

# 6. Involving communities in marine resource management

## Extension work

Extension can be broadly defined as working with people to provide, or to build on, skills and knowledge, or to promote community action, to achieve particular goals. Fisheries extension, therefore, could mean working to provide communities with the skills necessary to increase seafood production. Equally it could mean working to provide communities with the means and motivation to conserve fish stocks and protect the marine environment.

One type of extension involves an agency deciding what skills and knowledge are needed to achieve a particular goal, and then providing these to the community. This method has been referred to as “top-down” – that is, one in which an agency (say a Fisheries Department) believes it has the knowledge to achieve a goal, and proceeds to either provide instruction and skills to, or to impose regulations on, the community. An example of this is the setting of minimum size limits for fish by government agencies. Fish size limits are usually set without reference to the community (they are usually set by fisheries biologists) and rules are imposed on fishers by the government agency on the understanding that it is for the public good.

Another type of extension involves an agency working to encourage and assist communities to achieve their own particular goals. In this case, the community is encouraged to define its needs and propose solutions to problems. As the agenda are set and actions are taken by communities with government agencies playing a supportive role, this type of extension has been referred to as “bottom-up”. In this case, the community would set its own conservation rules, and it (rather than the

government) has ownership of the rules and a responsibility to enforce them. Because communities play the key role, this type of management is referred to as **community-based resource management**, which can be defined as arrangements under which a community takes prime responsibility for managing resources.

There are many other arrangements under which resources can be managed. One which can be regarded as falling somewhere between the above two methods, is co-management, in which government representatives, communities and other user groups manage fisheries resources on a cooperative or shared basis. This manual is particularly concerned with establishment of community-based fisheries management in which the community is the major partner.

## Government attitudes to fisheries management by communities

When embarking on a community-based programme, it may be necessary to overcome an initial government reluctance. Government authorities may have concerns regarding a programme which encourages village communities to take actions for which they see themselves responsible.

Fisheries agencies, as repositories of technical and scientific expertise, have historically assumed responsibility for taking actions and setting national laws to protect fish stocks and the marine environment. Consequently, a government fisheries agency may feel a loss of power, or that it is avoiding its own responsibility, by placing the initiative for marine conservation in the hands of fishing communities. However,

experience suggests that a government agency promoting community management gains in many ways:

- **the agency is seen to be active in rural areas**
  - because of the presence of its extension staff working in villages.
- **the agency gains both public support and respect**
  - because community-based activities often attract favourable attention from the media and government.
- **the agency gets credit for reducing enforcement costs**
  - because communities assume responsibility for enforcing their own regulations.

However, the main reason for encouraging community-based fisheries management is that it may represent the only chance for subsistence fisheries to be exploited on a sustainable basis. National laws and regulations to protect fish stocks are unlikely to be complied with in rural areas and villages without communities themselves being involved.

## Extension staff skills

Historically, extension staff are required to have appropriate technical knowledge and an ability to train people and transfer skills. However, if community-based management is the goal, facilitating skills are more important. The word facilitate means “to make easy” – in other words, the extension officer as facilitator “makes it easier” for a meeting or a community to achieve its own objectives by its own actions. In this role, the extension officer is more of a listener than a teacher. Facilitation refers to the process of encouraging other people to give their views and take their own actions.

Ideally, a community-based extension officer should have a balance of both basic scientific knowledge and community facilitating and motivating skills. An understanding of biology, ecology, conservation, fishing techniques, seafood handling, and resource management practices is undoubtedly valuable. However, most government agencies have scientific staff available to provide more specialised technical advice to communities.

In the process of encouraging communities to take conservation actions, extension staff are required to facilitate meetings. A facilitator needs to unobtrusively encourage groups to define problems and to propose their own solutions, without imposing his or her own views on the proceedings. Previous experience with problem-solving techniques would be an advantage. One particular problem-solving technique, which is easily learned and suitable for working with groups, involves the use of a problem/solution tree (described later in this Chapter).

Some of the most successful community-based extension officers are extroverted people, both men and women, who like people and are good at encouraging all individuals in a group to give their opinions. This may (depending on local custom) involve joking and friendly cajoling. However, what is not required, is an egotistical bully who is likely to embarrass people, and impose his or her own opinions on the group. Many younger people require training in cultural skills in order to address community groups which include village elders.

Whether existing staff are to be used or new staff are to be employed to develop community-based fisheries management, selection of good extension officers is a difficult task. Interviews with prospective candidates can often establish whether or not the person is likely to have the

people-skills discussed above. Using experienced extension staff is not always the best option if their experience is based on “top-down” rather than “bottom-up” methods. A guide to position requirements is given in the box below.

It should also be taken into account that having female fisheries extension staff often makes it easier, or culturally more acceptable, to facilitate community meetings involving women. Women not only make up an important and influential part of the community, but they are also very involved in subsistence fisheries. In Fiji, for example, over 50% of the rural subsistence catch is believed to be taken by women (Rawlinson et al., 1995). In the Pacific, women play a large role in the capture, post-harvest and marketing sectors, but still fail to be well-represented in most fisheries agencies. Fisheries agencies should aim to increase the number of active female staff members. Currently, many of the women employed in government fisheries agencies have clerical or secretarial positions when they might be more profitably employed in the field.

## **Position requirements Community-based Fisheries Extension Officer**

### ***Minimum skills and qualifications***

- Successful completion of final year of secondary (high) school;
- High level of verbal and written skills;
- Knowledge of local culture in relation to holding village meetings;
- Confidence in meetings and in working with community groups;
- Ability and desire to work with isolated communities;
- Ability to work as part of a team;
- Ability to drive a vehicle.

### ***Desirable qualifications***

- Experience in working with communities;
- Experience in using problem solving techniques;
- Degree in science or social science;
- Training, knowledge or experience in one or more of the following areas: biology, ecology, conservation, fishing, seafood handling, fisheries management;
- Ability to use word processing.

## Extension goal and strategies

Setting up a community-based fisheries management programme involves defining a goal and a strategy. The goal refers to the expected result and the strategy defines the principles or overall plan under which the goal is to be achieved. For example, the goal may be for a particular number of villages to effectively manage their own fisheries resources. One of the possible strategies to achieve this goal would be to encourage each participating village to develop its own Village Fisheries Management Plan.

In this manual, the above goal and strategy is used as an example of the development of community-based fisheries management. Under the example strategy, each village would be encouraged to analyse its fishing practices and problems, and suggest solutions. Community undertakings and actions to solve these problems may include introducing fisheries regulations and pursuing other conservation measures. These undertakings and actions would be listed in the community-owned Village Fisheries Management Plan. The strategy should address questions such as the following.

- Which villages should participate in the programme?
- How can community ownership of the plan be assured?
- How can participating villages be supported?

**Participating villages.** Villages must be made aware of the programme, but for reasons of efficiency and sustainability, the programme should focus on villages in which communities have a concern for the marine environment and are prepared to take action in finding solutions to problems. Although it is tempting to concentrate on villages where the

need is greatest (say a village where destructive fishing methods are known to be used), community-based management will not work unless the community has a strong desire to address its own problems. The strategy involves working selectively with village communities eager to participate in the programme. As the programme progresses more villages may develop the desire to participate.

**Community ownership.** Community ownership will be optimised if as many people as possible are allowed to contribute to the process of developing the Village Fisheries Management Plan. This will require involving all groups, including women and untitled men, to ensure the widest community participation and eventual ownership of the plan. The length of the extension process in each village has to be sufficiently extended to allow the community time to establish ownership of their plan and undertakings. Ownership by the community requires sufficient time for people to consider their own problems and causes, and think of their own solutions. It may take many months of facilitated discussions by community groups before the plan can be regarded as owned by the community.

**Support for villages.** As many subsistence fishers require seafood for their families on a daily basis, it is unreasonable to expect communities to readily take conservation measures, which, at least initially, will reduce present catches of seafood even further. Whether community-based or not, most conservation measures, including preventing destructive fishing methods and imposing fish size limits, will cause a short-term decrease in catches. Accordingly, a community-based extension programme which does not provide support by way of promoting alternative means of obtaining seafood is unlikely to be sustainable. Developing alternative sources of seafood is discussed in Chapter 8.

## Extension process

In order for communities to manage their fisheries resources, they must have:

- an awareness of problems with the marine environment and fisheries resources;
- a concern for these problems and their effects on the community;
- a desire and willingness to take actions to address these problems;
- some traditional, legal or assumed control over their adjacent fishing areas;
- the traditional power or organisation to make and enforce their own regulations.

Before embarking on a community-based fisheries management programme, the level of community awareness must be assessed. If community awareness is considered to be low, greater efforts will be needed to raise it. However, care should be taken not to underestimate community knowledge. The use of damaging fishing methods such as dynamiting, for example, does not necessarily indicate community ignorance; it may mean that such methods are used and condoned for economic reasons. The use of dynamite may result in large fish catches in the short term, even if the long-term result is destroyed coral reefs and reduced fish stocks. A range of awareness-raising methods has been discussed in Chapter 5.

Although it may be decided that public awareness-raising activities should be part of the fisheries extension programme, it may be that the most important need in communities is not for education, but for motivation and support. The key extension tasks, therefore, are to provide

this motivation and technical advice, and, most importantly, to enable communities to realise that they, not the government, have the primary responsibility to manage their fisheries and marine environment.

Preparation for a fisheries extension programme consists of designing a culturally appropriate extension process and training extension staff to facilitate the process effectively. The extension process has to be designed specifically to encourage communities to discuss problems and propose solutions relating to fisheries and the marine environment.

In most countries, the extension process will involve recognising village leaders as the prime instigators of change, while still allowing ample opportunities for other community groups to participate. In the early stages of the programme, it will be necessary to contact communities to explain the programme. Later, and if the programme is successful, this will become less necessary as village leaders will approach the agency to express interest in joining the programme. The process is summarised in Figure 6.1 and described below.

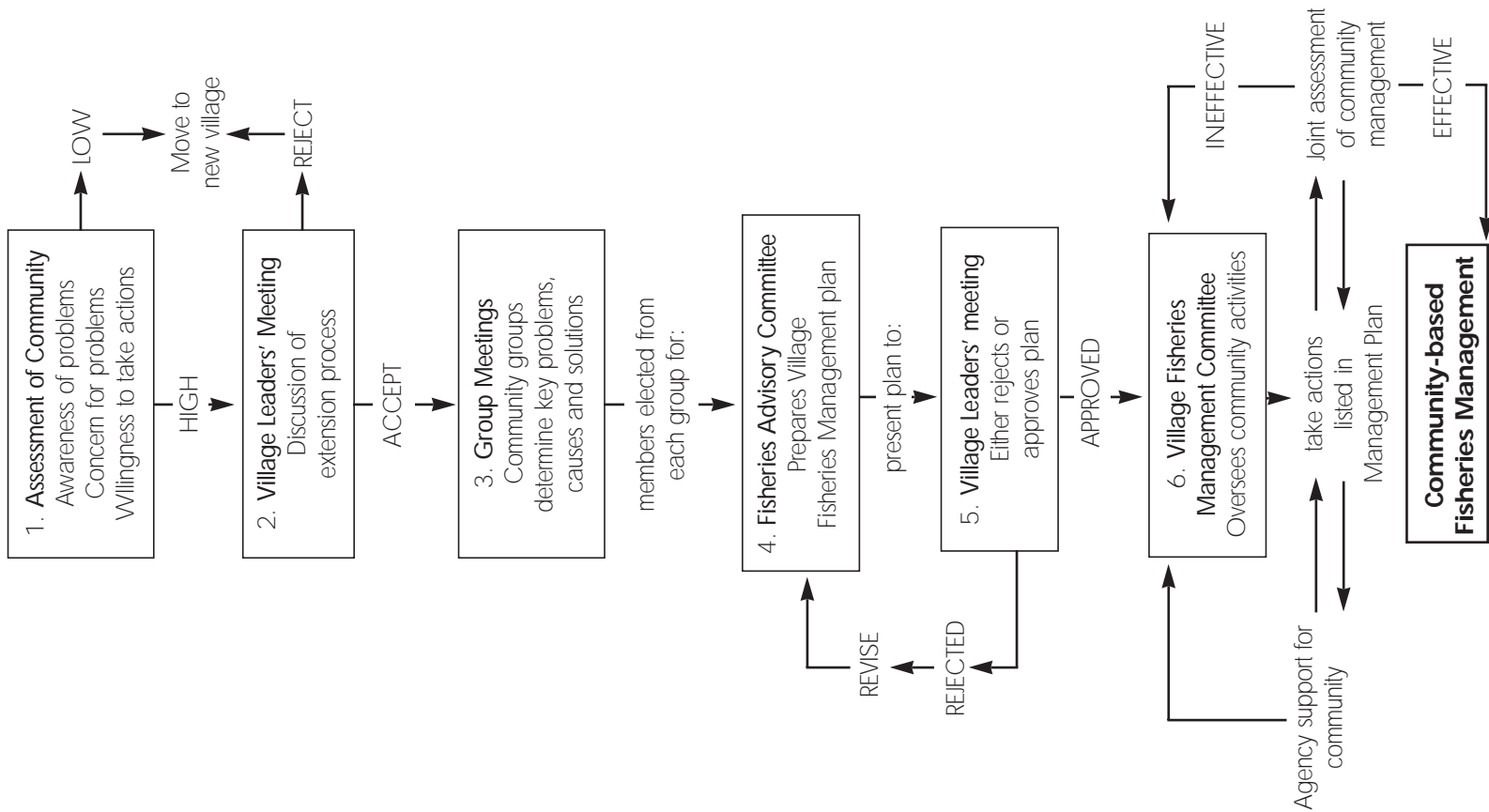


Figure 6.1: The Fisheries Extension Process. Activities are described by number in the text.

### **1) Assessment of community awareness, concern and willingness to act**

Following an initial expression of interest by members of a community, extension officers must assess whether the community as a whole is ready to commit to the process. The three key components are an awareness of problems with fisheries and the marine environment, a concern for these problems, and willingness to take actions to solve these problems. If this assessment is positive, it is usually culturally appropriate to arrange a meeting with community leaders.

### **2) Meeting with community leaders – acceptance or rejection of the programme**

At this meeting, community leaders are provided with information to allow them to either accept or reject participation in the extension programme. Villages may decide to reject the programme, at least initially, for many reasons. Some village leaders may have the mistaken belief that a government agency is attempting to take away their authority, or some may be involved in local political disputes. If the community declines to participate, extension staff should not try to “sell” the programme or otherwise persuade the community to change its mind.

If the meeting decides to accept the process, it must agree to arrange for separate meetings of several different village groups. This separation is necessary to allow particular sectors of the community to express opinions which they otherwise may not do in large groups dominated by community leaders. The village should be encouraged to nominate its own groups (e.g. fisher groups, church groups), but extension staff may need to ask that women and, if applicable, untitled men have their

own groups. Each of the nominated groups should then arrange to hold village Group Meetings (GMs) at some time in the near future.

### **3) Community Group Meetings (GMs) – problem/solution trees**

Each group meeting requires a facilitator and, if possible, a second person to act as a recorder of the discussions. As there may be three or more different community groups in a particular village, it is most convenient to arrange for the individual Group Meetings to be held on the same day. A portable white board should be taken to each of the separate meetings and used by the facilitator to record the results of discussions. Recording results in a large format, visible to all, emphasises the ownership of the written words by the group.

At the first series of Group Meetings, each group should be encouraged to analyse the condition of the marine environment and fish stocks adjacent to the village. This could include making an assessment of changes in fishing, seafood catches and the marine environment over recent years. Traditional management methods and customary marine tenure should also be discussed. Notes on these should be kept for eventual inclusion in the Village Fisheries Management Plan.

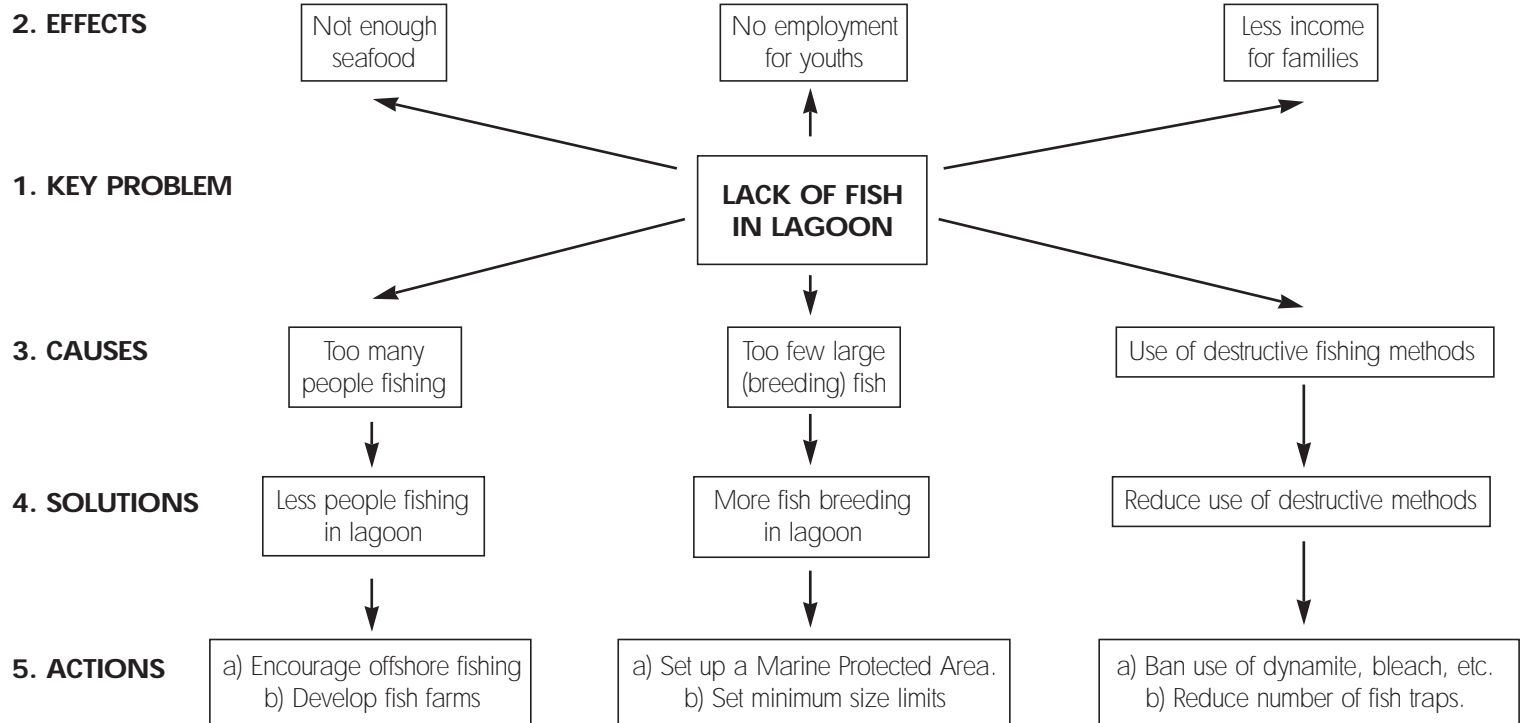
At a second series of Group Meetings, each group should discuss problems relating to fisheries and the marine environment as the first step in the construction of a problem/solution tree. In most cases several problems can be resolved into a single key problem which the facilitator could write on the white board a little way down from the top (as shown in the example in Figure 6.2). Once the key problem is agreed upon, the group could list the effects of this key problem on the

community. The facilitator writes down these effects on the white board in a row above the key problem. The group is then asked to think about the causes of the key problem and these are written by the facilitator on row 3 of the white board. After this, the group is asked to think about these causes, and about possible solutions, before coming to the next meeting (perhaps arranged for one or two weeks later).

At a third series of Group Meetings, each group is encouraged to discuss the causes of the key problem, and to propose possible solutions. The solutions are written by the facilitator on row 4 of the white board. Finally (and perhaps at a fourth series of meetings) each group is encouraged to discuss practical remedial actions to put the solutions into effect. These should be written by the facilitator on row 5 of the white board.

These community actions will eventually be listed as community undertakings in the Village Fisheries Management Plan. At the final series of Group Meetings, each group should be asked to nominate two or three of its most active members to form a village Fisheries Advisory Committee (FAC).

The above facilitated group meetings may be held over a period of one or two months, and should not be completed in less than a month. If the period is too short, people will not have time to think about the problems and will have less ownership of the results. However, if the period is too long the community may become impatient with the slow rate of progress.



**Figure 6.2:** A simplified example of a problem/solution tree as constructed by a village community (from King & Faasili, 1999). The process begins with step 1 (Key Problem) before proceeding in the numerical order shown. All information is provided by the community, with a facilitator recording information on a white board.

#### 4) The village Fisheries Advisory Committee (FAC)

The village Fisheries Advisory Committee FAC holds a series of meetings (say two to three) to further consider the problems and solutions identified by each group, and combines these into a single problem/solution tree (Figure 6.2). The committee then decides how the solutions could be made to work, which actions are required from the village community, and what type of support will be required from the promoting agency.

At the first FAC meeting, committee members and extension staff should conduct a village "stroll-through environmental assessment". This involves walking through the village examining and noting the environmental features which had been either discussed in meetings, or which should receive community attention. The purpose of the assessment is to prompt community discussions of environmentally-critical areas and to avoid wasting time on unrealistic community undertakings. For example, if the village wants to create a marine reserve in a particular area of bare coral rubble, then extension staff could point out that there may be more suitable areas.

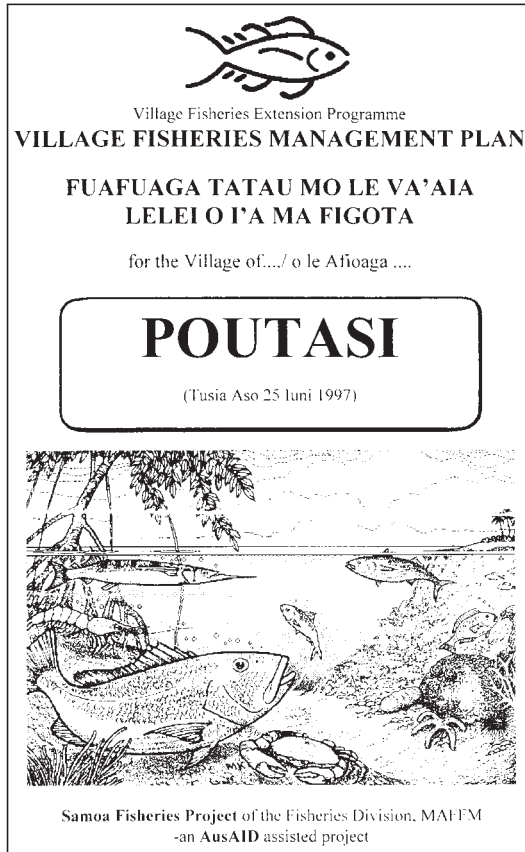
At this stage, extension staff may have to diplomatically suggest alternatives to some community plans. In Samoa, for example, some villages initially elected to ban fishing in their entire lagoon area. In such cases, extension staff were obliged to curb over-enthusiasm, and ask the community to balance the perceived fish production advantages of a large reserve against the sociological disadvantages of banning fishing in a large proportion of the village's fishing area. In the latter case, although young men would still be able to go fishing beyond the reef, women (who traditionally collect echinoderms and molluscs in subtidal areas)

and the elderly would be particularly disadvantaged in losing access to shallow-water fishing areas. A large reserve may also force people to fish in the waters of neighbouring villages, thereby increasing the potential for inter-village conflict (King & Faasili, 1998a).

At the FAC meetings, members (assisted by extension staff) prepare a draft Village Fisheries Management Plan which should include:

- the names of all members of the groups and committee;
- the names of all extension staff involved;
- a background of the village's marine environment and fisheries;
- a map of the village and fishing areas (completed by community members);
- details of tradition-based controls on fishing;
- undertakings and actions to be taken by the community;
- support to be provided by the promoting agency.

Although the draft Village Fisheries Management Plan may be typed at the agency office, it must be returned to members of the village Fisheries Advisory Committee for checking. As the plan is an important community document, its appearance and presentation should reflect this. The final draft of the plan should be bound in a printed cover for committee members to present to village leaders.



**Figure 6.3:** A Village Fisheries Management Plan from Samoa. The cover is printed on coloured cardboard with a cutout through which the particular village name can be seen.

### 5) Village leaders' meeting to consider the Village Fisheries Management Plan

The Village Fisheries Management Plan lists the resource management and conservation undertakings of the community, and the servicing and technical support required from the agency. The plan should be presented to village leaders by the Fisheries Advisory Committee at a formal and culturally appropriate meeting. Extension staff should attend this meeting as observers (to signify the meeting's importance), but all questions relating to the plan should be answered by the committee wherever possible. If the village leaders accept the plan they should be asked to appoint a village Fisheries Management Committee to oversee the working of the plan.

### 6) The community Fisheries Management Committee (FMC)

The FMC is appointed by the village leaders to administer the conservation undertakings of the community. Members of the previous Fisheries Advisory Committee are most likely to be appointed to the Fisheries Management Committee, but this remains a village decision. Once the Village Fisheries Management Plan is formally agreed to, the agency must agree to make regular contact with the FMC and provided the technical support agreed to under the plan.

## Ensuring continuing community commitment

Once a community has prepared its Village Fisheries Management Plan, it is responsible for taking actions and enforcing regulations that are listed in their plan. However, it is unlikely that a community will sustain these actions without some support, at least in the short-to-medium term. In particular, post-management plan activities must include regular contact with villages and support for the village Fisheries Management Committees. Types of support will include:

- **Regular contact between communities and extension staff;**
- **Exchange of information between communities;**
- **Support for developing alternative sources of seafood;**
- **Support for producing food and income;**
- **Technical advice and training;**
- **Review of fisheries management in participating communities.**

**Regular contact between communities and extension staff.** Extension staff must maintain regular contact with communities once they have a Village Fisheries Management Plan. Communities having recently completed management plans may feel disappointed and “let down” if extension staff stop visits once their plans have been completed.

**Exchange of information between communities.** Opportunities should be provided for the Fisheries Management Committees from different villages to exchange information. For example, a national workshop for members of the committees, or exchange visits between

communities could be arranged. Such a workshop will allow people from different villages to compare types of conservation activities in their respective management plans.

### **Support for developing alternative sources of seafood.**

Communities imposing fisheries regulations and conservation measures will experience short-term decreases in fish catches. Support for participating communities should, therefore, include promoting the development of alternative means of obtaining seafood (see Chapter 8).

**Support for producing food and income.** Government agencies and NGOs should be asked to give preference in development projects for those villages involved in community-based fisheries management. Such support could include assistance and advice in agriculture and livestock production as well as with craftwork and curio production.

**Technical advice and training.** Scientific advice may be required for several proposed community activities. Examples include the positioning of a community-owned Marine Protected Area and the development of new fishing methods. Training could include fish handling and marketing. It should be noted that the agency must target the most appropriate community group which may be women in the case of fish handling.

**Review of fisheries management in participating communities.** Extension staff will need to assist communities in reviewing their conservation and fisheries management efforts after a period of time (say, after six or twelve months). Reviews should seek to measure how well:

- communities are carrying out the activities listed in their management plan;
- community regulations are being enforced;
- communities are taking advantage of fisheries development support; and,
- communities feel that the agency is supporting their management plans.

Reviews are important in that an agency with limited resources will have to rationalise its work if there are a large number of villages with management plans. Options may include dropping poor performing communities from the programme (Kallie, Tava & Faasil, 1999). An example review form is given as an appendix.

To coordinate the support for, and visits to, rural communities, the extension programme has to be well managed. This should include monthly meetings for extension staff to review the management plans of all villages in the programme, and to ensure that the undertakings of both the village and the agency are progressing.

### Things a community extension officer should NEVER do

**Never give your own opinions when you are trying to encourage people to give theirs.** Do not prompt them with opinions of your own.

**Never ask a leading question such as “You have a boat, don’t you?”** Even the neutral question “Do you have a boat?” may encourage a positive (yes) answer out of politeness because the person may think that a negative (no) answer would be disappointing. It is better to ask “Do you have a boat, or not?” which suggests that either a yes or no answer is equally acceptable.

**Never pretend that you know more than you do.** Never make up an answer to a question. If you do not know the answer to a question, reply like this – “I don’t know the answer to that question. But I’ll find out and let you know.” In the end, this gains more respect.

**Never exaggerate.** Never say, for example, that if people stopped fishing with dynamite then numbers and catches of fish would quickly increase (when, in fact, catches would continue to be low for a long time and only increase slowly). Tell people the hard truth.

**Never make promises that you cannot keep.** Never promise advice, involvement, or assistance if you know that it cannot be given or done.

**Never break appointments.** Never fail to go to a scheduled meeting with a community or individuals. If it is impossible to attend an arranged meeting, inform those involved ahead of time. Keep a diary with a list of appointments and contacts.