable, some important aspects have not been taken into account. What we learn from this experience is that the FEA is, often, in one duty station only for a relatively short period. Six years in one area may seem long, but when compared to the lifetime of a fishing or fish processing enterprise, which can go on from generation to generation, this is a short period. Hence, the FEA should have, in this case, taught his client how she could independently market her fish. This would have included how to find a market, how to negotiate with traders, and, in general, how to improve the management of her business, *FOR EXAMPLE, how to ensure a regular*

supply or how to keep stocks. It is very likely that the FEA may not have known much about these **business aspects**, in which case he should have called for assistance of experts, perhaps from the village or the nearby town or even the shopkeeper himself.

Assessing the real needs and analyzing the problem

As discussed, the more the clients are willing to contribute to the extension service, the more effective the extension service will be and the more cost-effective too. However, for a FEA to make the extension service as effective as possible and to motivate the clients to generate **on** their own as much of the resources as required, the agent should know well what the client's real needs are.

The FEA can assist his or her clients to formulate their needs precisely. The agent may often receive requests for certain training, when people feel that such training may help them to start income-generating activities or improve their income. But what do these client actually expect? *FOR EXAMPLE, when field training courses in net-mending and repair were organized for female participants in 17 certain area, the participants asked the organizers, when the course was finished, what they were supposed to do with their newly-acquired skills.* In this case, the FEA may have given them the wrong expectations, but certainly the real needs of the participants were not adequately assessed or discussed. Clearly, their needs were to find employment or to start income-generating activities and this meant going beyond skill-training alone.

The FEA's mandate does not include finding employment for his or her clients; he or she is meant only to provide extension services to enable the clients to make optimum use of their capabilities and resources in finding employment or in improving existing income-generating activities. It is, therefore, very important that the FEA assesses these capabilities and resources, and discusses with the clients possible ways to improve their situation. In other words, the FEA and the clients have to, together, conduct **a problem analysis. It is impossible to help clients without discussing their real situation.**

In finding possible solutions to the clients' problems and needs, the FEA should always question whether extension is, indeed, a part of the solution. In Chapter 2 we had stated that "extension tries to bring about changes in knowledge, attitudes, skills and/or behaviour". We have, accordingly, already discussed what extension can do and what it cannot do and found it cannot provide resources or employment. But it can give information to clients on how to mobilize their resources and, when required, how to obtain such outside resources as credit.

FOR EXAMPLE, the FEA cannot provide credit for a client to replace an inboard engine, but, if appropriate, he or she can advise the client on possible solutions to overcome this problem:

- *FIRSTLY, on how to better operate and maintain the engine - to prolong its life;*
- *SECONDLY, on how to generate regular savings in such a way that the engine can be replaced from the client's own resources; and*
- *THIRDLY, if possible, on how to contact banks to obtain a bank loan to replace the engine.*

The appropriate solution must be arrived at only after discussing with the client his capabilities and resources.

The FEA is not always expected to work on the request of individuals or groups of clients. Especially in the context of a national fisheries extension programme, certain targets or extension aims have to be reached, *FOR EXAMPLE, related to an increased use of safety measures at sea or an increase in demersal fishing in the inshore waters*. If individual or group extension methods are to be used for such a programme, the FEA will have to search for the would-be clients of the programme, and this is not possible.

It is very important in this case that the extension services are provided in such a way that they suit the needs of the clients as much as possible. Otherwise, the clients will just ignore the advice and may lose faith in the service provided by the Fisheries Agency. Unless, of course, the clients **have to** follow the advice due to any

fisheries legislation that goes with it. If it appears that a programme is not well designed, because it does not suit the needs and capabilities of the clients or target groups, the FEAs should be in a position to discuss this with their superiors and colleagues. This could be discussed at the regular fisheries district meetings, if such meetings are held. And if these problems are recognized on a wider scale, the national fisheries extension service could make the appropriate adjustments where possible.

Working with client groups & village organizations

Just as with individual extension, group extension can be initiated on the request of clients or by the FEA (whether in the context of a national extension programme or not). Requests from clients can come in various ways. In some cases, an individual, or a few persons who know each other, can come with the request, in other cases the request can come from a village-level organization. In most countries, there is a variety of village-level and island-level organizations, and people are generally familiar with them. The organization or society can be related to the government, such as the Gramodaya Mandalaya in Shri Lanka, it can be related to the Ministry or Department of Fisheries, such as the fisheries cooperative, or it can be non-governmental, such as the Grameen Bank in Bangladesh.

If the request for extension on a certain topic comes, or a group of clients have expressed a problem in the field of fisheries, the FEA, together with those making the request, should first undertake a thorough problem analysis and needs assessment. After this, it should be collectively decided what could be done to solve the problem and whether extension is indeed necessary. And if extension is a possible means of solving the problem, it should be decided whether the proposed extension activities are financially feasible. Can the participants shoulder part of or all the costs? Is there a government budget available to cover part of the costs? What alternative extension activities can be suggested if the costs involved are too high?

We have already discussed problem analysis in Chapter 3. On the facing page is a form that can be used as a frame for problem

Problem Analysis Form

(A) Key problem	(B) Causes of (A)	(C) Groups responsible for (B)	(D) Behaviour of (C) which results in (B)	(E) Factors necessary to correct (B)	(F) What extension can do to correct (D)
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(Source: DTCP/UNDP course in 'Production of Publications', 1990)

analysis. Such an analysis can be done by the extension experts of the national fisheries extension service, for the planning of extension programmes, but problem analysis is also the main tool for identification of extension activities at the field level.

For some group extension methods, there are no, or hardly any, limitations to the number of participants. *FOX EXAMPLE, if a group of persons wish to become better informed about the procedures of a newly-started fisheries credit scheme, the FEA can assist in organizing an information meeting with responsible bank officers from a nearby town.* The only limitations with respect to the number of participants, in such a case, is likely to be based on accommodation available; it would not be necessary to select participants. To make the proper arrangements, however, it is recommended that some idea of how many people will come is obtained sufficiently early; if there appears to be too many for an effective meeting, then two or more meetings could be organized.

However, when it comes to group extension methods such as excursions and, especially, field workshops, there will inevitably be limitations to the number of participants. *FOR EXAMPLE, in a workshop on the operation and main tenance of outboard engines, only a selected number of persons can participate, depending on the type of workshop, the number of trainers available, the material available and the accommodation.* But even if there is room for many, it is a good idea to keep in mind, that when a FEA is just starting with fisheries extension in a certain area, or when the extension methods used are new to both the agent and the area, it is best to start with small groups. It is also very important that only committed persons, and persons who most need the information most, participate. Hence, **a good selection process is very important** in the past, FEAs have often not taken this selection process seriously, but it is one of the most important keys to successful extension.

If a good selection is required, it would be easier if the village-level or island-level society does the selection. Society representatives know their members well and can contact them more easily. But the FEA will have to judge, through discussions with representatives of the society and its members, whether the society is indeed able to make a good selection.

A good selection can be hampered due to two reasons:

- FIRSTLY, the FEA does not take the extension effort very seriously and transfers this attitude to his or her clients. As a result, the client, or society, is not motivated sufficiently to indulge in the time-consuming process of selecting committed and needed persons.
- SECONDLY, the request may be from a weak society which does not have the sound support of its members. If all its members are not in some way actively involved in the society, it is often difficult to arrange discussions on new activities, such as the planned field extension workshop.

Due to these reasons, there results a bad selection of participants, based on favour and friendship, rather than on objective assessment of the commitment and needs of the individual members.

If the request does not come from an organized group, such as a society, or if the society itself is not able to make a sound selection of participants, the FEA should assist in the selection process. Discussions should be held with the persons who requested for the extension services and it should be decided what is expected from the participants and what selection procedures should be applied. The following are important considerations for a sound selection procedure:

- The way information about the field extension workshop is diffused in the village. *FOR EXAMPLE, through notice boards, by informing key persons, during a society meeting or during a specially organized information meeting.*
- Eligibility and selection criteria. *FOR EXAMPLE, should the*

person be a member of the society or is that not necessary, should the person be involved in fishing or fishing-related activities etc.

- The way interested persons should apply. *FOR EXAMPLE, if an information meeting is held about the field workshop, can interested persons put their names down on a list or should they write to the organizers and explain why they are interested in participating.*
- The manner of selection from among the applicants. *FOR EXAMPLE, is the society forming a special committee for the organization of this workshop and will that committee decide, or who else will decide.*

It is important that the clients, themselves, whether society members or not, decide about the selection procedures and that the FEA only helps them by offering guidance in this decision-making process. The agent should ensure that decisions are made on the most salient issues, and that the decision-making is not dominated by one or by just a few.

For the potential participants to make a sound decision on whether they would like to participate or not, it is important that they are well informed about these aspects of the workshop:

- What is its purpose;
- What are the arrangements;
- What are they expected to contribute; and
- How long it will take.

If provision is not made for a daily allowance for participants (and an allowance is, in general, not advocated here), this should be made clear, so as not to attract non-committed persons or persons who drop out once the workshop has begun.

At least one discussion will have to be held with the selected participants before the workshop starts. It would be most advantageous if the trainer(s) could be present at this meeting as well; if they are not, the outcome should be communicated to them.

This discussion will serve to further discuss

- The purpose of the workshop;
- What the participants actually expect from it;
- How they plan to use the acquired skills; and
- What topics should be dealt with in the workshop.

The arrangements for the workshop should be decided upon at this meeting. These may include the following:

- The time most convenient to the participants.
- The place the workshop will be held.
- The material required and what the participants can contribute towards this (*FOR EXAMPLE, used outboard engines for a workshop on operation and maintenance of outboard engines*).
- Storage facilities, if necessary, for equipment and material during the workshop.
- Supply of food and refreshments to participants.
- Accommodation for the trainers, if necessary.

The FEA will have to ensure that the most important topics are indeed discussed at this meeting and that the discussion is not dominated by just a few persons only.

From the foregoing, it will be seen that there are quite a lot preparations to be made before a workshop or even an excursion is organized. But good preparation will, in most cases, ensure a good result. However, one question that arises is whether the FEA does have the time for such time-consuming community work. Unfortunately, if such time is not found, it will not be possible to organize a sound workshop or excursion.

Working with adults

One of the most important features of fisheries extension is that the clients are usually adults. However, there may be occasions when children are the target group. *FOR EXAMPLE, to increase*

awareness of the vulnerability of fish resources and /fic effects of pollution
Oil these resources, the extension service may decide to support a school
programme. In the field, however, the FEA normally works only
with adults.

Working with adults requires a different approach to working with children. The principal differences are that extension for adults:

- does not involve coercion of any sort, but depends on voluntary participation; and
- should have a practical message that will be implemented by the target group within a certain period of time.

We cannot force the target group to use the information provided. Rather, it is up to the clients themselves to decide whether they would like to participate in a particular extension effort or not, and, if so, whether the information is useful enough for them to apply it. It is, therefore, extremely important that the extension activities are organized by the FEA with the assistance of the clients or, even better, by the clients themselves with the help of the FEA. The FEA must realize that fisherfolk are the best experts on their situation. The practical applicability of the extension message can only be assured when the FEA

- learns about the particular situation of his or her clients,
- takes sufficient time to listen to the reasons why the situation has evolved the way it has, and
- makes the appropriate extension efforts if change is called for.

Inappropriate efforts can result not only in the clients just ignoring the information provided them, but may even have negative effects. Clients may already have put their resources into a recommended practice, *FOR EXAMPLE, by buying a certain fishing gear and may stand to lose by following the recommendation.* OR the recommendation may not benefit the target group but might help those who do not necessarily need it and, thus, worsen the situation of the target group. *FOR EXAMPLE, uncontrolled support of plans to increase the*

number of mechanized craft has often resulted in ~~poor~~ fisherfolk families not being able to benefit from the scheme. Instead, they had to cope with iucreased competition for the same fishing grounds, resulting in a lower catch for the non-mechanizes craft. some programmes can be extremely beneficial, but not necessary for the target group for which the programme is intended. Extension planners and FEAs should, at the very outset, be aware of the effects such extension programmes might bring about, not only for the target group, but also for non-targeted groups.

Working with social groups and power structures

We have already discussed the divisions that are made in different target groups for an extension programme. *FOR EXAMPLE, one target group may comprise of skippers of 3t boats and another target group may comprise of small-scale fish processors. Overlap, however, between different target groups can occur; a fishermen could be the owner of a 3t boat and also be engaged in small-scale fish processing.*

Apart from the practical division in target groups (for the purpose of the programme), adults can also be divided into groups according to **social characteristics**. Age may be one characteristic, but there are many more, Such as, *FOR EXAMPLE, gender, ethnic group, religion, caste, political affiliation and economic status.* The importance of certain social characteristics is that they make the concerned people feel that they belong to a certain social group.

People can, however, belong to various social groups, but with different levels of affiliation. The type of social groups prevalent in one area can also be different from the type of social groups in another area. Often social groups become important when there are differences in certain social characteristics, such as, *FOR EXAMPLE, religious or political affiliations.*

In general, groups of adults with different social characteristics often have different interests and experiences. *FOR EXAMPLE, younger people often have a higher education standard and are quick to learn new subjects. Older people, on the other hand, often have a wealth of experience to offer.* The FEA has to cater to these different abilities

and experiences and will, if necessary, have to adjust the way extension is provided (or the way the extension message is presented) and adapt the extension message accordingly.

In some cases, it is possible to mix different social groups. This should be encouraged, because a variety of views on a certain situation or problem often gives a deeper understanding of it and can be a better basis for finding the appropriate solution. But such mixing is feasible only so long as the interests and experiences of the different social groups, belonging to the same target group of a particular extension programme, do not conflict. In many cases, however, it is just not culturally viable to mix certain groups.

Cultural values are different from one community to another. What is customary in one place can be the opposite in another. In some communities it is normal for men and women to attend the same meetings and for the women to be allowed to express their views. In other communities, women attend separate meetings, and even then only with the consent of their husbands or male relatives. Similar distinctions can occur with other social characteristics. The FEA has to be sensitive to these customs and values in his or her area and make the appropriate adjustments to the extension activities so as to effectively reach as many segments of the target group as possible.

It would be seen from the above that, in the first place, the FEA will have to ascertain whether the target group consists of different social groups. If it does, the question arises whether the different social groups require different extension activities, because of

- **Their different interests.** (This affects the content of the extension message. *FOR EXAMPLE, an extension programme may have the objective of improving operation and maintenance skills among owners of outboard engines and the target group comprises of both young and older owners of outboard engines. The younger people might be more interested in learning in detail, whereas the older people might be happier with acquiring a general knowledge about operation and maintenance of the engines.*)

- **Their different learning capabilities.** (This affects the extension method. *FOR EXAMPLE*, in some areas women are *less educated than men*. Therefore, extension programmes for women in those areas may have to include simpler audio-visual aids, using more illustrations, than would be necessary if the target group consisted entirely of men.)
- **Their different income-generating or household activities.** (This affects the timing of the extension activities. *FOR EXAMPLE*, as each type of fishing gear has its own requirements with respect to the timing of the fishing operation, fishermen using different gear are at sea at different times.)
- **Their different cultural values that do not allow certain social groups to mix.** This may require the organization of separate extension activities.

Not only does the existence of different social groups often influence the extension message and the extension methodology, it also often has an impact on the success of the extension programme. Many of the fisheries extension programmes aim to improve the economic situation of their clients, often within the context of better fish resources management. If members of one social group succeed in improving their economic conditions, this may not be acceptable to members of other social groups or it may cause friction within the social group itself.

Changes in the economic conditions of clients are never viewed neutrally, particularly with respect to the power base of the clients and the changes in the economic conditions of their fellow community members. This is because fishing is, generally, a team, or community, effort. Clients or non-clients who feel that their power base is weakened by changes will resist them. In some cases, the disadvantages that go with this resistance outweigh the advantages of the extension programme. Two EXAMPLES are cited here to illustrate this principle.

ONE: If fishermen themselves learn more about operation, maintenance and even repair of their engines, they need less services from the

village mechanic or f/k' local **spart'** parts th'aler. And if **they** need **their** assistance, **they** are in a better position to negotiate better services. Hence, the mechanics and spare parts dealers may not like the new skills and knowledge acquired by time fishermen and may not offer satisfactory service to these fishermen.

TWO: *An extension programme, with the objective of lie/ping fisherwomen acquire skills in improved methods of lagoon fishing, may significantly contribute to an increased income for **their families**. But with their better and more **reliable** earnings, the position of flit' women in their households **changes**. Often the women become more independent, because they are no **longer financially** dependent **entirely on their husbands** or on other members of t/it' family, and because other family members are proud of **their** achievement. In some coin munities, f/it' women may be allowed to decide for themselves on how to spend their earnings, but in others an increased independent status may be resented by flit' males and could result in ill—treatment of the women in the house/mold. In yet another community, the earnings generated by f/it' woman may have to be handed over to f/ic husband, who now feels that due to f/us income lie can work less, the workload of f/ut' woman thereby increasing without an improvement in the house/uold income.*

*It could also happen that certain people who are relatively powerful may use the economic opportunities triggered by the extension programme to benefit at the expense of others. This can be illustrated by the following **EXAMPLE**, typical of India and Shri Lanka:*

A group of tt'n women participate in a field extension course on improved methods of making dried fish. The ten women know each other well, being from the same neighbour/hood, and are thus from f/it' same social group on this count. But when it comes to economic status, all the women, except two, are wives of crew mt'mbers who do not own a boat or an t'ngine, though some do own fishing nets. These women work at making coir rope to supplement the household income. The two exceptions come from boat—owning families and f/icy also own a number of coir pits. Many of the other women work in these coir pits.

When the participants successfully Complete the course, one of the coir pit owners decides to start a business in dried fish—making. Using her own resources she has a number of drying racks constructed and several smoking kilns made. She then tells four of the women who had followed the course and who work in her coir pits that she would like them to work in her dried fish enterprise. Till' women would receive payment based on the quantity and quality of dried fish produced. The four indicate that they are not very attracted by the idea. They tell her that they are already busy making coir rope and would not be able to do any other work in addition to their household duties. In reality, they feel that the wage offered is too low and that they could make more money by making coir rope. They also hope to make dried fish themselves, even though on a much smaller scale.

The entrepreneur, however, does not want to give up her idea nor does she want to hire women from outside the neighbourhood to whom she would have to pay a much higher wage. She, therefore, tells the women that they could choose, either to accept her offer or not work even in her coir pits. The women choose the first option, as they know it would be very difficult to find other coir pits in their neighbourhood.

In practice, this type of exploitation is usually not as blatant as cited in the example. But power structures do exist at village level and the more powerful tend to use these structures for their own benefit. The FEA, on the other hand, has to try to avoid these situations and suggest options that suit both poorer and richer participants. The best method is to discuss the possible options, with those assessed as being powerful and with the others, during the extension activity itself. The more clients are willing to discuss during the extension activities, the opportunities and problems they may encounter when they improve their situations, the more likely the problems can be anticipated and the FEA can help with solutions.

Establishing a demand for fisheries extension

As we have seen, the FEA is involved in the two sides of fisheries extension: the demand side and the supply side. On the demand side, the FEA assists the clients in analyzing their problems, assessing their needs and, if necessary, helping to organize for them extension methods, such as a field workshop. On the supply side, the FEA is responsible for providing the required extension services to the clients, such as arranging for technical information.

DEMAND SIDE

- Individual clients
- Client groups
- Village level organizations

SUPPLY SIDE

- Fisheries Extension Agency
- Fisheries Extension Service

Resources

- skills
- experiences
- other resources
- problems
- needs

Interaction

- problem analysis
- needs assessment
- extension needs
- organization of extension activities

Resources

- technical skills
- communication skills
- experience
- other resources



Demand and supply of fisheries extension at the field level

We have also seen that while the development of a sound demand side is crucial, this may take a lot of the time of the FEA. However, for an efficient extension service, it would be more advantageous if the FEA could concentrate on the supply side, rather than having to put time into the community work required for an effective demand for extension, at the cost of the supply side. Fisheries and fisheries-related technical subjects are numerous and developments in each can be fast. The FEA needs time to absorb information about these developments. The FEA may also have other duties to attend to, such as the enforcement of legislation.

It would, therefore, be ideal if an effective demand for fisheries extension could be established by the village-level and island-level societies themselves, provided they have the broad support of their membership. These societies should inform the potential clients and target groups about the fisheries extension service and about what it can and cannot offer. And as many persons as possible should be informed, to avoid the extension service concentrating on an inside group only. The FEA is responsible for spreading the required information.

The role of village-level fisheries societies in establishing a demand for fisheries extension

Village-level fisheries societies, such as fisheries cooperatives, are the most obvious organizations capable of establishing a demand for fisheries extension at the village-level. Most countries in the region have a long history of village-level fisheries societies that have been initiated by their fisheries agencies. Different governments, have from time to time, introduced different aims for these societies, but nearly always they have been to facilitate the supply of government facilities to the communities.

An advantage of the fisheries society is that, because of its links with the government, the FEA can easily establish contacts with a potential target group. However, there are three important aspects

that should be considered when working with the members of a fisheries society. They are:

- How representative are the members of the fisheries society when compared to the fishing village as a whole;
- How representative of its membership are the executive members of the fisheries society; and
- Whether decision-making within the society is pursued in such a way that all members are adequately involved in the process and have equal access to the benefits offered through the society.

These three aspects will be discussed in the subsequent paragraphs.

Membership to village-level societies is usually restricted in one way or the other, either through formal restrictions or specific requirements and sometimes even informally. Restrictions can, for instance, be based on limiting membership to a set number. *FOR EXAMPLE, the society may have adopted a rule that sets the maximum number of members at 50.* There can also be all sorts of requirements that a person aspiring to be a member would have to fulfil, *SUCH AS, buying a share, being proposed by one or more members or having shown good behaviour during a certain probation period.*

Apart from **such** formal restrictions and requirements, which are often laid down in the society's constitution, there could be all sorts of informal restrictions and requirements. Some societies may wish to have members from a certain neighbourhood in the village only, and some societies may informally require that its members support a certain political party. Some societies favour members from both sexes, whereas other societies may be only of men or women.

The FEA should be aware of the type of membership of the fisheries society in his or her area. Fisheries extension services are, in principle, public services, and, therefore, the most needed and most committed beneficiaries should be selected from the broadest spectrum of fisherfolk in the fishing village. If the FEA feels that such a broad section is indeed represented in the fisheries society,

there is good reason to contact a potential target group through the society.

However, in some cases, the membership of a society can be restricted in such a way that it is parallel to the target group of a certain extension programme. FOR EXAMPLE, the national fisheries extension service may have planned a programme to promote better maintenance of inboard engines. if a society appears to comprise mainly of members who are skippers of 3t boats, this may constitute a sound target group for the planned programme. But if the programme intends to introduce trammel nets on traditional craft, such as the outrigger canoe, the members of this society would not be a suitable target group at all. In such a case, the FEA may have to find his target group from among other fishermen who are not necessarily members of the society, if at all there are any in the fisherman's village.

The second aspect concerns the executive members of the society. They are important for the FEA because he or she will normally have to reach the target group through these members. If the FEA feels that the target group is well represented in the society, how far it will become effectively involved in the extension programme will often depend on the executive members of the society. In other words, the specific target group's involvement with the project would depend on how well, it feels, it is represented by the executive members.

Here we come to a very specific feature of a fisheries society. In practice, the executive members of a fisheries society are not always full-time fishermen but are often traders or even government servants. In fact, fishermen themselves are not always the most active members in a fisheries society. Polinac (1988) has analyzed a number of reasons why fishermen find it difficult to participate actively in a fisheries society, and the following reasons may be relevant for the BOB region:

- Fishermen are sometimes not present in their fishing village during certain periods of the year, because of migration during off seasons, either to other fishing grounds or to inland areas to participate in agriculture or inland fisheries;

- Fishermen work irregular hours, which can make it difficult for them to participate in scheduled meetings;
- Fishermen are independent natured, which is enhanced by the secrecy of fishing grounds. Therefore, there is a certain reluctance to discuss fishing matters; and
- Fishing what is mainly a common property resource works on a first-come, first-serve basis, and this may inhibit cooperation.

Pollnac (ibid) has also noticed that in many countries women play a prominent and complex role in fisheries and fisheries-related activities. Therefore, the success of the fisheries society may often depend on the role fisherwomen have in it. Women often have a greater sense of responsibility with regard to financial matters. They are also more often at home, in contrast to their husbands or other male family members, who have irregular working hours and who might seasonally migrate to other fishing areas.

It is not necessarily a bad thing that fishermen and/or fisherwomen are not represented by fisherfolk in the fisheries society, especially if they feel that their interests are well represented. But it could happen that the executive members begin using the society for their own interests rather than for the interests of its beach-level membership. We have earlier spoken of power structures in villages; some people effectively manage to use the society to strengthen their own power base.

The last aspect concerns the decision-making processes within the society. The society should be able to involve all members in society activities relevant to them, at least in the initial stages. Participation in extension activities should be open to all members and, in case a selection of participants is necessary, the members should consent to the selection procedures. Often it is easier and faster to call, persons from the neighbourhood rather than calling for a members meeting, but openness to all members is essential if the FEA wishes to work seriously with the society.

6

UNDERSTANDING THE ROLE OF THE FEA

In Chapter 5, we discussed many aspects of the work of the FEA. We saw how important the role of the agent is in the success of extension efforts; not only should the agent have knowledge about fisheries and fisheries-related technical subjects, but he or she also needs communication skills to successfully conduct extension activities. However, people have different personalities, and not all FEAs find it easy to communicate with, often unknown, clients.

Besides this drawback, there are also general aspects related to the position of the FEA that may hamper smooth communication with the clients. To better understand his or her role, an FEA should be aware of these general aspects and, more importantly, have an understanding of his or her attitudes to these aspects of the relationship with the clients.

Combining fisheries extension with other duties

In this handbook we have, up to now, assumed that,

- FIRSTLY, the fisheries agency has a fisheries extension service, and that,
- SECONDLY, there are FEAs who conduct fisheries extension at the field level.

However, if you look at government fisheries services in the region (BOBP, 1990), it becomes clear that the Fisheries Field Officers (FFOs)

are often involved in many other activities apart from extension. In fact, most of the core duties of these officers involve enforcement of fisheries legislation and the registration of fishing craft.

The question then arises whether it is possible for a FFO to assume the duties of enforcement of legislation as well as extension at the same time. It may very well happen that a FFO has to punish a fisherman for a certain offence one day, yet has to gain his confidence for extension activities the next day.

It has been argued by some that the two duties are incompatible. Yet, in Chapters 1 and 2, we saw that the fisheries sector does require a large amount of regulation, compared to the agriculture sector, and that fisheries extension and legislation can be intervention instruments of the same fisheries programme. Fisheries extension can make fisheries legislation more effective and fisheries legislation can support fisheries extension (Van Woerkom, 1989).

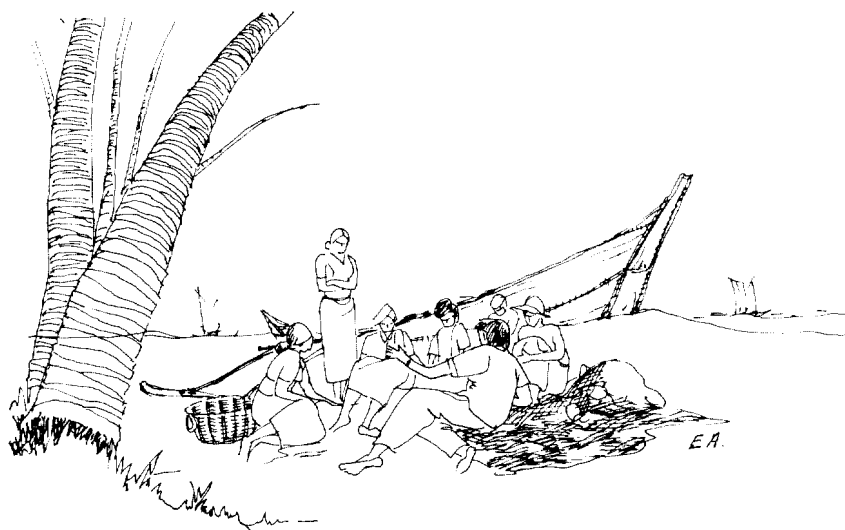
Take for instance the problem of depletion of fish resources which will in the future become more pressing and for which there may be need for more legislation. At the same time, there will also be a need for more extension. Extension can, in this context, broadly serve two purposes:

- To explain the purpose of the legislation, which may serve the long-term interests of the fishing community, rather than their short-term interests; and
- To advise on alternative fishing methods that would endanger the fish resource less.

Thus, in principle, it can even be very meaningful to combine legislation and extension duties. But this is only possible if the attitude of the field officer towards the fisherfolk is one of willingness to assist, to explain and to listen. FFOs too often take refuge under the shield of authority that goes with the enforcement of legislation, rather than allow themselves to be exposed to the criticism and comments of their clients. Such authority gives the FFO the esteem of a white-collar employee and covers the crucial fact that he or she often has too little knowledge about the fishing and fisheries-related activities to confidently face his or her clients.



A white-collar versus a client-oriented attitude



It goes without saying, if limited time is assigned a FFO for extension tasks, the extension tasks should be limited as well. It is of **little use to conduct a lot of poor quality extension.**

White collar perceptions

A FFO's post is regarded by fisherfolk as a white-collar job. The average field officer has had a higher education than his or her clients, and is a permanent government employee. Furthermore, as mentioned before, field officers often like to enhance their white-collar status. With this status, an attitude of superiority towards the clients could develop over a period of time, especially as fishing does not have a high social status in the region.

With attitudes of superiority go certain perceptions of what is good or bad for the clients. An *EXAMPLE* of one prominent perception *is the importance attached to education; it is frequently stated by officers that fisherfolk families should be educated in order to improve their lives.* But are people really better off with more education? And what is actually meant by education? Are fishermen, in contrast to many FFOs, not already well educated in their own field? Is fishing not a very laudable occupation that provides a very important source of nutritious food to the nation and employment to many people? Of course, improved fishing and more education can go hand-in-hand, but education is not by itself an alternative for fishing. Another *EXAMPLE is the perception that fisherfolk do not take up certain activities because they do not know how to do it.* But often, on thorough analysis, it will be found that there are other, more complicated, reasons why fishermen and fisherwomen do not change their situations. Reasons that can be beyond their control, such as consumer preferences or even limited enforcement of fisheries regulations. It is very easy to say that lack of education or knowledge are the main problems.

Not all FFOs have biased perceptions, but it would be very good if they regularly reflected in their opinions and perceptions so that they could give fisherfolk families the rightful place they deserve.

Clients and superiors

Many FEAs find themselves now and then in contradictory positions because of having to address the needs of both clients as well as their superiors. *FOR EXAMPLE, during an extension campaign to improve skills in maintenance and operation of outboard engines among fishermen, the superiors may like to report (to their superiors) that their agents have been able to reach large numbers of clients within a certain period of time. However, the FEA, while working with the clients has found that more time than anticipated is required for the clients to acquire the necessary skills. Consequently, less clients than planned can be well briefed within the allotted time.*

As long as the clients do not contribute to the agent's remuneration and the agent is employed by others, the wishes of his or her superiors will come first. It will, thus, for a large part depend on the attitude of the direct superior whether the FEA is allowed to give sufficient time and attention to address the client's needs. In the context of the above example, some superiors are willing to take the risk of upsetting their superiors and would report that the experience in their area suggests that a smaller number of clients could be effectively reached than anticipated for the reasons given. Other superiors are not willing to take that risk and urge their FEAs to give greater priority to quantity than to quality, in order to reach the targeted number of clients. In the end, it depends to a large extent on the attitude of the national fisheries extension service how far it is willing to accept criticism of its programmes and to adjust the programmes accordingly.

The FEAs have the very crucial role of voicing to their superiors the experiences, problems and needs of fishermen and fisherwomen. To many superiors and extension experts at headquarters level, the field agent's experience is the only professional contact with the ultimate clients of the extension service. Thus, supervisors should be eager to obtain a share of that field experience and should be open to listening to the FEAs.

A FEA should also be rewarded according to his or her commitment

to working with clients. Like any other employee, FEAs need support and motivation to remain committed to their work. While many officers enjoy the luxury of working in an office, the FEA works alone in **the** field. He or she faces comparatively more inconveniences, such as:

- Working in isolation;
- Enduring frustrations alone, without getting any direct encouragement or support from colleagues and superiors;
- Having to put in a lot of effort to reach remote places; and
- Sustaining a considerable degree of self-discipline.

Supervisors should acknowledge these inconveniences. But the FEAs should learn that positive feedback and support can be obtained as much from clients as from superiors (Jiggins and Roling, 1982).

Often superiors do not know precisely what the agent is doing and a lot of good work may go unnoticed. Therefore, it is very important **that** supervisors make regular field visits and that the FEA gets sufficient opportunities to exchange experiences with colleagues and supervisors. Furthermore, professional attitudes within the organization and a sound reward system, such as career prospects, are necessary to sustain the commitment of **the** FEA.

Commitment in organizing extension activities

What has just been discussed relates, for the greater part, to the conditions of work and the organizational environment in which the FEAs work. Although conditions of work are indeed very important, much still depends on **the** personal commitment of the FEA to doing a good job. Too often, adverse conditions of work are used as an excuse for not being able to perform well. The real challenge is to do as much as possible when work conditions are not optimal. In the following paragraphs a number of attitudes, that may help the FEA to make the best of his or her work with limited resources, are summarized. Most of these attitudes have been discussed to some extent in Chapters 4 and 5 as well.

LOCAL SOURCES OF INFORMATION

Much information is available at the local level and, for extension, this information can be applied very effectively, both with respect to quality and cost. A sound local experience is, as a principle, the most practical source of information for many clients. *FOR EXAMPLE*, exchange of experiences of fishermen stranded at sea can be more useful than inviting a resource person from the navy to give a talk *about the causes for being stranded and possible solutions*.

It is the FEA's task to, in the first place, tap this information, when appropriate. This requires that the agent has a positive attitude towards appropriate practical information obtained from practising persons and not an attitude that only favours the more theoretical information obtained from training or research organizations. The agent should also have good contacts with client groups in his or her area to be able to identify, and obtain, the services of potential local resource persons.

FOR EXAMPLE, inviting a local person to explain **improved methods of fish processing** can be more cost- and quality-effective than inviting a person from a research institute. However, the research institute may have developed applied methods as well. In some cases, local persons will, very understandably, be reluctant to share their successful experiences with other persons for fear of increased competition. The FEA will have to judge which sources of information are most appropriate.

BEING ANALYTICAL

Although FEAs have to work within the context of their duties and also with the consent of their superiors, we have seen that there is a wealth of possibilities for the agent to initiate fisheries extension or to support local-level initiatives leading to fisheries extension activities. But before the actual extension can take place, a lot of thinking has to be done; and this requires an analytical attitude. The FEA will have to ask himself or herself many questions and will have to discuss these with the potential clients.

Some such questions are:

- Is extension the best way to solve the identified problem or to address the need?
- Are the problems not caused by reasons that cannot be solved by extension only?
- What else has to be done?
- If extension is regarded as a solution, what will be the effects on other people — will other people lose jobs, will some persons exploit the opportunities at the expense of others, will there be resistance from certain groups in the community etc?
- Which are the best extension methods? and
- What is the best way of getting extension activity organized?

Of course, not every little aspect of fisheries extension can be foreseen or anticipated, but the FEA should feel responsible for the fisheries extension activities in his or her areas and their effects.

BEING CREATIVE

Another attitude that can be highly beneficial when organizing cost- and quality-effective extension is to be creative. As mentioned earlier, field officers often complain of their inability to do certain activities because of lack of resources. It is indeed very difficult to conduct certain activities when the required resources are not available or are inadequate. But, again, there is a wealth of resources that can be tapped at the local level.

In the first place, clients are normally willing to supply resources, such as time, contributions for tea, raw materials available in the village etc., if they are guaranteed a high-quality fisheries extension service. The levels of contribution can be decided by mutual consent and special arrangements can be made for participants who are unable to contribute some of the resources. Some people may be short of financial or material resources, others may be short of time and there will be people short of both.

In the **second place**, there are other resources that do not belong to the clients but which can be used or borrowed. Schools have chairs (however small in size) and blackboards. The church, mosque, temple or community centre may have good notice boards. There may be another ongoing programme in the village or on the island (community development, health or otherwise) which might be willing to supply resources.

OBTAINING OUTSIDE SUPPORT SERVICES

The FEA can only know a part of the technical aspects of fisheries and fisheries-related activities. It is very important to **admit** that a person cannot know everything and that, if the information is not available at the local level, external sources of information will have to be sought. The next chapter documents the places where FEAs might be able to find the information that they are looking for.

Some organizations have provisions for sending resource persons who can explain and provide the information on the spot. Other organizations have resource material or audio-visual aids available for use by the FEA. But whatever outside support may be obtained for conducting extension activities, including resource material, resource persons or trainers, the FEA **is** the person responsible for all fisheries extension activities in his or her area.

FEAs, have argued that they do not have enough authority to ask other organizations for their services. As long as you do not make any requests, cooperate or communicate with other organizations, you will not know what you can get. Also, you will not be able to find out which organizations are best to contact and what are the best ways of obtaining their services. The best attitude is to make a start and not be too disappointed when you get negative responses initially.

For the FEA to build-up skills in cooperating with organizations that can provide external resources, it is recommended that he or she maintains a list of

- The organizations that have been contacted;
- The contact persons in these organizations; and
- The services that they are able to provide.

Such a list is also very useful for the agent's successor, who would otherwise have to build up this experience from scratch again.

While the FEA may, in many cases, take the initiative to obtain the services of other organizations, his or her superiors will have to consent to this. Therefore, the agent should keep them informed about the actions taken. The superiors, in turn, should assist the agent when required and support an exchange of information about ways to obtain outside services from other FEAs in the area, say, at the district level.

7

TECHNICAL SUBJECTS FOR FISHERIES EXTENSION AND WHOM TO CONTACT

Finding the appropriate information

There are many technical subjects for fisheries extension and in some of these subjects the developments are taking place at a rapid rate. Hence, the FEA cannot possibly know all about all fisheries-related technical subjects. It is important to acknowledge this, and to search for the appropriate information elsewhere, if the need arises. *FOR EXAMPLE, clients may like to obtain specific information on shrimp feed*

The first place to search for information would be in the fishing community itself. Fishermen and fisherwomen are experts in the practical aspects of many technical subjects. Furthermore, information can be found at the regional office (if available) or through discussions with colleagues. It would be ideal if the Fisheries Agency could keep the FEAs regularly informed about new fisheries developments. *FOR EXAMPLE, by issuing a monthly newsletter or by providing regular in-service training.*

If it is not possible to find the appropriate information nearby,

other resources can be contacted. It would be ideal if the Fisheries Agency maintained a list of relevant organizations that could be contacted for information. The FEA, too, could maintain a list of the organizations or persons to be contacted in the fishing communities with which he or she is working.

The organizations mentioned can be contacted by phone, or by writing to them or by visiting them. It is recommended that the organization be first contacted to find out whether the information required is available, and, if so, who should be contacted and how. If the information is not available, somebody in the organization might know which other organization might have the information. It is important to be persistent!

Needs for non-fisheries services

The FEA working with fishermen and fisherwomen in a particular area will also be often confronted with requests for non-fisheries services. They usually expect the FEA, being a government employee, to have sufficient contacts to arrange for other services as well. However, the more professionally the agent approaches the field of fisheries and fisheries-related activities, the more his or her clients will understand that this is precisely the field in which he or she can provide the best assistance.

This does not mean that the FEA should close his or her eyes to the needs of his or her clients in the non-fisheries sectors. If the FEA is sure that there is a real need for which outside assistance is indeed required, and he or she could help by directing the request to the appropriate organization for assistance, it should be done. There are many organizations that can provide services at the village level. Some of these services are, or at least should be, regularly available, such as health services. But other services have to be obtained on special request.

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PUBLICATIONS OF THE BAY OF BENGAL PROGRAMME (BOBP)

The BOBP brings out the following types of publications:

Reports (BOBP/REP/...) which describe and analyze completed activities such as seminars, annual meetings of BOBP's Advisory Committee, and subprojects in member-countries for which BOBP inputs have ended.

Working Papers (BOBP/WP/...) which are progress reports that discuss the findings of ongoing BOBP work.

Manuals and Guides (BOBP/MAG/...) which are instructional documents for specific audiences.

Information Documents (BOBP/INF/...) which are bibliographies and descriptive documents on the fisheries of member-countries in the region.

Newsletters (Bay **OF** Bengal News) which are issued quarterly and which contain illustrated articles and features in non-technical style on BOBP work and related subjects.

Other publications which include books and other miscellaneous reports.

A list of publications in print follows. A complete list of publications is available on request

Reports (BOBP/REP/...)

32. *Bank Credit for Artisanal Marine Fisherfolk of Orissa, India*. U. Tietze. (Madras, 1987.)
33. *Non-formal Primary Education for Children of Marine Fisherfolk in Orissa, India*. U. Tietze and N. Ray. (Madras, 1987.)
34. *The Coastal Set Bagnet Fishery OF Bangladesh-Fishing Trials and Investigations*. S.E. Akerman. (Madras, 1986.)
35. *Brackishwater Shrimp Culture Demonstration in Bangladesh*. M. Karim. (Madras, 1986.)
36. *Hilsa Investigations in Bangladesh*. (Colombo, 1987.)
37. *High-Opening Bottom Trawling in Tamil Nadu, Gujarat and Orissa, India : A Summary of Effort and Impact* (Madras, 1987).
38. *Report of the Eleventh Meeting of the Advisory Committee*, Bangkok, Thailand, March 26-28, 1987. (Madras, 1987.)
39. *Investigations on the Mackerel and Sand Resources of the Malacca Straits*. (Colombo, 1987).
40. *Tuna in the Andaman Sea*. (Colombo, 1987)
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For Fisheries Development

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The Bay of Bengal Programme (BOBP) is a multi-agency regional fisheries programme which covers seven countries around the Bay of Bengal — Bangladesh, India, Indonesia, Malaysia, Maldives, Shri Lanka and Thailand. The Programme plays a catalytic and consultative role : it develops, demonstrates and promotes new techniques, technologies or ideas to help improve the conditions of small-scale fisherfolk communities in member- countries. The BOBP is sponsored by the governments of Denmark, Sweden and the United Kingdom, by member-governments in the Bay of Bengal region and also by AGFUND (Arab Gulf Fund for United Nations Development Organizations) and UNDP (United Nations Development Programme). The main executing agency is the FAO (Food and Agriculture Organization of the United Nations).