

# 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: FEAs<sup>2</sup>, 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	<ul style="list-style-type: none"> <li>temperature</li> <li>• bacteria</li> <li>- enzymic action</li> <li>- physical damage</li> <li>- rancidity (in fatty fish)</li> </ul>	<ul style="list-style-type: none"> <li>tishermen dealing in short periods (i.e. tishing between 4-10 hours)</li> <li>- tishermen dealing in long periods (i.e. tishing up to 6-7 days)</li> <li>- wholesale traders</li> <li>- retail market traders</li> </ul>	<ul style="list-style-type: none"> <li>- poor handling and preservation methods</li> <li>- poor designat fishing vessels</li> <li>- unhygienic condition of tishermen boats landing sites transportation market centres cold rooms</li> <li>- types of fishing gear being used</li> </ul>	<p>FOR FISHERMEN</p> <ol style="list-style-type: none"> <li>1 proper chilling and storage conditions on board</li> <li>2 de-gutting and cleaning of fish at sea and on land before storage</li> <li>3 correct handling and preservation... at sea on land whilst transporting</li> </ol> <p>FOR TRADERS</p> <ol style="list-style-type: none"> <li>4 correct methods for transportation freezing storage</li> </ol> <p>FOR FISHERMEN AND TRADERS</p> <ol style="list-style-type: none"> <li>5 environmental conditions at landing Sites market places</li> </ol>	<ul style="list-style-type: none"> <li>availability at clean water at landing sites and markets</li> <li>- proper drainage at both sites</li> <li>- facilities for disposal at spoilt fish and garbage</li> <li>- suitable materials for transportation and packaging (eg tish boxes and ice)</li> </ul>

(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 office<sup>3</sup> 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.

<sup>3</sup> 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**

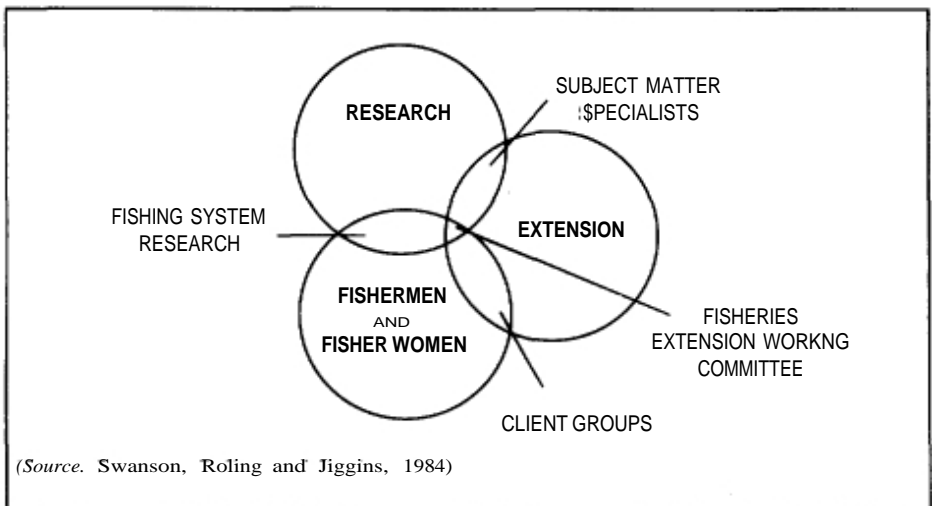
In agricultural extension, there is often a clear linkage between agricultural research and extension. Agricultural production has greatly benefited from the results of research. Extension has played a role in disseminating the research results, although many research

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.