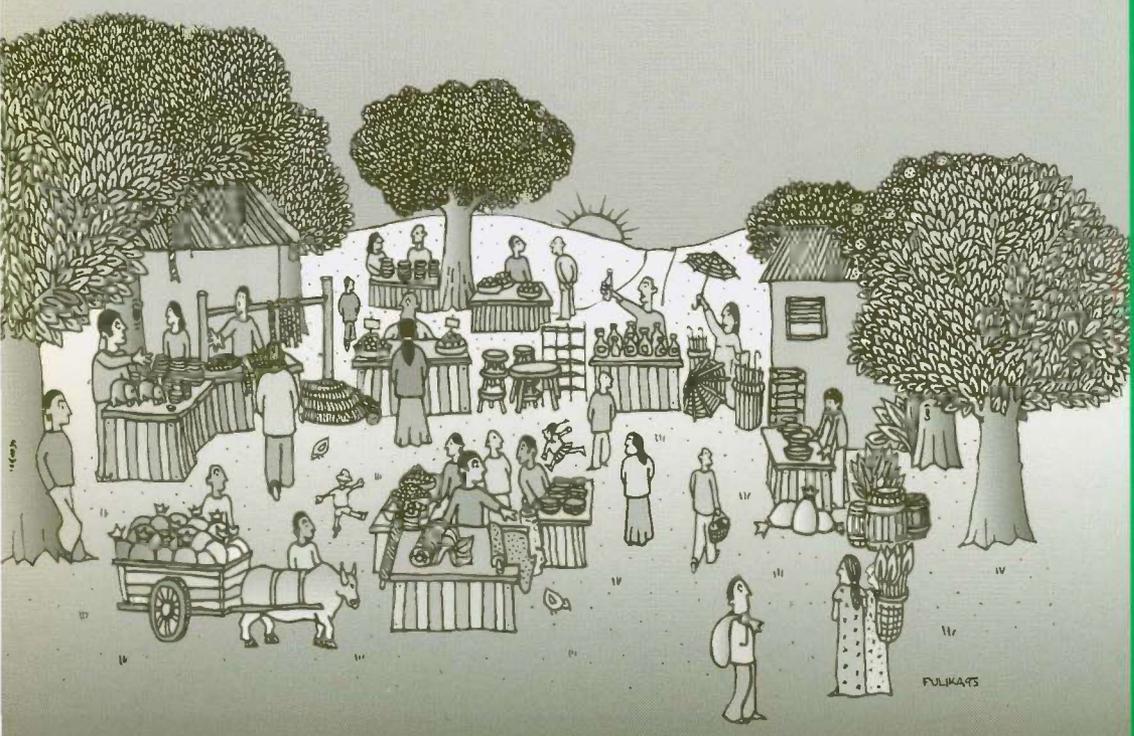




Marketing information systems for non-timber forest products



COMMUNITY FORESTRY FIELD MANUAL **6**



Food and Agriculture Organization of the United Nations

Marketing information systems for non-timber forest products

by Carla Koppell

Edited by Karen Schoonmaker Freudenberger



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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Economic benefits that can be derived from non-timber forest products (NTFPs) and agroforestry products have been identified as a major opportunity for community forestry projects. However, while many projects are producing products which fall into these categories, the markets are generally informal and it is difficult for local people to have access to information about potential markets and have any control over the prices they receive.

In 1989, the FAO Senior Community Forestry Officer conducted a survey in selected Asian countries to learn of opportunities for and constraints to community forestry in order to plan activities meaningful at the national level. Government ministers, staff of non-governmental organizations (NGOs) and project managers were included in the survey.

While those surveyed noted that there were many topics of importance, improved benefits from marketing products from community forestry projects was the priority. Of highest importance was a locally-managed market information system (MIS). They emphasized that it should be a low input system which could be sustainably controlled by users, with very little need for external investment or maintenance. They required a market information system which would empower local producers and traders by providing more transparent information on community forestry products, making them more profitable to produce, manage and sell.

In 1990, a locally-designed MIS was established by a farmers' group in the Philippines, in collaboration with the FAO's Forests, Trees and People Programme. Starting with price comparisons between different markets, the activities

of the MIS have expanded into two-way information flows and more complex analysis. The success of the MIS can be measured by the fact that it has continued after outside support stopped. The Philippines Government has adopted the ideas behind the MIS and is incorporating this approach into its extension programme.

The approach was field tested in two other locations in the Philippines, as well as in Uganda, the Solomon Islands and Peru, and it appears that it is being found useful by many farmers. This field manual draws on the experiences to date. Experience has shown that, when established at a simple level (as described in examples in this manual), an MIS can be self-sustaining and empowering. It is hoped that people will try out these ideas, adapt them to other situations and give feedback to enable further development and expansion of this manual.

Clearly, no market-oriented production should be included in a community forestry project until a market study has been carried out. But, community forestry and agroforestry activities seldom include market studies or market strategy planning. The market information system, as proposed in this manual, is limited to situations where the products and the markets already exist. It may be that increases in profit and control which result from an MIS will be useful, as was the case in some of our examples. Or, the increases may be too small to warrant the development or continuation of an MIS. The problems related to lack of information when a project or community is considering new products are not addressed by this manual.

The next step will be to expand the ideas presented here into a market-oriented micro-planning system. This will be a greater challenge, as there are many other issues to consider in the development of new products especially when they are long-term investments, as is often the case with tree and forest products. A market information system is just one element of the whole, one place to start addressing complex marketing strategies.

The FAO Community Forestry Unit invites practitioners working with community-managed MISs and market-oriented micro-planning to share their experiences in order to improve strategies and tools in this very important area.

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Introduction

When one thinks of the productivity of a forest, the first thing that comes to mind is timber. The production of timber is often organized and highly visible, and the markets for wood are highly structured and well established. Forests also produce a multitude of non-timber products, however, including such diverse items as medicinal plants, dyes, mushrooms, fruits, resins and saps, and raw materials that can be made into ropes, baskets, mats, fences, clothes and many other consumer products.

Non-timber forest products (NTFPs)* have the potential to become substantial sources of revenue, but in many communities they are underexploited. In some cases, people make considerable use of the products, but their commercial value is low. One of the difficulties for small-scale producers who seek to commercialize NTFPs is that often the markets for these products are relatively complex compared to those for timber and more traditional agriculture goods. Many NTFPs occupy “niche” markets, which tend to be small and dispersed. In addition, there are few established standards for NTFPs, and consumer preferences for products may vary considerably depending on such factors as the type of market (tourist or local) and the time of year. Prices for NTFPs vary from place to place as well as over time. Buyers may impose different quality control standards. All of these factors contribute to the complexity of NTFP markets.

* Non-timber forest products (NTFPs) is the term used throughout this manual to describe a broader range of goods than those defined as non-wood forest products (NWFPs).

NTFPs can include small products made of ligneous (or woody) materials, such as wooden stools, masks, drums or other handcrafted items which are not industrial timber or pulp.

Producers who are often specialists in harvesting or manufacturing goods using forest resources may have limited experience in marketing. They may not know how to obtain and make use of information that would help them make informed decisions about what to sell, and where and when to market their products in order to earn the maximum profits from their efforts.

This field manual presents a systematic approach that can be used by small-scale producers to gather information about markets for NTFPs. A Marketing Information System (MIS) collects, analyses and communicates information about markets and marketing. The kind of MIS described in this manual can be managed by local people themselves. They determine what information is needed, set up systems to gather the information, and decide how and to whom the information will be communicated. The purpose of the MIS is to improve people's access to marketing information for NTFPs and to train them in its use. This, in turn, will help them make better decisions about the use of local natural resources and increase the revenues they receive from these products.

The development of the methodology used in this field manual began in 1990 when the FAO's Forest, Trees and People Programme responded to a request by the Philippine Government to help local people with the marketing of community forestry products. In collaboration with local communities, they developed the first locally-managed Marketing Information System in Sta. Catalina, the Philippines. Recognizing the potential value of such a system, FAO's Community Forestry Unit and Forest Products Division decided to field test the approach in a variety of settings. MIS test sites were established in two other locations in the Philippines, as well as in two communities in Uganda, two places in the Solomon Islands and a remote area of Peru.

Examples from the Uganda and the Philippine experiences will be presented in boxes throughout the manual to illustrate the issues raised in the text. The box on p. 3 provides a brief introduction to the sites in these two countries that will be discussed in greater depth in each chapter. Occasional examples from other places where an MIS has been used will also be cited. This manual summarizes the lessons of these various experiences while recognizing that the approach will continue to be refined and improved by each new group of users.

Many people contributed to the development of this publication. The approach could never have been implemented without the great efforts of Isabelita Austria in the Philippines who saw the project through from its inception. Abwoli Banana extended the process, establishing two sites in Uganda. Tom Hammett, FAO forestry products marketing specialist, supported the setting up of the first Philippine MIS site and developing the methodology. Important guidance was also given by FAO agroforestry specialist Susan Braatz and by FAO forestry marketing specialist Leo Lintu. Lars Bjorklund and Anders Sjoberg both provided helpful comments and perceptive advice. This document was skilfully edited by Karen Schoonmaker Freudenberger.

AN INTRODUCTION TO THE MIS TEST SITES

The Philippines was the first country to test the Marketing Information System. In 1991, activities began at the first site, Sta. Catalina in Quezon Province. In 1993, the test programme was expanded to two additional sites: Alion (in Bataan province) and Julita (in Aklan province). In the Philippines, the implementation of the MIS has been supported by the Department of Natural Resources (DENR), which has been involved in all stages of the process.

The Philippine MIS participants were principally the growers and collectors of various forest products. The first site in the Philippines was Sta. Catalina, an upland village located some 150 km south of Manila. The participants decided to monitor prices for seven products, including banana, eggplant, ginger and coconut. Alion is located in a more agriculturally developed region. It is also closer to Manila and hence enjoys access to larger markets. Major commercial crops in the area are mango, coffee, banana, peanut and cashew. In addition to setting up an MIS for monitoring in-season prices of banana, peanut and citrus fruit in five markets, the users decided to monitor prices of

cashew nuts throughout the year and to learn more about processing options for this product. Julita is a village on one of the smaller islands with fewer marketing opportunities than either Sta. Catalina or Alion. Its principal NTFPs are abaca (fiber used to make rope and cloth), ambulong palm leaves (used for roofing) and copra. Their MIS was set up initially to provide information on these products, but users later expanded it to include rice.

In Uganda, MIS activities were oriented to handicraft traders involved in the marketing of locally made goods such as mats and baskets to both area residents and tourists. The traders were particularly interested in learning more about consumer preferences for different goods so that they could target different markets more effectively. One of the Uganda sites was Mukono, just 15 km from the capital Kampala. The Mukono group included more than 20 families and individuals. The smaller Masaka group (six families) operates about 130 km from the capital.

In both the Philippines and Uganda, the primary participants in the MIS were women.

ABOUT THIS MANUAL

Purpose The immediate purpose of this manual is to help local groups establish a Marketing Information System that is user-driven, flexible and responsive to local needs. The longer term objective of the MIS, in most cases, will be to help people market their NTFPs more effectively and increase their earnings from these activities.

Intended audience This manual is written primarily for the facilitator who will work with a local community to set up an MIS. The facilitator may be from the community or be an extension worker, project staff person, government official or consultant. In most cases, the facilitator will have some experience with marketing issues and project management. The role of the facilitator will be to help the community understand the potential of an MIS and to assist in planning and organizing activities. He or she will also provide administrative support and training, help with monitoring and evaluation and, where necessary, coordinate the funding assistance needed to get the MIS under way. The facilitator will *not* generally make decisions concerning the design and implementation of the MIS. This will be the responsibility of local operators and users.

Community participation The activities described in this manual depend on the active participation of community members in the design and implementation of the MIS. The MIS is intended for people who grow, collect, process, sell or trade NTFPs. It is critical that the local population and, in particular, the potential users of MIS information, be involved with every step of planning and implementing the MIS. The objective of this manual is to put in place an MIS that is “owned” by the local community or a group within that community. Previous experience with MIS implementation suggests that the earlier the community is involved in the process of collecting information and planning the MIS, the greater its participation and interest in the system will be once it gets under way.

Organization of the manual This manual takes the facilitator step-by-step through the design of an MIS. After an initial introduction to the concepts of MIS (chapter 2), the next three chapters take the reader through each of the steps in establishing an MIS. Chapter 3 outlines the preliminary step in which the site is selected and the participants are identified. Chapter 4 addresses the assessment step in which information is gathered for the MIS design. Chapter 5 turns to the design step in which critical decisions are made concerning the objectives and the structure of the MIS. The final chapter (chapter 6) reviews some issues that commonly arise in implementing an MIS and offers suggestions for resolving problems that may occur.

Since the manual systematically follows the MIS implementation process, it will probably make the most sense if the sections are read in order. However, communities will be at different stages in defining their needs and in organizing their members. Certain communities may be able to pass very quickly through some steps in the process if, for example, they are already very clear on what the objectives for their MIS should be. Others will want to take more time with each of the suggested activities.

The examples given in the text boxes are simply illustrations of how two communities set up their MIS activities. They are not intended to provide “models” for how an MIS should look, since every community will tailor its MIS to its own needs and circumstances.

Further reading This is one of several FAO manuals that provide information to community groups working broadly on forest management issues. A number of the other manuals in the series complement this one and will be useful to groups working on marketing and community participation in the management of NTFPs (see reading list at the end of this manual).

FAO manuals are available through country or regional representations throughout the world, often in several languages. Readers are encouraged to contact their nearest FAO representative to find out how to obtain FAO publications most easily in their area.

DEFINITIONS

The following list includes definitions of some of the key terms used in marketing information systems.

Markets are outlets for products and services. The buyers may be either institutions or individuals. Markets can exist for raw materials, semi-processed goods, finished products or services. They can be local, regional, national or international.

Marketing involves “finding out what the customer wants and helping to set up the production/marketing system that meets demand and maximizes income” (FAO,1989). The marketing process includes the selection and development of products and production processes, markets, pricing strategies, packaging, distribution channels and methods, and advertising.

Marketing information is all the data that can help those involved in production and sales identify the clients’ needs and meet those interests. This data concerns all aspects of the structure and operation of the market. With this information, sellers can make better decisions about marketing their produce. Specifically, producers might use marketing information to determine what to produce and when to harvest or process a product. They could calculate the returns depending on how much they process a product. And, they could choose where and when to sell and decide how to package and distribute their wares depending on what would provide the greatest profit.



Market transparency refers to the amount of information a person has about the entire production and sale chain of a certain good. If someone knows the entire process of production and sale of a good from harvest to the consumer (including costs and profits at each stage), then the market is “absolutely transparent” to that person. Markets are more transparent when people have access to information. Often, small producers lack information that others (such as middlemen or exporters) may have. This puts them at a disadvantage in getting the best price for their products. One purpose of an MIS is to increase market transparency for small producers so that they can increase their power in the marketplace.

A **Marketing Information System (MIS)** is a tool to organize the collection, analysis and communication of marketing information. An MIS should increase market transparency so that producers can market their products more effectively and increase the profitability of their venture.

A **Facilitator**, as used in this manual, is a person who helps stimulate a community’s interest in creating an MIS and assists in its efforts to design, operate and eventually expand the scope of their MIS activities.

Agroforestry products are wood and non-wood products from trees, shrubs or other woody perennials grown in agroforestry systems (integrated systems in which woody perennials are grown in association with crops and/or animals).

Non-timber forest products (NTFPs) is the term used throughout this manual to describe a broader range of goods than those defined as NWFPs. NTFPs can include small products made of ligneous (or woody) materials, such as wooden stools, masks, drums or other handcrafted items which are not industrial timber or pulp.

Non-wood forest products (NWFPs) Non-wood forest products (NWFPs) are goods of biological origin other than wood that are derived from forests. NWFPs also include services, such as rope making and gum collecting, that are related to the collection and processing of these products.

MIS and Markets for Non-Timber Forest Products

THE MARKET FOR NON-TIMBER FOREST PRODUCTS

Non-timber forest products (NTFPs) play an important role in both national and local economies. In some cases, the importance of these activities can be seen clearly from national statistics. In India, for example, more than 30 million people are employed in the non-timber forest product sector. In central Java in Indonesia, wood carving represents roughly 75 percent of handicraft exports. Products like rubber are critical to the economies of many countries. National statistics do not tell the whole story, however. Products that hardly figure in the statistics may nevertheless play an essential role in maintaining livelihoods at the local level. In Channapata, a town in Karnataka state in India, some 35 percent of employment comes from the lacquerwork industry. In Sahelian villages such as Samkedji, Senegal, families survive the hungry season by selling *kinkiliba*, a kind of wild tea that grows on common lands around the village.

NTFPs can also play an important part in the sustainable management of forests. The value of timber depends on cutting trees. While this can be done in a sustainable fashion, often the fastest profits are obtained by clear-cutting which decimates a whole range of forest resources. In contrast, the exploitation of many NTFPs depends on keeping forests intact. In many places, if the full range of NTFPs is extracted and marketed, forests can provide much greater economic benefits than when they are used exclusively for timber. In cases where the value of NTFPs is well recognized, there is a powerful incentive to maintain standing forests.

The markets for NTFPs vary enormously. Some markets, such as the bidi cigarette market in India, the rattan market in Indonesia and the Brazil nut market in Brazil, are extremely well organized. More commonly, however, the markets for NTFPs are informal and unstructured. While the immense variety of NTFPs makes generalization difficult, these products often share at least some of the following characteristics.

▪ **The raw materials for NTFPs are often gathered from government owned or communal (as opposed to private) lands.**

This includes such products as honey, game meat, liana vines and grasses. Tenure systems on these lands may be more complex and the rules of access less clear than on private lands. This may result in conflicts between users and make planning for the sustainable management of resources more difficult. In addition, if users fear that they may lose access to the forest, they will be less likely to invest in the resource and to monitor and control harvesting. Because the harvesting of certain forest products is illegal on some public lands, it may be particularly difficult to obtain valid information about the collection and use of these products.

▪ **NTFPs are often seasonal.**

Many NTFPs, such as mushrooms and nuts, are seasonal and depend on natural growth and regeneration, which makes their productivity unpredictable. Prices may vary over the course of the year in reaction to seasonal changes and will also vary between years depending on nature's bounty. The income of collectors and processors tends to be similarly variable. The seasonality of these products can also be an advantage. Many NTFPs are available during the non-agricultural season. Exploitation of these products can complement farming activities and fill gaps in the household income flow.



■ **Producers are frequently rural people and often poor or landless. Production is frequently small scale.**

■ **The percentage of the final sale price for a NTFP received by the local-level collector, producer or processor is frequently extremely small.**

■ **Information on the exploitation of NTFPs is often lacking.**

NTFPs often provide income to people with limited alternative employment opportunities and low income. Products on communal lands are particularly important to the landless. For many forest products, the skills and tools required for collecting, and even for processing, are low, making the enterprise attractive to poorer people.

The profitability of enterprises based on NTFPs is often low. Some of the reasons that individual producers receive such a small percentage of the total profit on NTFPs are: trading is done individually; producers are unorganized and dispersed; individuals lack the necessary marketing skills and information to gain leverage in the market; and individuals lack related business assets such as storage and transport.

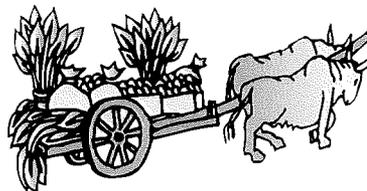
Foresters who are trained in timber management frequently lack training and experience with NTFPs. Research in these areas has generally focused on only a few products that are important on the international market (such as rubber). Often there is considerable local indigenous knowledge concerning the production and management of NTFPs, but there are sometimes gaps in this knowledge as well. It is therefore particularly important that the design of strategies to exploit NTFPs be a collaborative exercise that makes full use of local people's knowledge as well as the expertise of outside professionals with relevant experience.



▪ **Many NTFPs have only weak links to official marketing systems.**

Since NTFPs are often sold in informal markets, information about prices, product flow and marketing options is less well known than for major crops or for timber. Foresters whose training is largely technical and oriented to production issues may know little about the economics and marketing of NTFPs. However, the absence of formal marketing channels can also be an advantage, since it is easier for small producers to gain access to these markets, and regulations are often less onerous than in government-regulated markets.

While these characteristics are common to NTFPs, many other village-level enterprises share similar characteristics. Once local producers master the principles of setting up an MIS for NTFPs, they can, and probably will, apply the system to other local products. In several of the test sites, participants decided to use the system to track prices for NTFPs plus other goods that were particularly important to them.



WHY IS MARKETING INFORMATION IMPORTANT?

As described in the definitions above, *marketing information* is all the data that can help those involved in production and sales identify and meet clients' needs. Marketing information is critical to the success of any business since, in order to market goods or services effectively, the seller needs solid information about what the buyer wants. Similarly, to ensure that the most effective production and distribution methods are being used, producers need to know what their options are.

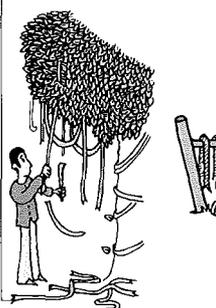
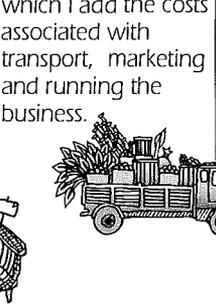
Marketing information makes the market more *transparent* so that business people can make informed choices about production and sale. The illustration on p. 14 shows how transparency will differ for each person in the marketing chain. Often, each person has information only about the part of the chain that concerns him or her directly. The producers described here are responding relatively passively to the demands of the market.

There are many types of marketing information that can be useful in business decision-making (see box on p. 15). Which kind of information is the most important will depend upon local needs and priorities and the user's position in the marketing chain.



Transparency in the market chain

Knowledge differs according to position

PRODUCER	LOCAL TRADER	TRADE/PROCESSOR	EXPORTER
<p>I carry my lianas that I collect in the forest to the roadside where I sell them to a passing trader. He pays me about \$1 per bunch. I do not know where he goes with the product after he buys it from me.</p>	<p>I purchase the lianas along the roadside. I clean and sort them by quality, store them until the price seems high, bring them to the market and sell them for between \$1.25 and \$2.00 per 5 piece bunch.</p>	<p>I purchase the lianas of different qualities, particularly when they are abundant, so I can pay a lower price. The lowest quality is made into baskets and mats for local sale. The higher qualities are used to make furniture for export. My sale prices vary based upon market, quality, colour and product.</p>	<p>I purchase woven furniture for export. I buy only the highest quality and sell it to buyers for upscale price. The lowest quality is made into baskets and mats for local sale. The higher qualities are used to make furniture for export. My sale prices vary based upon market, quality, colour and product.</p>
			

Producers can be more proactive, learning more about what happens to the lianas after they are sold. If they know, for example, how lianas are used and what determines good quality, they might be able to improve the quality of their product and argue for a higher price. Alternatively, if they know that the price varies according to the time of year, they might be able to organize the storage of the product locally until the price rises, thereby gaining more profit for their efforts.

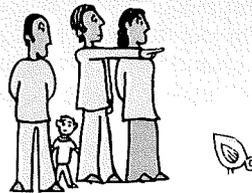
EXAMPLES OF THE KIND OF MARKETING INFORMATION AN MIS CAN PROVIDE

MARKETING INFORMATION

- Product characteristics: size, shape, colour, volume, quality and packaging of various products for different markets.
- Place and distribution channels: names and schedules of markets, traders, wholesalers, retailers, cooperatives and marketing boards.
- Promotion alternatives: product samples, displays, fairs and advertising.
- Prices: various products at farmgate (e.g. local traders); retail (e.g. village markets) and wholesale outlets (e.g. canning plants); over time (to show seasonality and trends) by grades and quality.
- Payment alternatives: barter, credit, cash, labour.

MARKET INFORMATION

- The markets that exist for products.
- The size of markets.
- Levels of demand and supply, including seasonal variations.
- Ultimate product users.



WHAT IS A MARKETING INFORMATION SYSTEM (MIS)?

A Marketing Information System (MIS) is a structured approach to collecting, analysing and communicating information about markets and marketing. It should increase market transparency for users and enable them to make more informed production and marketing decisions.

Users who implement a Marketing Information System should find that they are better able to:

- **make informed marketing decisions;**
- **negotiate with others in the marketing chain;**
- **organize production and sale; and**
- **facilitate group discussion and decision-making.**

Ultimately, as users gain more information and learn how to exploit that information they should find ways to increase the profitability of their enterprise.

BENEFITS OF USING AN MIS

Users of marketing information systems identify different benefits depending on the nature of the group and the marketing problems they face.

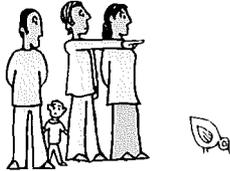
In Uganda, handicraft sellers surveyed market preferences and found that Ugandans prefer brighter colours, while tourists selected more muted designs. With this information they were able to segment and target certain portions of the market.

In the Philippines, by monitoring prices in several markets, sellers were able to direct their produce to markets where prices were higher at a given point in time. Even those sellers with established relations with individual buyers (suki) found that they were

able to negotiate better prices because they were informed of the larger market context and not so dependent on information provided by the seller. As one participant noted, "The system helps assure that we do not cheat each other."

Several of the groups using MISs have found that when they organized to collect marketing information, they also found other ways to collaborate. As a result, their groups became more dynamic and cohesive. For example, while researching prices in different markets, members of a group in the Philippines identified a transportation bottleneck. As a result, they were able to work out a cooperative system to transport and sell their pineapple harvest.

An MIS can organize the collection, analysis and dissemination of many different types of marketing data. This is particularly relevant when monitoring information that changes frequently, such as prices, since this is where local producers often have the most difficulty. It is not necessary to monitor prices that are known to remain stable, although participants may want to identify these in their initial situational analysis.



There are unlimited possibilities for the kind of information that can be gathered by a group setting up an MIS. Information collection and analysis implies certain costs, however. Visiting buyers and interviewing them about prices, whether in local markets or farther away, takes time. There also may be costs involved for transport to gather information in more distant markets. It is therefore very important that groups setting up an MIS give careful thought to what kind of information will be most useful to them and focus on the information that is most likely to increase the profitability of their enterprise. This information should be tailored to the specific circumstances of the group that is collecting it. For example, there may be no use in collecting information from a distant market during the rainy season if the state of the roads makes access to that market virtually impossible.

Participants in an MIS need to take the time to think about what information is really needed and carefully weigh the benefits of having more information versus the cost of collecting it.

When working with a group of people producing goods for sale, it will often be relevant to start with an MIS that gathers information on the prices being paid by consumers (or traders) for the goods MIS participants sell. In most cases, this kind of information is readily accessible, data collection is relatively straightforward, and analysis is not very difficult. Most important, once the information is gathered, it can usually be put right to use and the participants can see immediate benefits from their efforts. Such a system introduces the MIS concept to the community, demonstrates its utility and galvanizes interest. Once this has been accomplished, it is easier to introduce greater complexity and to consider gathering different kinds of information that will help community members further re-

fine their marketing strategies. The Philippines case described in the text boxes is an example of this kind of price monitoring system.

When setting up an MIS with traders who are intermediaries for goods produced by others, a useful approach could be to start by gathering information on consumer preferences. Traders need to know what consumers look for in a product so they can place orders with producers, manage stock and set prices. An MIS that tracks the kind of goods that are being sold offers a simple introduction to the value and operation of an MIS. The text boxes about the Uganda MIS offer an example of how small-scale traders established an MIS to collect this type of sales information.

Data gathered in an MIS can have many different uses, depending on the needs of the participants. As suggested above, a common MIS activity involves collecting information on the price of a given product in several markets. Such information can be collected by volunteers from the group on a weekly basis. This kind of information can be used in several different ways. It can be posted in a central place so that each week individual producers can determine the most profitable outlet for their goods. As information is gathered over the course of a year, it can be compiled on a price calendar. This permits participants to begin analysing the best time to market their goods and to calculate whether there might be benefits in storing some products while waiting for the price to rise. When the same kind of data is gathered for several different goods, participants can use the information to analyse which product provides the best returns. Some other possible uses of MIS information are listed in the box below.

HOW MARKETING INFORMATION CAN BE USED

- Compare prices in different markets
- Compare transport alternatives
- Assess processing opportunities
- Assess opportunities to improve production efficiency, grading, quality, packaging
- Determine the break-even point for production
- Locate and assess new product opportunities
- Stimulate sales in quantity (bulk)
- Identify problems/trends like cheap substitute availability
- Determine factors affecting prices and demand

An important step in designing the MIS is determining how to present the information that is collected since this will influence its interpretation and use. A large blackboard where price monitors write down the price for different markets on a given day each week may be all that is needed for sellers to decide where to take their produce. If the information is to be used to highlight changes in prices over time, it is generally more effective to draw trend lines reflecting rising and falling prices. Each market surveyed may have its own trend line to show how prices in that market varied over the year. Later, the lines can be compiled on a large sheet of paper to facilitate a comparison of prices over time in different markets.

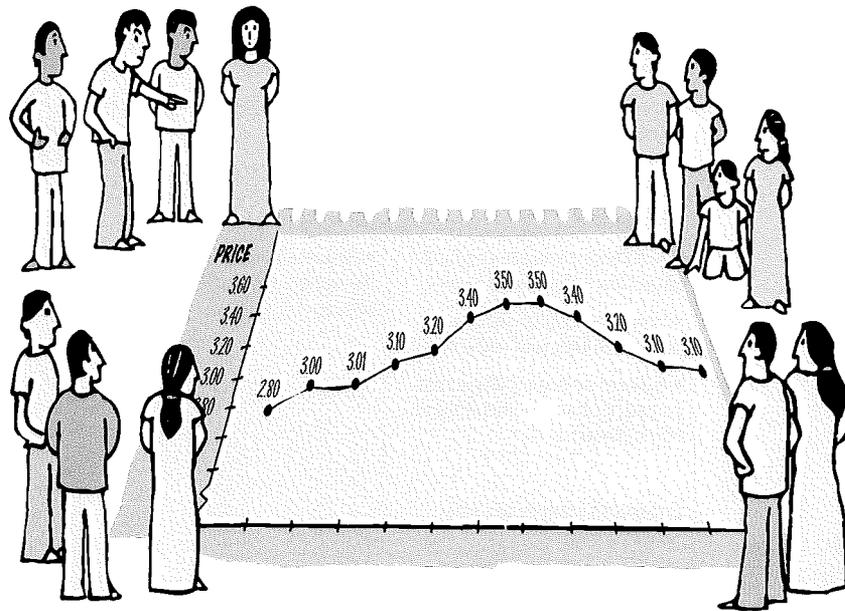
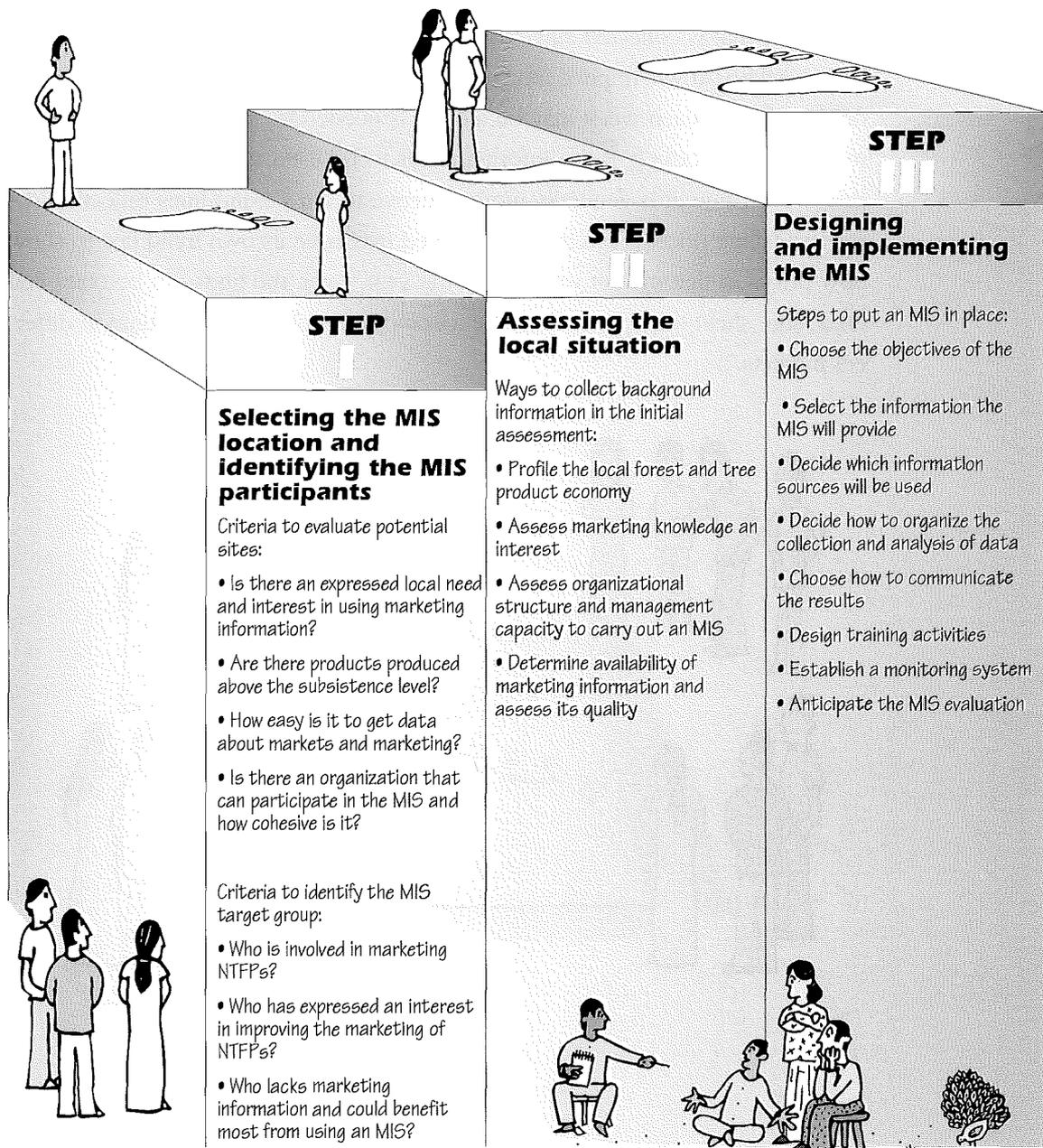


Figure 1: Three steps in the development of an MIS



Three steps in setting up an MIS

While every MIS will differ in its details, in general there are three steps in setting up an MIS.

Step I: Select the MIS location and participants

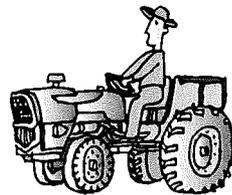
Step II: Assess the local situation

Step III: Design and implement the MIS

Figure 1 lays out the three steps and notes the specific activities carried out in each one. It summarizes the criteria that might be used to select the sites in Step I, lists the kind of information that will be needed in Step II to assess the local situation and lays out the different activities in Step III, the design and implementation of the MIS. The figure previews the information that will be discussed in the next three chapters where each step will be addressed in turn. Once these three steps have been successfully carried out, the group members will determine whether they wish to expand the MIS or add greater complexity to the system, issues that are discussed in chapter 6 along with problems that may arise in implementing the MIS.

The amount of time needed to accomplish each step depends on the particular situation. In some cases, groups will self-select; that is, they will request help for a specific purpose. In such a case, the facilitator may be able to assess the appropriateness of the group's request rapidly and then move directly to Step II to begin a participatory assessment of the community and its MIS needs. In other cases, the community may not be aware that assistance with an MIS is even a possibility. In this case, the facilitator would have to gather quite a bit of information in Step I in order to determine whether a particular community would benefit from MIS activities. The facilitator could then propose an MIS to the group and, if the suggestion were well received, begin working with the population to carry out an assessment of needs and the local situation.

The needs of different communities will vary enormously. The facilitator should take care not to underestimate the amount of time that will be needed at the beginning to help most communities get an MIS started. In the Sta. Catalina case in the Philippines, the facilitator and a colleague together estimate that they spent 50 days working with the community during the first six months that the MIS was being planned and implemented.



Step I: Selecting the MIS Location and Identifying Participants

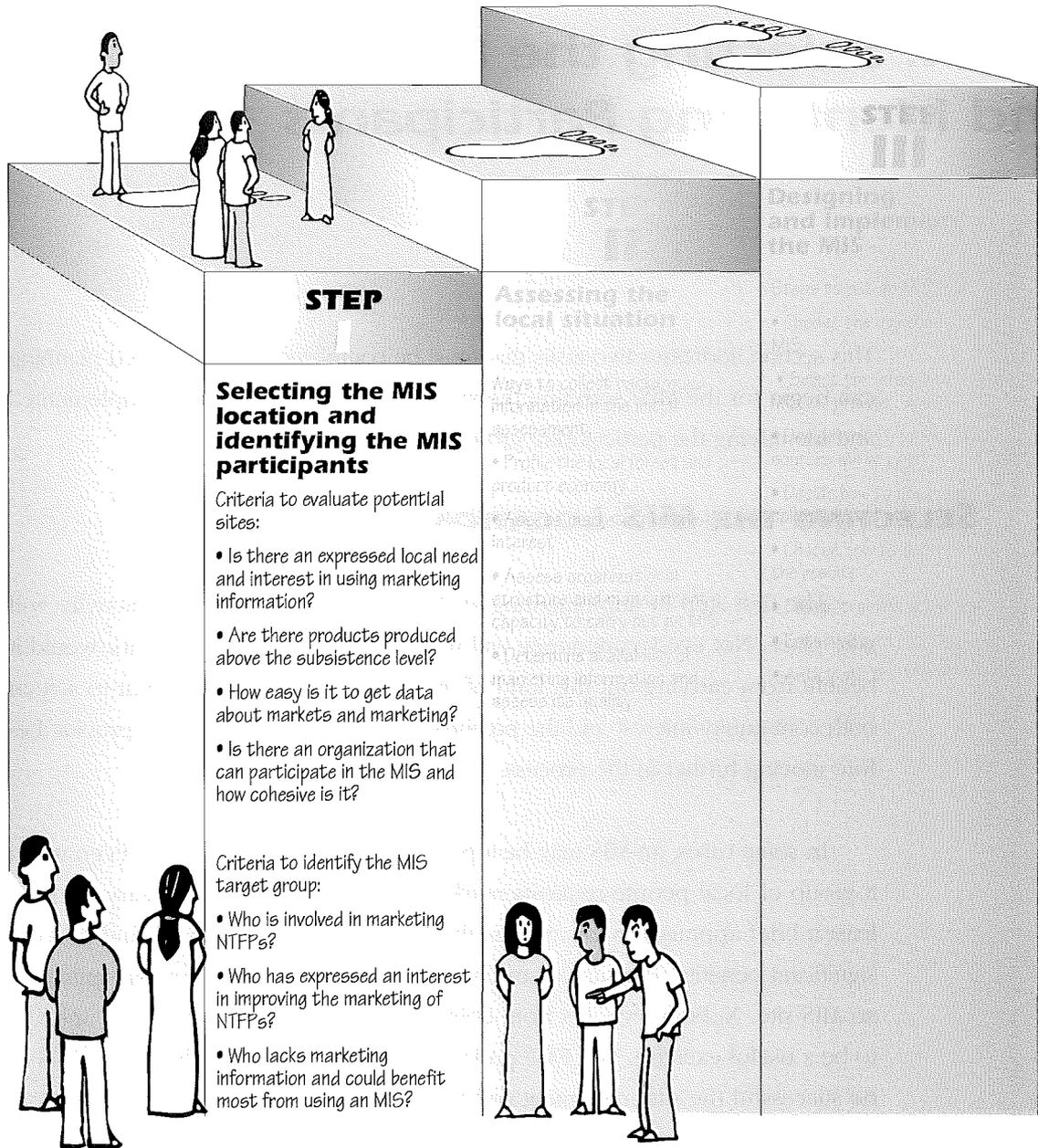
This section addresses two tasks that must be completed before detailed planning can begin for the MIS: selecting the site where the system will be implemented and identifying the participating group.

SELECTING THE MIS LOCATION

The first step in implementing an MIS is to decide where the activity will take place. Not every community will want to participate in an MIS nor would it benefit from carrying out this kind of market analysis. It is important to screen both community interest and the potential benefits that an MIS could provide before moving further in the process.

In some cases, an MIS may be a poor use of time and resources. Even when a group of local people requests marketing assistance, it is necessary to do at least a brief appraisal to ensure that the MIS is likely to work well and provide significant benefits. The same is true when an outsider proposes a community as an MIS site. Nobody benefits from doing an MIS in a locale where it is unlikely to be a useful exercise. The FAO project's experience suggests that for an MIS to be successful the site must meet certain prerequisites. The following indicators can be used to determine whether it makes sense to begin planning an MIS in a community.

Step 1



▪ **Is there an expressed local need and interest in using marketing information?**

An MIS can only work if it provides reliable, accurate information and people see the utility of that information for their business activities. Since the information is gathered by local people, its accuracy depends entirely on how seriously they take the collection of good quality data. Without local interest, people will not have the incentive to gather good information. This rather quickly develops into a vicious circle in which poor information has no use and people lose interest in the whole system. Unreliability leads to underuse and underuse leads to unsustainability.

Expressed need and interest can be judged by looking at whether local people already try to use marketing information (via radio, television, canvassing of traders or other producers) or bring up marketing questions and information needs without being prompted in initial discussions.

▪ **Does the community produce certain goods above the level of subsistence?**

Where people produce only to meet their own needs and there is no surplus to be marketed, the need for marketing information is not evident. However, if there is a potential to increase production and enter markets that have not previously been tapped, an MIS could be used as one element in planning the most effective strategy for entering the market.

It may take more in-depth research to ascertain if there is a capacity to increase production of existing goods in order to generate a surplus, or if the community might diversify into new products and if there is a market for those potential goods.

▪ **How accessible are markets and sources of market information?**

If access to information sources and markets is severely limited or unreliable, an MIS may not be viable. The implementation of an MIS is considerably more difficult when markets are difficult to reach because of great distances, poor transport or roads that are frequently impassable. The high cost of transport must also be considered.

A community and a facilitator considering an MIS should investigate these

access issues by analysing the transport infrastructure and access to markets that would be part of the system. Can local people get to these markets? What are seasonal constraints? Can goods be transported to markets? (See also Peru example p. 65)

▪ **Is there a level of community organization/cooperation that will facilitate carrying out an MIS?**

The implementation of an MIS requires a certain amount of cooperation and trust among users. Tasks for data gathering are shared in a group that then has access to better information. An MIS does not work well in cutthroat competitive settings where every producer is out for him or herself and is unwilling to collaborate with others. An MIS is easier to put in place if there is already a group working together on some aspect of business activity because the MIS can build on these existing activities. This does not mean that production needs to be communal. In developing this manual, an MIS has been used with individual producers or traders who cooperate in the collection and analysis of information that can help them as individual entrepreneurs.

The degree of social organization can be assessed by asking the following questions. Do community or producer groups already exist in the area? Do local people work collectively to harvest, produce, process, transport or sell goods? Are there local leaders who are widely respected by the potential users of the MIS who could encourage people's interest in the system?



SELECTING THE MIS LOCATIONS IN THE PHILIPPINES

In the Philippines, the initial MIS activities were linked to FAO forestry activities already under way. Discussions were carried out with two villages to assess their appropriateness for an MIS.

In the first site, Sta. Catalina, farmers produced crops for sale at the roadside or in a nearby weekly farmers' market. There was a dynamic farmers' association that was very active, especially in training farmers from other villages. A recently-formed women's association was carrying out its own projects. When participants in the forestry project were asked to identify agroforestry products that could be studied in an MIS, they identified a wide range of goods including herbal medicines, seeds, pineapple, vines (collected in nearby forests and then made into handicrafts), coconut-based soap, bamboo furniture, rattan, patjuli (a plant from which perfume can be extracted), cultivated root crops, wild banana stems, tomatoes, citrus fruits, cut flowers and charcoal. Farmers also reported that they informally monitored local markets and radio broadcasts for price information.

The second site considered for MIS testing was a village on the island of Mindanao. Farmers there felt that an

MIS would be useful for a number of products including wild rattan, rattan handicraft furniture, gold, banana, almaciga resin, bamboo, coco-husk charcoal, fish, fruit, rice and some timber species. However, few, if any, products were produced at more than subsistence level. For the few surplus products produced, transportation to market was difficult as the village was far from roads or jeep trails.

In deciding between these two sites, Sta. Catalina was selected as the initial test site for several reasons: (1) There was better access to local and regional markets for data collection, (2) transport of products and information dissemination would be easier, (3) a greater number of products were produced above the level of local demand, (4) the site had a strong farmer organization, (5) there was more local knowledge of and experience with marketing, and (6) farmers expressed a strong need for more market information.

In early tests of an MIS, it is often best to start where conditions are the most favourable in order to ensure the greatest chance of success. If the first community's MIS works well, it can serve as a working model for other villages that may have less favourable conditions.

SELECTING THE MIS LOCATIONS IN UGANDA

The facilitator in Uganda, a professor at Makerere University, found himself confronted with difficult trade offs as he selected the sites for trial implementation of the MIS. He felt that the communities selected should be close enough to the university for him to give them the support needed in setting up the MIS, but he also wanted to select sites with a strong interest in developing MIS activities. Eventually he found that he had to compromise on these criteria.

He decided to focus on people involved in trading NTFPs. First he compiled lists of people and groups who sold handicrafts at roadside stands. He visited these sites to gather information about their activities and their interest in MIS. After these visits, he narrowed his selection to two sites: Lukaya and Mukono.

Lukaya is located about three hours from the university. A group of handicraft traders is clustered along the road. They order baskets, mats and trays from artisans in their village and sell them to passers by. They were highly enthusiastic about setting up

an MIS in order to learn more about market demand.

Mukono is only one-half hour from the university. Its cooperative organization, the Mukono Butebo Women's Craft Association, is composed of independently-operated craft stands. When traders in Mukono discussed the possibility of an MIS they demonstrated little enthusiasm for participating in the trial.

The facilitator realized that neither site was perfect for MIS implementation. Lukaya was far from the university (and therefore difficult to support) but very enthusiastic. Mukono was located nearby but only marginally interested in the MIS concept. Pilot tests were started in both locations using somewhat different approaches. It was hoped that the proximity of the Mukono site would permit frequent reinforcement visits to compensate for the initial lack of enthusiasm. Similarly, it was hoped that the enthusiasm of the Lukaya participants would compensate for fewer meetings with the facilitator.

IDENTIFYING THE MIS PARTICIPANTS

Closely related to the selection of the site, is the identification of the MIS participants. In some cases, it may be impossible to separate the two since the presence of a strong, well-organized group that wants to participate in establishing an MIS may be the principal reason for choosing a particular site. In other cases, however, the facilitator may see great potential for improving the marketing of NTFPs in a certain area, but there may not be groups in place that are obviously suited to carrying out the activities. In such a situation, the facilitator would have to start by considering how s/he might help the community get organized to undertake MIS activities.

In most places the MIS will be targeted to one specific group in the marketing chain. In the Philippines, the participants were small producers who wanted to get better prices and sell their goods more effectively to traders. In Uganda, the participants were not producers but the traders who bought handicrafts already made and then sold them to roadside customers. In other places, the participants may be the people who harvest or process a certain good. Some groups may decide to limit the group further, according to specific needs or concerns, such as women's groups or illiterate people. In determining who will participate, the principal questions to be considered are:

▪ **Who is involved in the collection and use of NTFPs and who is involved (or might potentially be involved) in marketing those products?**

▪ **Who has expressed an interest in improving the marketing of NTFPs?**

▪ **Who lacks marketing information and could be most helped by instituting an MIS?**

This field manual will distinguish between two categories: *operators* and *users*.

The *operators* are the people who actually make the MIS work by their active involvement in designing the system and collecting and analysing information. These people will typically be organized into some sort of a group to carry out the activities of the MIS.

The *users* are the people who use the information generated by the MIS. They may do nothing more than glance at a notice board once a week in order to decide where to sell their produce. Users will typically be individuals who are involved with NTFPs in the community. There is no need for them to be formally organized, although they may assemble from time to time for informational meetings or training in how to use MIS information. In some cases, the operators and the users will be the same people, while in other cases, there may be a smaller group of operators and a larger group of users.

While details concerning the structure of the MIS will be worked out later in the planning process, it is important to begin to identify who will be involved right from the start. The operators, in particular, will be fully involved in gathering information and planning the system so they must be identified early on. In some cases, the facilitator will work with an existing organization (a farmers' group or women's association) which provides the operators for the MIS. In locations where people have requested marketing assistance, there is often a local organization that has defined as one of its goals improving marketing of the goods produced and/or traded. In the Philippines' pilot test location, for example, the constitution of the farmers' cooperative included a commitment to improved marketing. In cases like this, the potential operators will be fairly evident from the start.

In some locations, the facilitator may have to start by helping previously unorganized people involved in NTFPs (women who sell wild fruits by the roadside, for example) organize an informal group to carry out MIS activities.

Step II: Assessing the Local Situation

The information used in Step I to select the site and identify the participants for the MIS is unlikely to be complete enough to permit detailed planning of MIS activities. The second step is devoted to gathering information that will be used to design the goals, overall structure and specific activities of the system.

During the assessment step, it is important to remember that the MIS will be most effective if it builds on the indigenous marketing and communication strategies already in place. The assessment should focus on what is already being done and has been accomplished, even if local activities appear somewhat haphazard or informal to the outside observer. In the assessment, the facilitator will work with local counterparts to try to understand the local experience with marketing, forestry and agricultural production. What goods do people sell? Where do they sell them? How do they decide when to sell, how much to sell and what price to sell for? How are people organized and how do they share information? The chances of success will be greater if the facilitator shows respect for local strategies and systems already in place and looks for ways the MIS can build on and complement what people are already doing.

The breadth of information to be collected at this stage will vary depending on the site. In some cases, local people may have a specific problem in mind such as how to market excess honey that is available during a certain season. If the facilitator is fairly confident (from background information s/he has from various sources) that this is a good place to start, it may make sense to focus information gathering around this topic. More often, however, the task is more open-ended. In these cases, part of the purpose of the assessment is to gather information that will enable the local people and the facilitator to narrow the focus of

Step II



their MIS activities and choose products that will benefit the most from more marketing information. Information would then be gathered on the range of NTFPs available or produced locally.

WHAT INFORMATION IS NEEDED TO DESIGN AN MIS?

In order to set up an MIS (Step III), several different types of information are needed:

- information on the local forest and tree product economy;
- information about marketing knowledge and interest;
- information about local organizational capacity; and
- information about the quality and availability of data.

This field manual covers each of these subjects, notes how the information will be used in the design of the MIS and describes activities that can be used to gather the information. The fact that there is considerable overlap should not cause concern. The categories are not strict; they should be used to help structure the information and to ensure that no major topics are overlooked.

Information on the local forest and tree product economy

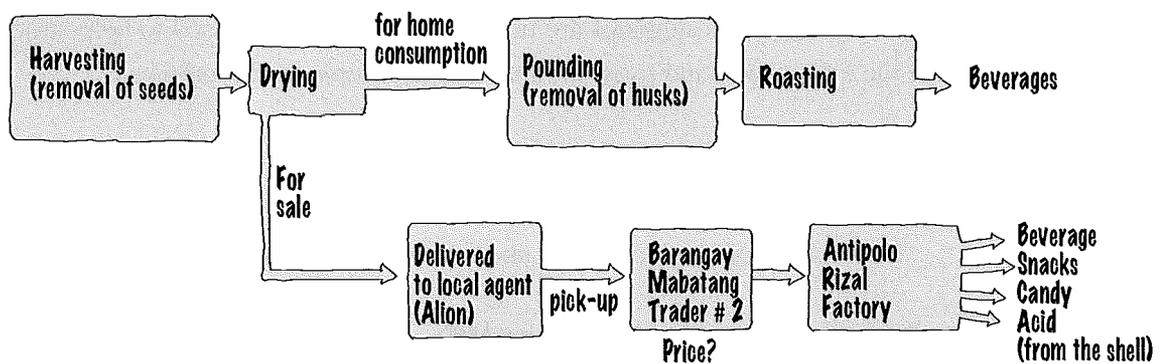
Information on the local forest and tree product economy is needed to:

- determine the objectives of the MIS;
- decide what information will be collected by the MIS; and
- organize the data collection and analysis.

This part of the study focuses on goods that are currently being produced in the area. It looks at how the goods are produced, their uses and the way each product is marketed. The resulting analysis should provide a good overview of the structure and sustainability of the local forest product economy. This information is critical in choosing which products can most benefit from being included in an MIS.

At this stage, it is often useful to ask participants to draw a picture that shows what they know of the production and sale chain for each good produced in the community (Figure 2). This permits systematic examination of each good and each step in the chain. These diagrams can also be used to generate discussion about the other topics that will be covered in the needs assessment (such as marketing knowledge).

**Figure 2: Hand-drawn production & marketing chain for cashew
From the producers' perspective, Alion, Philippines
(October 1993)**



THE KIND OF ISSUES CONCERNING THE LOCAL TREE PRODUCT ECONOMY THAT SHOULD BE COVERED IN THE STUDY

PRODUCTION	PROCESSING	SALES	MARKET BARRIERS
Which forest and tree products are harvested/produced in the area?	How are the products processed?	Which products are sold?	What problems are currently faced in the commercialization of NTFPs (e.g. inadequate infrastructure, administrative and legal barriers, lack of credit)?
How are these products produced?	Where are they processed?	Where are the products sold?	Which of these problems is the most serious?
When are they produced (seasonality)?	Who processes the products?	When are they sold?	How are local people trying to solve these problems?
Who makes decisions on financial and labour investments in the production of tree products?		Who buys the products?	
Who collects, plants, harvests and tends the various forest and tree products?		How are products transported to the selling point?	
Who uses these products?		What price do the products bring? Does it vary?	
What are the products used for?		What do local people know about what happens to the goods after they are sold?	
		Which products are not sold?	
		Why are the products not sold?	
		What is the potential to develop markets for these products?	

Information on marketing knowledge and interest

Information about marketing knowledge and interest focuses on the potential participants, their needs and their ability to make use of data gathered in the MIS. This information will be used to:

- choose the objectives of the MIS;
- decide what information will be collected by the MIS;
- decide which information sources will be used;
- choose how to communicate results;
- organize data collection and analysis; and
- design training activities.

When gathering information about marketing knowledge and interest, it is important to look at different segments of the community since their access to information and other resources is likely to vary. Women may have different needs and sources of information than men; large producers are different from small ones, etc. This information helps focus MIS activities on the groups most interested in participating and that will benefit most from the activities.

The diagrams describing the production and sale chain for each local product can be used to promote discussion of marketing knowledge as well. It may be useful to discuss these diagrams with several groups to determine what knowledge they have about the various issues and to pinpoint where information is lacking.

While discussing the marketing information that people already use, remember that information may be received from both informal (e.g. border guards, traders, neighbours) and formal (e.g. radio, television, newspapers) sources. Information should be gathered about *all* information sources.

THE KIND OF INFORMATION THAT SHOULD BE GATHERED ABOUT MARKETING KNOWLEDGE AND INTEREST

What information do people gather related to the sale of forest and tree products?

Where do people currently get information?

Who collects the information?

When is the information gathered?

How do people use the information?

Is the information accurate, complete, timely and consistent?

How do people decide to whom, where and when to sell different products?

Who makes the decisions?

Whom do they consult in making these decisions?

What additional marketing information do people think they need?

What products are most lacking in marketing information?

Who is interested in participating in an MIS?

What ideas do people have on changing their approach to marketing?

Information about local organizational capacity

The information about local organizational capacity obtained in Step I allowed the community and facilitator to begin to discuss the operation of the MIS. Now more in-depth information will be gathered with the local community about how business activities are organized. This information will be used to:

- choose the objectives of the MIS;
- decide how to communicate results; and
- design training activities.

An MIS can be oriented toward the needs of small homogeneous groups or to larger groups with more diverse interests. It can service individual producers who have a loose affiliation as well as highly formal associations. In order to design the most effective MIS, it is essential that the participants and the facilitator have a good understanding of the strengths and weaknesses of their group.

Wherever possible MIS activities should use existing networks and channels of communication rather than create parallel structures purely to carry out the MIS. This increases the chance that the system will be sustainable, especially af-

ter the departure of the facilitator. However, it is also true that in some cases, where there is strong interest among producers who have little or no affiliation, the MIS can help to identify where local people might benefit from more structured organization and facilitate team work.

Information about local organizations can be gathered from members of the community as well as from outsiders such as local forestry or agricultural agents who know the community well. Formal and informal information sources should be accessed. For the purposes of the MIS initial assessment, women who gather each morning at the well and frequently discuss the price of *karité* nuts in various local markets might be considered a type of organization even though they would not necessarily define themselves as a “group” or “association.” Where NTFPs are concerned, it is often more common to find this type of informal networking than to find formal, well-established groups. (The latter are more common for major agricultural products that have received years of attention from extension agents and government officials.) It is important to identify these informal networks (as well as any more classic, structured types of associations) since they may serve as the foundation for more formal structures and activities that are developed as the MIS is put in place.

THE KIND OF INFORMATION THAT SHOULD BE GATHERED ABOUT LOCAL ORGANIZATIONS

Are there formal organizations, groups, committees (e.g. farmers associations, women's groups, church groups) in the community?

Who is associated with these organizations?

What do these organizations do?

Are they involved in any business activities (including credit)?

Do any of their activities involve NTFPs?

Do any of these organizations conduct training activities?

Do local people collectively produce, harvest, sell or transport products in the area?

What products?

Who is involved?

How are they organized in the collective activity?

Who are the leaders in these activities?

Do local people share and discuss information on products, prices and markets?

Which products?

How do they get the information?

How is the information passed along?

The assessment should not restrict itself to groups organized around forest product activities since there may be none. If there are other functional groups in the community, these should be studied in order to understand what makes them work well. In some cases, these groups may be interested in expanding their activities to include an MIS; in others they may be able to shed light on the best way to structure a group so that it fits into the social system of that particular community.

Information about the quality and availability of NTFP prices (and other) data

The last category of information is concerned with markets and price availability in the area. This involves collecting “information about information.” Once the MIS gets under way, it will require the collection of specific information about prices and demand for NTFPs in area markets. In this initial assessment, it is not necessary to find out actual prices, but rather to determine whether such information is even available, where it is available and whether it can be considered reliable. This “information about information” will be used to:

- choose the objectives of the MIS;
- decide which kind of information the MIS can realistically expect to gather; and
- determine which information sources are the most appropriate.

When an MIS is first put in place, it is generally best to start with a product about which information is readily available. For example, people may be willing to talk without hesitation about prices of widely-sold products, such as mats. It may be more difficult to get information about a product such as game meat, because trade is not on the open market, or because it is illegal and people are unwilling to discuss marketing with strangers they do not trust. In such a case, the MIS might initially focus on the mats and other similar products. It could expand later to encompass the more sensitive and complicated products, once the participants have gained familiarity and experience with the system.

To gather this kind of information, it is necessary to create an inventory of

different data sources for the various NTFPs in the community. This would include, for example, the names of markets where each good is sold, other ways that the good is traded and any other information sources such as radio broadcasts or people passing through the community. Local people will be able to suggest markets and trading points that they use. Forest service officials or development project employees in the area may be able to add other sources of information not known by local people. Once this inventory is complete, the MIS participants and facilitator can visit or talk to a sample of the places/people on list and ask a few questions about price and demand. This should begin to give an idea of how easy it is to get that sort of data. By cross-checking with a couple of different sources, it should be possible to assess whether the answers are reasonably reliable.

THE KIND OF INFORMATION NEEDED ABOUT PRICE DATA AVAILABILITY

What are sources of information on prices and demand for forest and tree products? (See Appendix 1 for list of potential information sources.)

How far are these sources located from the MIS site?

Who can obtain access to the information?

When can the information be obtained?

How willing are people to talk about prices and preferences?

Is any information disseminated via mass media (e.g. newsletters, radio broadcasts)?

What kind of information do the various sources have? (See box on p.15 for a list of the types of information that might be useful.)

How frequently do these sources receive new information?

How accurate and complete is the information?

HOW CAN THE INFORMATION NEEDED IN THE ASSESSMENT STEP BE COLLECTED?

The assessment step should not be long and drawn out. Long delays in starting the activities of the MIS risk causing local interest to fade. It will not be possible to have information about every aspect of the local situation right at the beginning. What is important is to ensure that when new and relevant information is collected at a later point, it is integrated into the ongoing planning process. Any MIS will have to be adapted and refined as it progresses and new information is taken into consideration.

In most situations, the information needed at this stage can be gathered in about three to five days. The same technique can often be used to gather information on several different subjects. A skilful facilitator can use a discussion about the marketing of forest products to gather information about marketing knowledge and interest, possible sources of market information and community organization as well as other topics of interest.

There are many techniques that may be used to collect information on the subjects outlined in this section. The participants and facilitator should choose the technique that they feel most comfortable with and that they think would be most effective in a given situation. Some may prefer to conduct a series of focus group discussions and individual interviews with different members of the community. Others may prefer using a more diverse range of tools to gather information such as those offered by Rapid Rural Appraisal. Appendix 2 lists some resources that describe various techniques for information collection (discussion, community observation, survey, rapid appraisal and library or book-based research) that may be useful.

The participatory and visual aspects of Rapid and Participatory Rural Appraisal methods make them particularly well suited to gathering the kind of information needed in an MIS assessment. Many of the tools used in RRA, such as mapping, matrices and Venn diagrams, could be adapted to the needs of an MIS assessment. These tools are discussed briefly in Appendix 3.

Local people should be integrally involved in the process of gathering information and be very clear about what kind of information is being collected and why. They will be much more forthcoming in providing information themselves if the purpose of the exercise is clear from the start and will be able to guide the facilitator to other information sources if they are knowledgeable about the goals of the assessment.

In order to get good, complete information from any method, it is essential to plan the approach with care and to use the tools thoughtfully. Random, scattered questions will rarely result in coherent information. Before any interview or activity (whether in a group or individually), the MIS participants and facilitator should prepare a guide of question topics that will be covered in the discussion. This guide should be used flexibly (i.e. it does not have to be followed in order and interesting comments not related to the guide list should be pursued as they arise), but it will help ensure that all the major points are discussed. Careful notes should be kept to ensure that information is not lost or forgotten.



Throughout the assessment, an effort should be made to gather information with and from people who represent different social categories (e.g. men and women, wealthier and poorer, landed and landless, older and younger) and who occupy different niches within the production chain (e.g. producers, dealers, buyers, transporters). This will serve to cross-check information and to make it more complete. It will also identify potential conflicts between different interest groups that may have to be addressed in the MIS implementation. The earlier this kind of information can be gathered, the less likely the project will be faced with unpleasant surprises in the implementation process.

ASSESSING THE LOCAL SITUATION: THE PHILIPPINES

The Philippine participants and facilitator used community observation, field visits, semi-structured interviews and community meetings in their needs assessments prior to designing the MISs. Each assessment took five days in the field. Before going to the sites, they drew up a list of open-ended questions for each subject. They centered almost all of their discussions around the production of NTFPs in the area since this was the easiest way to get started. Information on the other three subject areas seemed to flow naturally from there.

One of the first activities was visiting the farms of several producers. This made it easier to discuss the production and marketing of the various items being grown. When they learned that a number of farmers had made the costly decision to change their crop mix because they did not see any market for coffee, they followed up by exploring the barriers to sales. When they had in-

vestigated a range of issues on-site with farmers, they went on to discussions with key informants involved in other aspects of the market for NTFPs. These included traders and women who actually sold the goods in local markets.

Following these individual interviews, the participants and facilitator got together with the community to discuss the preliminary findings of the needs assessment. Men and women came together from different groups in the community. They began by reviewing the list of market barriers that had been identified in the assessment. These included their lack of information about how the market worked, high costs that limited market access and the shortage of transportation alternatives. This led directly to discussions of alternative strategies that might reduce the barriers. At this point, they were ready to enter the design step of their MIS.

ASSESSING THE LOCAL SITUATION: UGANDA

Information about local needs was gathered in Uganda during discussions held over the course of three days (per site). The facilitator made an appointment to ensure that a representative group of potential users could attend. A list of questions was compiled in advance.

At the first meeting, discussion centered on products (baskets, trays, mats, stools) and a participant kept a list on a blackboard the facilitator had brought. The group discussed the products in terms of which sold the most, which sold least and consumer preferences of product size, shape, colour and weight. Based on this discussion, they ranked the importance of the products.

The second day, the facilitator chose a highly-ranked product to begin discussions on the production and sales chain. This included: the source and cost of raw materials, pricing (how prices are set and how they might change over

time) and characteristics buyers look for in the product. The same issues were discussed on other products, including both non-timber forest products grown on the farms and those made from raw materials gathered in the forest.

For the last meeting, the group used charts and graphs created during the first two meetings to discuss information sources for products and markets. Were there untapped information sources? Did they record sales information? How did they find sources of raw materials or determine possible new products to sell?

Through the three discussions, the group covered all information gathering needs. The facilitator asked the participants to prepare a list ranking the ways they wanted to improve their business (e.g. increase profits per item, increase markets, increase sales volume). Based on that information, they would be prepared to choose the objectives of their MIS.

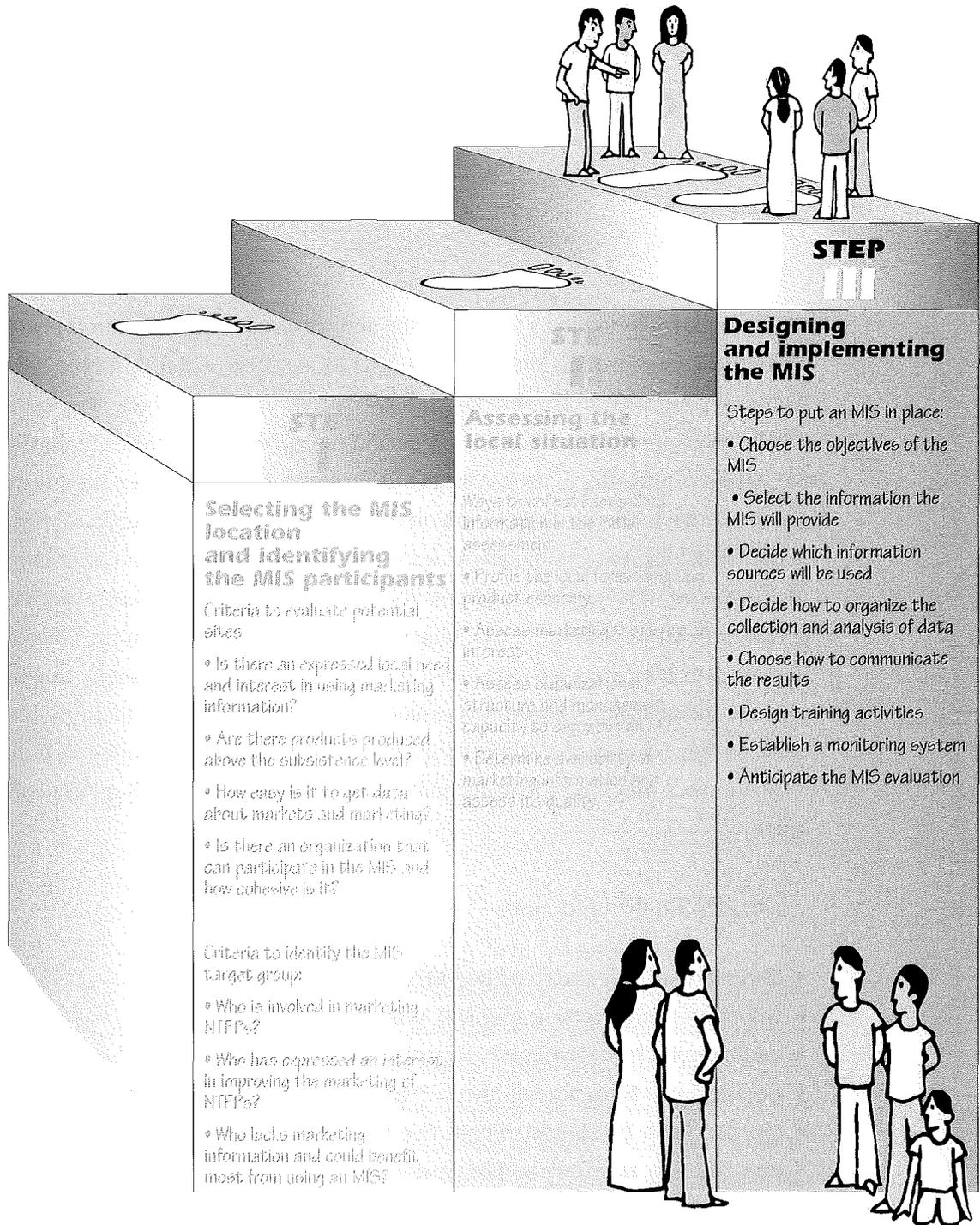
Step III: Designing and Implementing the MIS

Steps I and II selected the site for the MIS and gathered background information needed to customize the MIS for a particular locale. Now, in Step III, that information will be used in discussions with the MIS users to design the system that will be most appropriate for their needs and resources. There are eight parts in the design of the MIS. In each part, the users must decide how they want to organize the MIS. The facilitator's role at this stage is just that: to facilitate. It is a matter of helping the community review its options for each part and of ensuring that all the information that could contribute to making a good decision has been considered. The facilitator may be able to provide information from previous experiences to help the users come to a decision, but s/he should *not* be the one to make the design decisions. It is essential that the users assume that responsibility so they feel that the MIS is their own. Special care should be taken at this stage to avoid imposing the facilitator's notion of a "standard" MIS on the community.

In Step III, the users will:

- choose the objectives of the MIS;
- select the information the MIS will provide;
- decide which information sources will be used;
- decide how to organize the collection and analysis of data;
- choose how to communicate the results;
- identify any training activities needed in the MIS;
- establish a structure to monitor the MIS; and
- think about how to evaluate their MIS.

Step III



In this section, each of these parts is addressed in turn, pointing out how the information collected in Step II should be used in the design decisions that need to be made in Step III. These parts follow an approximate order that will make sense for most users, but need not be followed strictly if another sequence makes more sense. Sometimes they are automatically combined. For example, if there is only one place to get the information, a decision about what data will be gathered will automatically determine the source to be used. In Uganda, once the decision was made to gather information on buyer preferences, the primary information source was clear - buyers themselves. The group still had to decide, however, how many people it would contact and how it would get the information.

THE SIZE AND COMPLEXITY OF THE MIS

As decisions are made in each step of the MIS design, special attention needs to be paid to the scope and complexity of the undertaking. Wherever possible, in the initial stages of the MIS it is best to reduce and simplify as much as possible, focusing on the most essential elements. A small, simple system that works well can always be expanded later. It is much more difficult to salvage a complicated system that has fallen apart.

The initial enthusiasm for a new venture, which is sometimes fueled by the facilitator's vision and expectations, may lead people to overestimate the time and resources they can devote to implementing the MIS. A participant may eagerly offer to monitor prices at seven market stalls each Friday, but will she be able to meet this commitment week after week given all the other demands on her time?

There are no standard guidelines for the optimal cost, number of participants, and scope of an MIS because this will vary greatly. However, participants should be aware that the constraints that most often sabotage the success of such a venture are people's time, the monetary costs of implementing the system and the capacity to manage the activities of the MIS. Users should be encouraged to address these issues frankly with one another and to be as realistic as possible about constraints that they face as individuals and as a group. They should also be prepared to reconsider decisions they make in the design phase as implementation gets under way since it is often difficult to predict in advance how things will work out in practice.

CHOOSING THE OBJECTIVES OF THE MIS

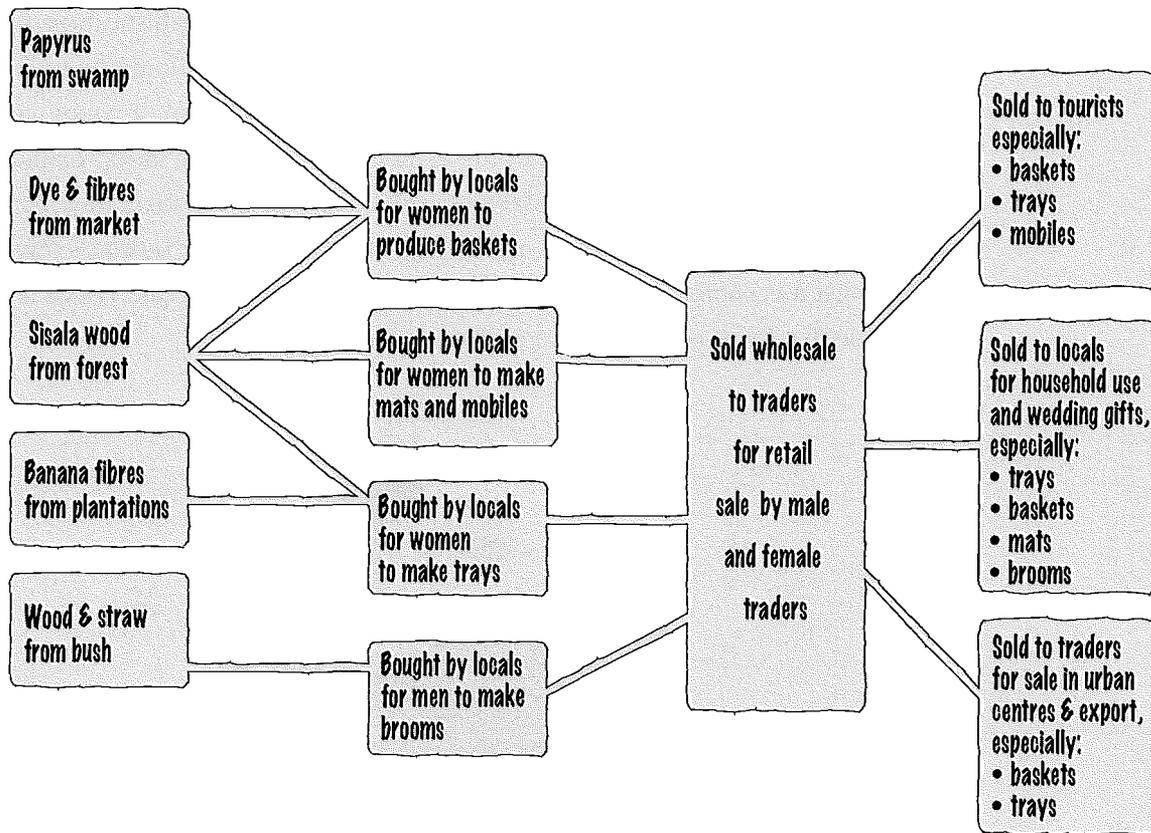
The goal of any MIS is to increase market transparency so that the producer will have the information to make informed sales decisions and to increase market leverage. The objectives focus the MIS on specific products and pieces of marketing information. The users will need to decide whether their MIS will focus on increasing the price they receive for their products, whether they are seeking to expand the number of markets they use, whether they want to change the kind of good they produce so that it sells more quickly, etc.

The information needed to narrow the objectives of the MIS was collected in Step II. It is likely that many possible objectives surfaced during discussions. In any enterprise, there are multiple avenues for improving profitability. The task at this point is to prioritize the possibilities and to focus on those that are likely to generate the highest returns for the users. As a starting point, identify several areas in which local businesses might be improved and then consider how readily information is available to increase the transparency of this part of the business. Specifically, the facilitator may want to orient the discussion of objectives around four key questions.

- 1. What are the principal problems users face in their NTFP enterprises?**
- 2. What do they need to know to overcome these problems?**
- 3. What kind of information can be most readily accessed by users?**
- 4. What kind of information can users use in their business decision-making?**

Questions 1 and 2 can best be addressed using the marketing chain diagrams that were prepared during the assessment step. As users compare the marketing chains (see Figure 3) for different products and examine each marketing chain individually, they will begin to identify the bottlenecks and constraints that are causing difficulties.

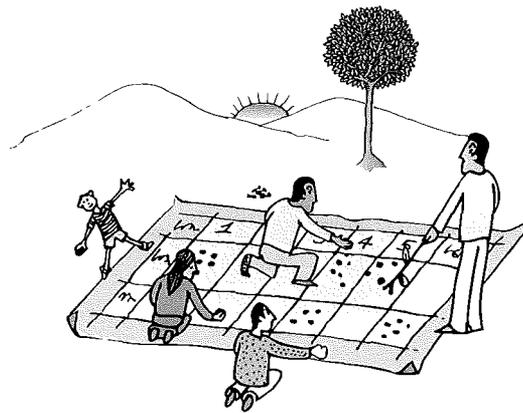
Figure 3: Uganda marketing chain



Once these problems are identified, the users can list the kind of information they will need (question 2) to find solutions. This might include: better information on product demand or purchasers' preferences; insight into what truckers do with the products and how much profit they earn; and price levels for goods sold in area markets and transportation options for reaching those markets.

Question 3 then asks to assess the difficulty of obtaining the information identified as potentially useful. Some information might be useful but would require too much work to collect and analyse. In the example above, it might be quite easy to conduct a survey of buyers' preferences among people who pass by on the road. It might be considerably more difficult to gather information from further markets if the cost and time of transport are real constraints.

Question 4 simply asks the users to be realistic about what information they will use. People operate enterprises with different levels of sophistication and have different personal constraints. The objectives of the MIS should be in line with the nature of the enterprise and the users' situation. A group of young, unmarried men might be willing to put the extra effort into visiting far-off markets because if they find ways to improve their profits, they could reorient their business in that direction. A group of mothers involved in a similar business might decide that it is entirely impractical to spend long days away from the village and conclude that there is no use even exploring that option.



In light of the discussion of these four questions, the users should prioritize their objectives, focusing on the option that is likely to give them the best return for their investment of time and resources. It is often useful to compile a list of advantages and disadvantages for each option being considered. One way to facilitate a discussion that prioritizes people's interests is to list all the options on a piece of paper. Collect a pile of stones, and ask the group to prioritize the options by putting more stones next to the ones that they consider more viable and fewer stones next to those that are lesser priorities. As they place the stones, people will explain why they think one idea is better than another. At this point, they are deciding how they will focus the initial activities of their MIS. At a later time, they may be able to expand their objectives to cover other products or other problems they have identified.

CHOOSING OBJECTIVES AND DETERMINING INFORMATION NEEDS: THE PHILIPPINES

In one Philippine village, participants initially wanted to investigate the entire production and sale chain for each of their agroforestry products. They soon realized that such an undertaking would be far too vast and complicated for the resources they had available. They decided instead to focus on monitoring prices in local markets for a more limited range of products. They felt that they could always move further into the marketing chain as the assessment progressed.

The participants set criteria for determining which products would be included in the MIS study. They decided to include a product only if (1) it were already being produced locally, (2) people felt that they had significant marketing problems with that good, and (3) the product could be measured and quantified easily, so it would be possible to collect comparable price data without too much difficulty. The goods that met these criteria and were selected for further study were: whole coconuts, black pepper, ginger, cassava, two varieties of bananas and eggplant.

CHOOSING OBJECTIVES AND DETERMINING INFORMATION NEEDS: UGANDA

Immediately following the assessment phase, the facilitator requested the population to review the results of the assessment and to decide how they felt their businesses could be best improved. They did this in his absence. Upon his return they told him that they thought the purpose of the MIS should be to increase sales and the number of markets for handicrafts that were being produced in the area.

He then asked them to think about what information they needed to improve the marketing of handicrafts. After some reflection, they decided that if

they knew more about consumer preferences, perhaps they could target the demand more effectively.

They decided to focus on three of the principal handicraft items produced in the area: mats, stools and baskets. They then thought of all the characteristics of these products that might affect consumer preferences. The list was long, but eventually they decided to limit their inquiry to four questions, asking consumers about their preferences concerning (1) size, (2) colours, (3) weaving patterns, and (4) the type of raw material used.

ORGANIZING DATA COLLECTION AND ANALYSIS

Once the users are clear on the purpose of the MIS and have decided more specifically what kind of information they want to gather, the next task is to organize the collection of the data and decide how it will be analysed.

This involves decisions about who will collect the data, where it will be collected, how it will be recorded, and what will be done with it once it is gathered. Two key considerations are that the system provide information that is both accurate and timely and that it not pose too great a burden on the people who volunteer their time as data collectors.

In designing the data collection system, four questions need to be answered.

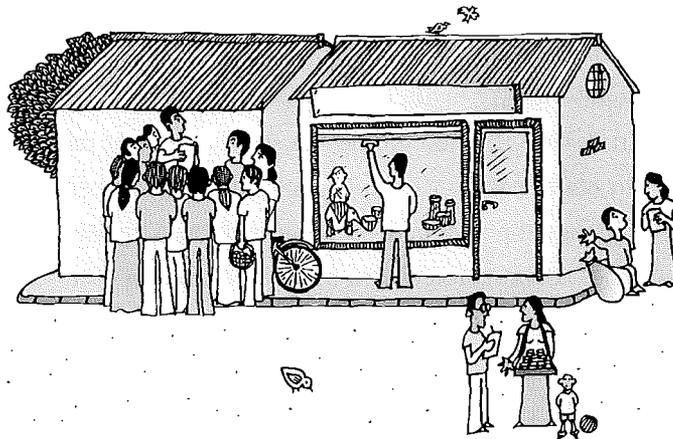
- 1. What data are needed and how often does it have to be collected?**
- 2. Where are data to be collected?**
- 3. Who is available to collect the data?**
- 4. When do users need to have the information?**

The first question can be answered in part by the work that was already done in establishing objectives (Step D). This will have clarified whether the MIS is looking at prices, consumer preferences, transport options, etc. How often information is collected depends in part on how variable the information is. Prices for certain perishable products may change almost daily depending on a host of supply and demand factors. It will be necessary to gather information on prices for this type of good much more often than for a non-perishable good that has a fairly stable price. Other information, such as the costs of transport options, may change only a few times a year depending on the season.

The data collection system will be designed in part around how difficult it is to access the sites where data are available (question 2). The system design depends on whether all the information can be gathered in a local market that is widely frequented by the MIS participants or whether it is necessary to send peo-

ple farther away to gather information. In the first case, many people may participate by each gathering prices for one or two items from one or two sellers. If the market is farther away, it may make more sense to send just one person to gather all the information but take turns making the trip so that the burden does not fall too heavily on any one person.

Question 3 assesses the interest and willingness of MIS participants to contribute their time to gather data that will be used by the group or the community at large. It is also important to have information on collectors' schedules and alternative activities so that the data collection system meshes well with their time constraints. The more convenient the system is, the more likely that people will continue to participate.



In selecting data collectors, knowledge, enthusiasm and reliability will be key considerations. The MIS operators should be people who intend to use the information since they are most likely to feel a personal investment in making the system work properly. Certain people may be “natural” choices as data collectors. If a price information system is being created to gather data from different market places, data collectors should be chosen wherever possible from among people who already frequent those markets. If this can be arranged, the costs of gathering information will be minimized, and the collector may already know people that s/he can use as sources of information.

If it becomes clear in the design stage that the demand for information is higher than the willingness of participants to contribute to its collection, it will be necessary to reconsider some of the earlier decisions concerning the type and amount of information to be gathered. In such cases, it may be necessary to scale down the objectives from those that were initially established.

Finally, in designing the system, think about when the information is needed. If participants always market their products on Saturday, they will need to have information about the prices being paid in area markets by early Friday so they can plan their activities accordingly.

Once all this information is in hand, the system can be designed to be as appropriate as possible to local needs and resources. The design should specify who will collect the information, where they will go to get it, when they will bring it back, what they should do with it and to whom to report in case of difficulty. If any financial costs are involved (such as paying fares to collect prices in distant markets) the design should be clear on how people will be reimbursed. In many cases, MISs rely entirely on volunteers to collect the information and manage the system. It is also possible to devise a system in which members pay dues (either a fixed sum or a percentage of their sales) that are used to compensate people who contribute especially large amounts of time to the activities of the MIS or to cover other necessary expenses. It will often be possible to collect fees once the MIS has proven itself to the community.

DATA COLLECTION: THE PHILIPPINES

In a Philippines village, participants decided to monitor prices for six different products (see previous Philippines text box): coconuts, pepper, ginger, cassava, bananas and eggplant. Now they had to decide where they would gather the information. They considered a large number of possible sites, but eventually ruled out many of them because of the costs involved in travelling to get the information. They settled on five markets: a roadside market in the village, the local community market and three markets in different nearby cities. They also decided to monitor radio and television reports to get an idea of how local prices compared with the national figures.

Ten people volunteered to serve as data collectors. They were divided into teams of two, with each team responsible for one of the markets that would be visited. In most cases, the volunteer already had activities in the market to which she was assigned.

Each data collector visited the assigned market once a week and gathered price information from five different traders. They were expected to turn in their price information to the record keeper no later than Saturday morning so that price information could be updated, compiled, and posted before farmers went to the weekly markets to sell their products on Sunday.

The data collectors had a form they used to record the information (see Appendix 4 for a copy of the data collection sheets). Because the data collectors reported some suspicion among the people they contacted for information, it was decided that they should wear special vests that identified their function. Once their role was carefully explained to the traders and they wore the vests that were provided them, they encountered fewer difficulties in their data collection activities.

DATA COLLECTION: UGANDA

In Uganda, the MIS activities were focused on consumer preferences, rather than prices. The participants devised a system to collect information on the kinds of goods that were sold in different handicraft stores/markets. They asked the clerk who sold the goods to fill out a short form for each item sold. The form (see Appendix 4) had spaces to note down what was sold and its characteristics (size, colour, and material). The data collectors collected the forms on a regular basis and submitted them to the MIS Secretary who kept them until they were analysed at the end of the month.

In addition to using the forms, data collectors were to survey customers' preferences. At first the data collectors were reticent to bother the customers. They soon found, however, that people didn't mind answering the questions and this proved to be another useful source of information. Direct interviews with consumers were particularly useful in getting information on potential new product lines (what people might be interested in buying in the future) since this information could not be obtained from the actual sales data.

DESIGNING RECORD-KEEPING SYSTEMS AND ANALYSIS

Once the data have been collected, it is essential to have a record-keeping system that can keep track of the information and ensure that it does not become lost or confused. Record-keeping and analysis are closely related. Sometimes this is referred to as turning “data” into “information.” “Data” are the rows and rows of raw numbers that are turned in by the data collectors. “Information” results when these numbers are organized, compiled and presented in a way that is useful to the MIS participants.

Record-keeping starts with the data collectors, as noted in the preceding section. It is generally easiest if the data collectors record the information on forms that they then give to the record-keeper. It is also possible for each data collector to keep a notebook in which s/he jots down the prices. The data collector then submits the notebook to the record-keeper who will transfer the prices to his or her own notebook and return the original to the data collector. It is important that the data collectors keep neat records so that it is clear what each number means. The worth of the whole MIS depends on the accuracy of the information that is gathered and recorded by the data collectors.

The next task is for the record-keeper to record all the information that has been collected from the different data collectors. The system will depend on the kind of information that is being gathered, the number of products that are being followed and the number of markets visited. It may make sense, for example, for the record-keeper to have a separate notebook for each product so that all the information about mangoes is in one book and all the information about bananas is in another. The record-keeper should be sure to record all the information available: the date the data were collected, where it was collected and what information was obtained.

At this stage, the record-keeper may find it useful to begin summarizing the data in a way that will be more user-friendly. This is really the start of analysis. In the Philippines case, for example, each week more than 300 prices were collected (six products in five markets, with 10 sellers in each market). Instead of recording all 300 prices, which would be unwieldy and not terribly useful, the

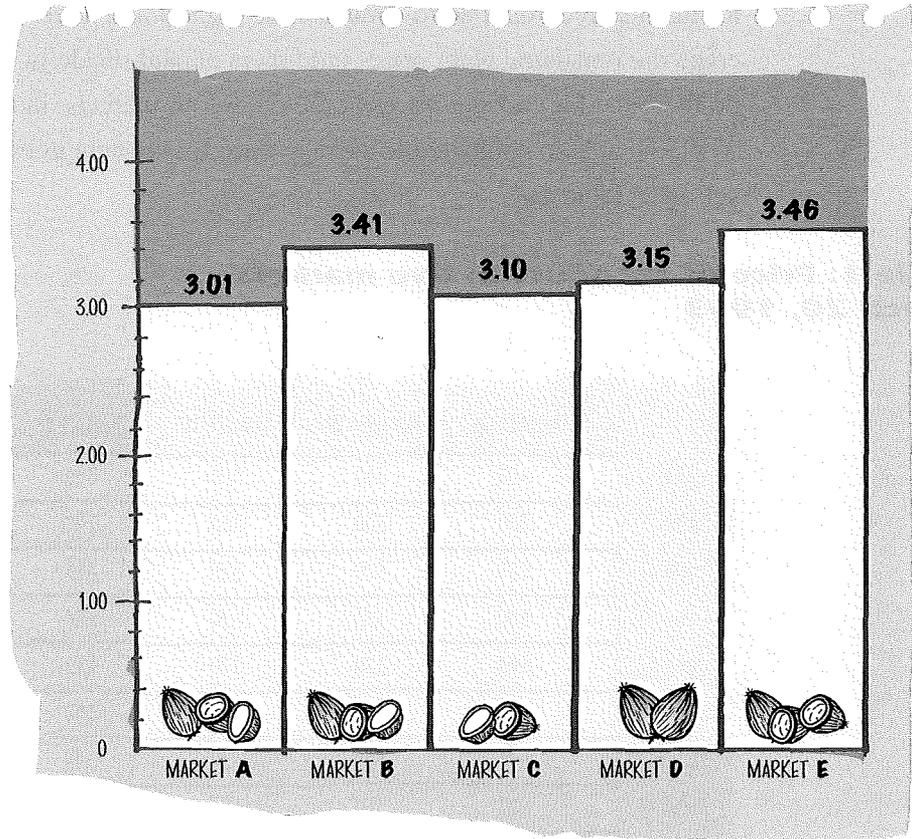
record-keeper might average each good in each market. In a given market s/he will be presented with 10 prices for coconut. One way to summarize the price for that market would be to eliminate the highest and lowest price, and then average the remaining eight prices (add them all and divide by eight). S/he would do the same for coconut prices in the other four markets. In this way, MIS users would be able to compare the average price for coconut in each of the five markets (see Table 1).

**Table 1: Price of coconuts in five markets
March 20, 1993**

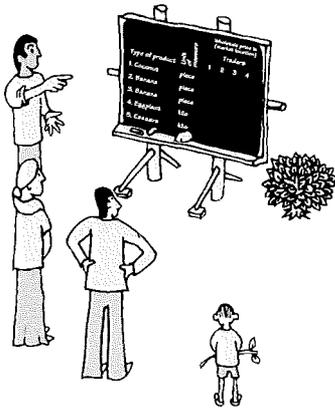
	MARKET A	MARKET B	MARKET C	MARKET D	MARKET E
seller 1	3.00	3.50	3.00	3.00	3.50
seller 2	3.20	3.50	3.00	3.00	3.50
seller 3	3.00	3.70	3.20	3.10	3.60
seller 4	3.00	3.20	3.20	3.20	3.50
seller 5	3.00	3.20	3.20	3.20	3.40
seller 6	2.80	3.20	3.20	3.50	3.40
seller 7	3.00	3.00	3.40	3.20	3.50
seller 8	3.00	3.50	3.00	3.20	3.20
seller 9	3.00	3.50	2.80	3.20	3.40
seller 10	3.10	3.70	3.00	3.10	3.50
Average price in market	$24.1 \div 8 = 3.01$	$27.3 \div 8 = 3.41$	$24.8 \div 8 = 3.10$	$25.2 \div 8 = 3.15$	$24.7 \div 8 = 3.09$



**Figure 4: Bar graph showing price of coconuts in five markets
March 20, 1993**



Once the data have been recorded, some thought needs to be given to the best way to present it. In some cases, a table with neatly labelled columns and rows may be the fastest way to present the information. It is also a good approach when space is limited. Sometimes rows and rows of numbers can be confusing, however. Data can also be presented with visual diagrams, such as bar graphs and trend lines, which make the meanings of the numbers more clear. Bar graphs are generally used to compare two kinds of information. They could be used, for example, to show how *prices* for coconut vary in different *markets*. In this case, prices are put on the vertical axis of the graph (see Figure 4), and the different markets are on the horizontal axis. By looking at the height of the block, it is easy to see which market has the best price for a given item.

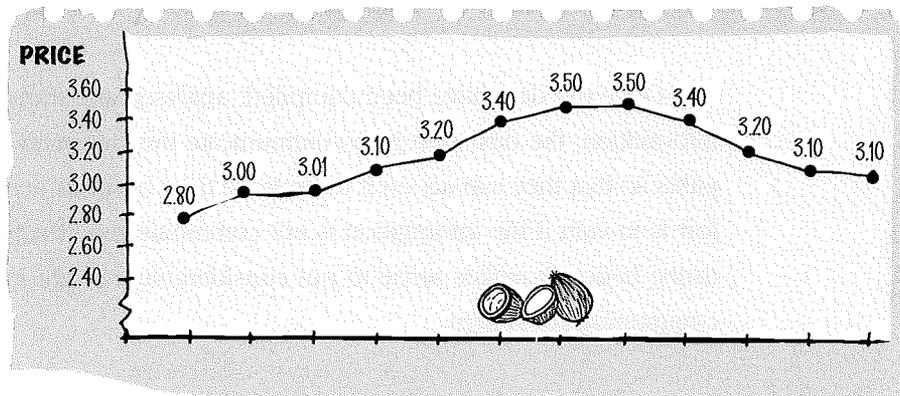


Trend lines (see Figure 5) show how things (like price or quantity sold) change over time. In this case, time is put on the horizontal axis and the variable that changes (price or quantity sold) is put on the vertical axis.

It is up to the MIS participants to decide how it will organize to analyse the collected data. Some may want to meet weekly or monthly to review the data as a group and determine how it can be presented and used in an interesting way. In other cases, they may want to delegate one or more members of the group to compile the information and then post it for others to use.

Information that has been recorded and collected should always be stored somewhere safe. Data about prices should not be thrown out the week after it is used, for example, because at some later point the MIS may need to look at how prices have changed. The old data will prove very useful in such a case.

Figure 5: Trend line for price of coconuts in market A (1993)



RECORD-KEEPING: THE PHILIPPINES

In the Philippines, the data collectors submitted their sheets by Saturday morning to the record-keeper. The record-keeper, as described in the text, would average the prices that were collected for the goods in each market. She would then, in turn, record these average prices on a form. A space on the bottom of the dated recording sheets left room for her to note any specific comments from the data collectors or issues she noted in compiling the data.

INFORMATION RECORDING AND ANALYSIS: UGANDA

The data collectors visited each of the roadside handicraft stands that were recording sales information and brought the completed forms to the secretary. At the end of the month, the secretary tabulated the information on each month's sales for each shop or sales outlet (see Appendix 4). This information was then presented in bar charts to show the volume of sales for products with different characteristics. Using these visual aids, the MIS members held a meeting at the end of each month to discuss the findings and the implications for their business ventures.

CHOOSING HOW TO COMMUNICATE RESULTS

Once the data have been compiled, analysed and transformed into useable information, the next step is to communicate this information to the MIS participants so that they can act on it to improve their business ventures. The whole effort is in vain if the information is not communicated effectively to the potential users; hence, it makes sense to put considerable thought into the design of the communication system.

Discussions about alternative communication strategies should focus on at least four questions.

- 1. Who is the MIS targeting with information?**
- 2. What kind of information will be transmitted?**
- 3. When is the information needed?**
- 4. What communications options are available?**

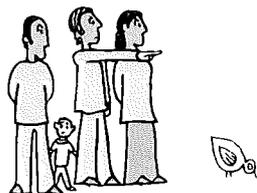
The first of these questions, identification of the MIS constituency, is often the most controversial. It is here that the decision must be made about whether the system will be *inclusive*, which allows any interested person access to information, or whether it will be *exclusive*, limiting information to members of a particular group. This is an important factor in choosing how information will be communicated since some types of communication (radio, public notice boards) are more inclusive while others (private meetings, word of mouth between members, notice boards in private areas) are more exclusive.

There are often good reasons for favouring either an exclusive or an inclusive MIS; neither option is inherently more appropriate than the other. While an exclusive system can help equalize the balance of power in a trading system, it also can antagonize those involved in trading who do not have access to the information. In deciding with whom to share information, it is important to assess whether the benefits of limited access to information would be worth the risk of antagonizing another, more powerful trading player. In the Philippines, for example, when traders felt threatened by the information, they erased data and spread rumours about the data's unreliability. The possibility of this type of reaction needs to be considered when deciding which type of MIS is more appropriate.

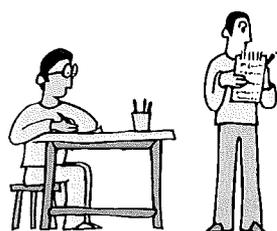
It is also important to think about the characteristics of the target population in selecting the mode of communication. If the users are mostly illiterate, posting a table of numbers on a bulletin board will be ineffective. If they are broadly dispersed, posting information in a central place may not meet their needs. If the MIS users are too poor to own radios, then broadcasts will not be useful. If they come from different ethnic groups, they may not understand an announcement made in just one language.

The second issue concerns the type of information to be transmitted. If the information is very simple, communications strategies will be different than if the information is more complicated. If there are only three prices to be transmitted (say for mangoes in three different markets) then it may be enough to rely on word of mouth among the members. If there are many prices to be communicated for many different goods, then a more formal presentation of the information may make more sense. The more complicated the information, the more impor-

tant it is to use clear visual aids that will help people understand the message being conveyed. (Some possible methods for visual presentation of information were covered in the preceding section.)



Question 3 asks the group to think about when the information is needed, as this will also affect the way it is communicated. If the information is required on a weekly basis for marketing purposes, it is important for users to receive it on time without having to spend too much time getting the information. A notice board in a public place or a short announcement on a local radio programme might be effective in this case. If information is to be used to diversify product lines, it may not need to be communicated as often, but it may require more discussion and explanation. A meeting, once a month or once every two months, would be a better way to communicate this kind of information.



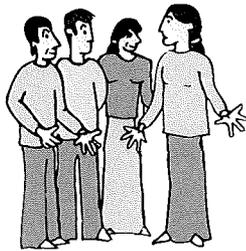
Question 4 reviews the information gathered in the assessment step on possible communications methods. There are many options, and it is unlikely that all will be found in any given community. There are technological ways of communicating, such as radio and television broadcasts, as well as more local methods such as posting information on blackboards, making announcements at religious gatherings and passing information through local farmers' or women's organizations. The possibility of using informal communications channels, such as women passing information among themselves at a central gathering place, should not be overlooked.



As with all the other parts of the MIS, decisions about communications systems should be made only after considering the resources available to the group and whether the expected returns warrant investing resources in the system. It is best to start out modestly, increasing the scope of the endeavour only after it proves its utility. Some forms of communi-

cation may be very expensive (buying radio time, for example). If the benefits of having the additional information provided by the radio broadcasts are only marginal to the MIS group, it may not be worth investing in this form of communication. Perhaps there could be similar benefits from using a less expensive form of communication such as a community bulletin board.

In some cases, members may even be willing to pay (in the form of dues to the MIS group) for the services they receive since they know that they earn higher profits because of them. This money could be used to pay for radio time, if that is felt to be the most effective way of communicating. Realistically, however, it is often difficult to predict what the level of benefits will be for MIS participants. This is another reason to start slowly and modestly, building the complexity and sophistication of the MIS in relation to the benefits it provides.



MIS users are often tempted to create new communications channels such as printed leaflets or newsletters that are devoted to information about the MIS. Groups sense that this will give them a feeling of pride and accomplishment. While this sense of ownership is important, establishing new communication mechanisms should be done with great caution. They often prove to be time-consuming and expensive. It is generally better to start by using existing communication channels. New systems should only be put in place when existing systems are found to be inadequate. Even then, new communications networks should be attempted once the MIS is well under way, has proven its usefulness, and the users are confident that the information it generates is accurate and valuable enough to justify the cost involved in establishing the new communications network.

COMMUNICATING RESULTS: THE PHILIPPINES

In the Philippines, the MIS group decided that the most effective way to communicate information was with centrally-placed blackboards. Initially, one blackboard was painted with the names of the products and the markets where prices were being monitored. When the record-keeper received the prices from the data collectors, he calculated an average price for each good in each market and then entered the information in the appropriate space on the blackboard.

By the second month of operation, farmers from outlying areas had learned of the system. They requested that a second blackboard be placed where they could see it on their way to the market since they did not regularly pass through the center of the village. With the cooperation of one of the village elected officials, this second blackboard was installed.

As people gained interest in the price information, demand grew for addi-

tional notice boards so that users would not have to go so far to get the information. Several corkboards were installed in places where people congregated. The local FAO project staff agreed to provide weekly price summary sheets from the information provided by the record-keeper. These were posted on the corkboards.

The record-keeper also drew trend lines to show how prices had changed in the different markets during the year. While this was of only modest interest in the first year, by the second year users could begin to use the trend lines to predict price changes in different markets and to adapt their marketing strategy accordingly. During the April evaluation, for example, one woman said that she had ginger ready for harvesting but was going to wait until August since the trend line from the previous year indicated that prices were higher in that month.

COMMUNICATING RESULTS: UGANDA

Choosing the method for communicating results proved to be highly controversial in the Ugandan villages where MISs were tested. Both communities had problems with the question of sharing information with the whole village or limiting it to people in the MIS group. In one village the participants decided to post the results publicly. In the end, however, the board was never put up. Instead results were discussed privately within the group.

In the other village, the group decided to post results as well as share the information in monthly meetings of their group. While some people were initially reluctant to publicize the information on the community bulletin board, they eventually decided that this was a sound strategy because store owners were much more willing to participate in the data collection exercise if the information were made available to whomever was interested. They found that they could obtain better and more complete information if they were willing to post it in a public place.

The problems uncovered by monitoring may be small or large. Perhaps when the sun shines on the blackboard the results are hard to read. A very minor adjustment, such as shifting the blackboard placement or building an awning, may solve the problem. Larger problems, such as users misinterpreting the information provided by the system, may call for a more complex solution, such as a new or expanded training programme.

ANTICIPATING THE EVALUATION

It may seem premature to think about the evaluation before the MIS is fully under way, but it is important to programme regular evaluations right from the start. Evaluations, along with regular monitoring, are critical to ensuring that the MIS is meeting the needs of the participants. Because the evaluation measures changes that take place as a result of the MIS, it can be helpful to collect data about users before the MIS is implemented. If, for example, the purpose of the MIS is to increase sales, information on the rate of sale before the project starts can be recorded. If the objective is to increase the price sellers receive, then data on what they are getting before the MIS starts will be useful when it comes time to evaluate changes in sales price. Much of this information is available from the assessment that was done in Step II.

As noted above, monitoring is a regular activity that focuses on the specific activities carried out in the MIS and any problems in implementing those activities. The evaluation takes a broader look. It starts by assessing whether the initial goals and objectives continue to make sense in relation to the needs of the users. Then it looks at whether the system that has been put in place is effective in meeting the goals and how it might be improved. It is also important to evaluate whether the system is progressing toward being locally sustainable. It will undoubtedly receive a certain amount of assistance in the beginning while the facilitator provides technical guidance, but the system should progressively move toward being independent.

At this stage in the design, the following issues should be discussed.

- 1. What kind of issues will be addressed in the evaluation?**
- 2. What kind of information is needed as a baseline record of how things were before the project got started?**
- 3. Who will do the evaluation?**
- 4. When will the evaluations take place?**

A decision should be made on when evaluations will be carried out. The first evaluation should be soon after the operation of the MIS is regularized, probably within the first six months. Thereafter, evaluation should take place at standard intervals, such as once a year.

The evaluation should be done by a team that includes those who work with the MIS and have been involved in its implementation, as well as those who have not had regular contact with the system. It is often useful to have at least one outsider on the team, such as an extension agent or a project official who is not from the village. They may notice things and add a perspective that local people will not have. The team should gather information from members of the MIS group, from users not in the group (if there are any) and from non-users who were given the opportunity to use the system but chose not to. It is important to include non-users because one purpose of the evaluation is to understand why people do or do not use the system and how (if this is one of the objectives) it might be expanded to a larger population. (This would not be relevant if the group has decided to make its MIS exclusive to the group.) Generally, the evaluation will try to assess who has (and has not) benefited from the MIS and what the nature/magnitude of the benefits have been to the users. Appendix 5 reviews some of the checklists and tools used in the Uganda and Philippines evaluations.

ISSUES TO BE CONSIDERED IN AN MIS EVALUATION

The issues included in an MIS evaluation will depend greatly on the nature of its objectives. The following list includes broad areas of interest that the evaluation system can assess.

Physical structure	Level of awareness and frequency of use	Utility and quality of the data	Sustainability of the system	Achievement of objectives and goals
Is the system structured well to gather process and disseminate information?	Who is aware of the system and its purpose?	Is the information accurate? Appropriate?	Are there future financing prospects for the system?	Has market transparency increased?
Are the collectors doing their jobs?	Who is using the information from the MIS and how often?	Is enough information provided?	Is there local enthusiasm for the MIS?	Has awareness of and interest in marketing information increased?
Is the equipment sufficient?	How are they using the information?	Is the information helpful? Relevant?	Can/should the system be institutionalized?	Is the information being used as intended?
Was training of users, collectors and analysts adequate?		Is the information timely enough in terms of users' needs, harvesting schedules, market days, product perishability?		Are users more informed than non-users?
		Have profit margins and/or income of users increased?		Are users more informed than they were before implementation of the MIS? (Compare current knowledge to information gathered in Step II.)

EVALUATING THE MIS: THE PHILIPPINES

In the Philippines, the first MIS site was evaluated after four months. The evaluation assessed overall operation and management, areas for improvement and lessons that might help when applying the MIS to other sites. The evaluation team included the facilitator, an FAO consultant, representatives of the social forestry project in the area and members of the local farmers' association who had been involved in MIS design and implementation. The evaluation involved visits to farm households and a survey of the farmer/users and volunteer data collectors.

The evaluation first reviewed the goals and objectives of the MIS and considered feedback received during monthly meetings and through other informal mechanisms. The team developed a survey to determine how much participants' knowledge of the market had increased, their awareness of the system and their ideas for how the system could be improved.

The sample questions were first tested with the data collectors (see Appendix 5 for the evaluation questionnaire that was used). The questionnaire was then administered to the data collectors, the record-keeper and members of the local population (including a cross section of people living both near and far from the road). The report from the evaluation outlined opportunities for improvement and expansion of the system.

A second evaluation was held the following year using more qualitative techniques such as Rapid Rural Appraisal. To determine, for example, whether the group was becoming less dependent on the facilitator, a matrix was used to compare the role each played in planning/design and implementation during different time periods. Participants divided 10 stones among the "group" and "facilitator" boxes to indicate which had played a more important role. From the example in Sta. Catalina (below), it is evident that the group felt it was taking an increasingly-important role, particularly in project design.

	G	F	G	F	G	F	G	F	G	F
Group/facilitator	G	F								
Planning/Design	3	7	5	5	6	4	8	2	8	2
Implementation	8	2	8	2	8	2	9	1	4	6

EVALUATING THE MIS: UGANDA

The purpose of the Uganda evaluation was to examine changes in market knowledge and transparency, and to assess the impact of the MIS on the users' business activities.

The evaluation took three and a half days in each village and employed a range of Rapid Rural Appraisal tools including semi-structured interviewing. For each semi-structured interview, a question guide was prepared to ensure that all the topics were covered (see the example in Appendix 5). A number of visual techniques were also used to help people express their opinions on the project.

To get information on participants' knowledge of market transparency, people were asked to draw the marketing chain for products included in

the MIS. By comparing the diagrams to those that had been made during the assessment step of the MIS, it was easy to see how knowledge of the market had changed. The market chain diagrams of project participants also were compared to diagrams drawn by handicraft traders who were not part of the MIS. These techniques permitted both before/after comparisons and participant/non-participant comparisons.

To gather information about the benefits of the MIS, a list of possible benefits was compiled by group members. They then ranked those benefits in terms of how important they thought they were to their business and according to whether they felt the project had helped in delivering them.

Issues That Arise Once the MIS is Operational

The most effective MISs start with modest objectives and a fairly simple structure. Once the system is running smoothly and there is a demonstrated interest and commitment among participants, the MIS can expand gradually to meet the additional needs of its users. However, even the best planned MISs are likely to encounter problems at some point during implementation. In many cases, these are relatively minor and can be overcome by small adjustments. In other cases, the problems require more complex solutions. This last section of the field manual addresses the issues of expanding the scope of the MIS as the need arises and dealing with some of the most common problems that occur during implementation.

EXPANDING THE SCOPE OF THE MIS

While every MIS will be different, it is advisable for all MISs to have limited scope in the beginning. Participants should start with modest expectations of what the MIS can accomplish and then focus on meeting those goals. This approach is far more rewarding than starting with high expectations and then failing. During the planning stage it is crucial to prioritize the objectives and activities of the MIS, starting with those that promise the greatest rewards and are the most likely to succeed. Once those are accomplished, and the participants gain experience with the system, it is reasonable to take on more ambitious objectives and to add activities.

There are several ways in which the MIS can expand. The categories below indicate developments which may be appropriate as the MIS demonstrates its value and effectiveness. It should always be kept in mind, however, that expansion

should take place only if there is a demonstrated need for additional information or activities. If a small, simple MIS meets the needs of participants, it may be most appropriate to keep it that way.

Increasing the magnitude of the MIS while continuing to gather the same kind of information in the same way.

MIS operations do not necessarily need to change substantially while increasing the number of locations where information is collected and disseminated or increasing the list of products that are surveyed. However, participants must be prepared to respond to the greater management demands of a more complex system. Depending upon the changes made, it may be necessary to recruit and train additional data collectors. The MIS group should review the system that is used to collect, analyse and distribute information to ensure that it can accommodate the increased burden.

Changing the kind of information being gathered.

Once the system is functioning, it can be adapted to collect different kinds of information. Perhaps it began by collecting only simple price data. Later, it might add information about the quality of goods being sold, noting how prices vary for different grades or levels of processing. It might also track changes in the quantities sold during the year in order to understand demand patterns. The group may decide to move further into understanding the marketing chain, rather than limiting the MIS to the relationship with local traders. An expansion of this kind may require recruiting more data collectors or demand that existing collectors spend more time on the project. It may require additional training both in data collection and analysis.

Using the same data for different types of analysis.

A third possibility for expanding the MIS would be to keep the same data, but to analyse it in new ways. Price data used to compare the daily rate between markets could also track changes over the year in a given market. This would not usually involve any changes in data collection, but record-keepers and analysts might require additional training. It might also be necessary to train users so that they can take advantage of the new information.

**Expanding users
capacity to exploit
information.**

The nature of the information that is collected and analysed does not necessarily need to change in order to expand the MIS. Expansion can focus on training users in different ways to use information that is already being collected and disseminated. Perhaps users already know how to utilize price information to select the best marketing outlet. The next step may be to train them to use price information to calculate profit margins and decide whether they should sell their goods or store them in anticipation of higher prices.

**Using information
in different ways.**

The MIS may identify new ways of using information to benefit the community. Instead of just providing information to individual users, for example, the group may be able to encourage changes in the market. If quality standards have been vague, perhaps the producers can work with buyers to establish clear criteria for grading products. If certain people in the market chain are found to be disregarding existing standards or otherwise unfairly exploiting producers, systematic reporting of these practices may encourage local authorities to enforce the rules. This type of MIS activity requires a higher level of organization in the user group, but it may have a significant impact if it empowers producers relative to others in the marketing chain. It may require training in new skills such as negotiation and conflict resolution.

Just as the planning of the initial MIS was done in a gradual and systematic manner, any expansion of goals and activities needs to be undertaken with equal care. The steps of the initial design process should be followed when there is any significant expansion in the MIS to ensure that all the potential implications of the changes have been considered. Any expansion must be carefully thought out to ensure that the benefits of increasing information outweigh the costs in time and money of obtaining that information.

MIS EXPANSION IN THE PHILIPPINES

The Sta. Catalina MIS expanded along several dimensions as the experience progressed. Starting with one blackboard, the MIS eventually posted information in seven locations in response to farmers' requests. Farmers also asked for price information about additional products, especially near harvest time. Fresh and processed pineapple were added, for example, in response to such requests. As time went on, participants realized that they could use the system to gather other types of useful information. They began sharing information about traders (their names and locations), the amount of produce being demanded in different markets, and quality and packaging requirements. Traders, who had initially been suspicious of the activity, realized that it could be useful to them as well. They identified potential suppliers by telling the data collectors what they needed. The data collectors announced the traders' requests on the MIS blackboards which facilitated contact between producers and suppliers.

When the project was evaluated, the team made several additional recommendations for how the system could be expanded to complement what participants had already done. They particularly identified how participants might be trained to make more effective use of the information being generated by the MIS. The evaluators also noted that information from the MIS might be used to identify how value could be added through processing.

In another Philippines site, a group of upland farmers using an MIS to collect price information from different markets realized that it could earn more by sending their product to a distant urban centre. They identified transport as a major impediment. So, they decided to study the transport market and seek ways to decrease their costs. Eventually, they determined they could benefit by sharing the costs of transport and marketing. They began using the community bulletin board not only for price information but to allow farmers to indicate when they had produce to transport. In this way farmers could find others interested in sharing the cost of a transportation.

PROBLEMS THAT COMMONLY OCCUR IN IMPLEMENTING AN MIS

A number of problems often plague MIS implementors but, in almost all cases, it is possible to find creative solutions. The key, as discussed in the monitoring section above, is to catch the problems early so solutions can be found before the problems become so large they challenge the credibility and viability of the system. The following list notes some of the difficulties that have been encountered by MIS groups to date. It does not attempt to be comprehensive, nor does it prescribe solutions since standardized solutions rarely fit real problems. It does, however, note some of the solutions that MIS groups have found for their own situations.

▪ Lack of standardized package sizes and quality grades

It will sometimes be difficult to gather information on product prices because they are sold in irregular measures and/or with a mix of goods that vary in quality. There are several solutions to this problem.



Find out what measuring system traders/purchasers use to determine price. This system can be used by data collectors and taught to producers. Simply learning the standards may be a step toward rendering the market more transparent for producers.



If it is impossible to identify a single price, list a range for a given product. ("Mangoes sell for between 53 and 72 per box in X market depending on how ripe they are. ")



Over time, work with producers and traders to develop standards for packaging, quantities and grades for various products.

▪ Difficulty obtaining sensitive data

MIS data collectors are almost always users who have volunteered to collect information. They have no particular status or credibility with traders or other people from whom they collect information. This may lead to suspicion and resistance. In the Philippines, one group of traders thought data collectors were sent by the government to locate illegal fuelwood and charcoal producers. Another group of traders suspected that the data collectors were agents sent by foreigners.

In planning training activities, there are three key questions.

- **What are the components of the MIS which require some training of the participants?**
- **Who are the people who need to be trained?**
- **What training resources are available?**

In determining the training programme, the first question is exactly what kind of training is needed to make the MIS functional. This will vary greatly depending on the complexity of the MIS and what people in the community already know how to do. Many meeting and decision-making skills will have been acquired in the process of designing the MIS. The best way to focus this question and to be sure that no major components are overlooked probably will be to review, one by one, each of the MIS activities that have been proposed in the previous design steps. Begin by thinking about how the MIS will be structured. Is there an association that will manage the system, or an individual? In some communities, people have ample experience with committees and group activities. In others, where there is less experience, basic training in such skills as managing meetings and making decisions in a group may be needed.

Next review the data collection procedures that are to be put in place. There is almost certainly going to be some training required at this stage, even if it is only to standardize the terms and procedures that are used, to ensure that comparable data are collected by all the participants. Training may, similarly, be required for the record-keeper(s). It is also likely that at least some training will be required to teach people how to average figures or how to analyse data. This task may be more or less complex depending on the system that is put in place. In some communities, people will need help in putting information into bar graph form; in others they will know how to do this already. Instead, they may need help in some more complicated calculations, such as determining the “break-even point” so that the selling price covers all the costs of production.

If the communications system does not resemble something already being practised in the community, some training also may be required at this stage. This might involve showing people how to prepare effective visual presentations

The Philippine MIS issued vests and, ultimately, identification cards to data collectors in an effort to clarify their role. There are alternate approaches.

-  Ask a respected group or individual in the area to endorse the activities of the MIS and help spread information about its goals.
-  Meet directly with the people who will be asked to supply information to explain the system and introduce the data collectors.
-  Train the data collectors to explain what they are doing and why they are asking for information.
-  Ask participants who use the information to mention the MIS to traders and explain the purpose of the activity.

▪ Attempts to discredit the system

In many cases, the purpose of the MIS is to change the power relationship between the producers and others higher in the marketing chain. The more successful the MIS, the more likely it will provoke those who resent the increasing power of the producers. If the MIS threatens the information monopoly held by traders, for example, the traders may attempt to discredit the information collectors and the entire MIS system. This happened in the initial steps of an MIS that was established for fruit sellers in Brazil. Traders, who felt threatened by the system, spread rumours that the MIS information was unreliable and false. System operators responded by making sure that the information they provided was absolutely flawless, thereby maintaining the trust of users. Over time the traders realized that the information service could help them too. They began using the system to get information about what producers wanted to sell and were able to expand the number of products they traded (Schubert, 1983).

If this problem is encountered several strategies can be used.

-  Overcome rumours by proving them wrong. Take special pains to ensure that the information provided by the MIS is flawless.
-  Launch a counter campaign with the support of influential people in the community.

 Find ways to give the MIS status such as providing vests and identification cards like those used in the Philippines.

 Point out that while the MIS may have producers as its primary clientele, it can also provide benefits to others in the marketing chain.

▪ Lack of government support

Government support can facilitate an MIS, and government opposition can ruin it. In some cases, governments will oppose the implementation of an MIS if they fear that it will aid illegal efforts or reveal market irregularities. In the Philippines, the government requested that price data not be gathered for charcoal and fuelwood. It feared that the provision of this information would encourage illegal collection from forest reserves. Governments also may have problems with a system that publishes data indicating that guaranteed minimum producer prices are not being enforced.

 Where possible, work with sympathetic government officials in the design of the system so that it meets local needs while conforming to government concerns.

▪ Misuse of information by outsiders

The MIS is generally intended for a particular group of users, such as producers of NTFPs in a given area. However, the information it provides is often available to anyone, particularly if the information is disseminated in a non-exclusive way such as a public blackboard or radio broadcast. Often this will not pose any problems. In some cases, though, non-participants can exploit the information and perhaps even use it to the detriment of the intended beneficiaries. Traders who have access to the boards might use the information to set a price lower than what they otherwise would have paid. The risk of this happening is greatest when the MIS users have access to few traders or market outlets. If this becomes a problem, there are several possible solutions.

 Change the means of information dissemination (e.g. post information for shorter periods of time, limit access to information by posting it indoors).



Organize the producer group so that it is better able to negotiate with buyers.



Search for alternative market options.

▪ Misuse of the system by operators

MIS operators may sometimes try to distort information in hopes of gaining leverage in the market. In Thailand, an MIS published higher prices than were actually being paid because the operators thought that if they published the real price, this would lead traders to lower their offering price (Schubert, 1983). While this may give producers a short-term advantage, it is not a viable strategy in the long term and will severely erode the credibility of the MIS. Incorrect information is unlikely to improve the prices farmers receive, and it will decrease their ability to bargain with traders and risk creating hostility and suspicion on all sides. There are some suggestions to combat this problem.



Emphasize and re-emphasize the importance of reliability and the risks related to misinformation.



Monitor data collection by performing spot checks in various markets.



Appoint data controllers who periodically check data that is collected and information that is disseminated to users.

▪ Oversupply as a result of MIS information

MIS planners are often concerned that the information distributed by the system will not be used. But, problems also can arise from overuse. When producers use the information to locate the most lucrative markets, they sometimes flood markets and cause prices to drop. A similar problem may occur when producers use the MIS to plan harvests of NTFPs or cropping patterns for the next year. Everyone tries to move into the product with the highest price. But, when many people use the same logic, supply will increase so much in the following year that price may be driven down. In this circumstance, there are various alternatives.

 Coordinate sales and production decisions. Help individuals plan their strategies in cooperation with other group members so that oversupply of the market is avoided.

 When increased production is planned, work to find new markets.

 Train group members in the principles of supply, demand and risk management.

As problems arise, it is important to keep the objectives of the MIS in mind and search for creative solutions to overcome the difficulties. As groups plan and implement their MISs and, equally important, determine how to solve the problems that inevitably arise, they will build valuable skills in both marketing and community organization. These skills are essential for increasing the leverage of small-scale producers and traders in the complex markets for non-timber forest products.

Appendix 1

Information sources for different kinds of data

INFORMATION SOURCE	TYPE OF INFORMATION POTENTIALLY AVAILABLE
Traders/Buyers	<ul style="list-style-type: none"> Wholes/retail prices Volumes demanded Products demanded
Processing Companies	<ul style="list-style-type: none"> Volumes demanded Grades, packaging preferred End product produced Existing market structure
Government Ministries/Departments Information Services (Planning, Agriculture, Finance, Forestry, Natural Resources, Trade, Commerce, Bureau of Statistics, Marketing Services)	<ul style="list-style-type: none"> Statistics on production, trade and employment Wholesale/retail prices Credit opportunities and rules Export/import regulations Existing and planned infrastructure
Exporters	<ul style="list-style-type: none"> Volume exported and demanded End user characteristics and preferences Wholesale/retail prices
International Organizations (Technical divisions - marketing, forestry, forest/agricultural products/industries/enterprises, community forestry, agroforestry) (production surveys, country studies)	<ul style="list-style-type: none"> Products produced Statistics on production, trade, consumption (mostly national, some regional; mostly commodities) Existing market structure Location characteristics
University Departments/Libraries	<ul style="list-style-type: none"> Production statistics Information on lesser-known products and production processes Structure and existence of local markets
Mass Media Radio, television, newspapers	<ul style="list-style-type: none"> Wholesale/retail (?) prices Harvest forecasts
Retailers	<ul style="list-style-type: none"> Volumes demanded (by product) Retail prices Grading and packaging preferences
Marketing Boards Marketing Administrations	<ul style="list-style-type: none"> Statistics on production, processing and trade Volumes demanded Existing marketing information services
Cooperatives (production, processing, sale)	<ul style="list-style-type: none"> Volumes produced and sold Market outlets Quantities and qualities demanded Value-added opportunities
Institutes for enterprise development	<ul style="list-style-type: none"> Existing market structure Value-added opportunities Credit alternatives
Local Producers	<ul style="list-style-type: none"> Supply patterns Cost of raw materials Production processes

Appendix 2

Resources about how to collect information, and monitor and evaluate projects

- Casley, D. J. and Lury, D. A. 1981. *Data Collection in Developing Countries*. Clarendon Press, Oxford.
- Chambers, R. , Pacey, A. and Thrupp, L. A. , eds. 1989. *Farmer First*. Intermediate Technology Publications, London.
- * Davis-Case, D. 1990. *The Community's Toolbox: The Idea, Methods and Tools for Participatory Assessment, Monitoring, and Evaluation in Community Forestry*. Community Forestry Field Manual 2. FAO, Rome.
 - * Davis-Case, D. 1989. *Community Forestry: Participatory Assessment, Monitoring, and Evaluation*. Community Forestry Note 2. FAO, Rome.
 - * *Forests, Trees and People Newsletter No. 15/16. 1992. Forests, Trees and People Programme*. IRDC, Swedish University of Agricultural Sciences, Uppsala.
 - * Freudenberger, K. S. 1994. *Tree and Land Tenure: Rapid Appraisal Tools*. Community Forestry Field Manual 4. FAO, Rome.
 - Gueye, B. and Freudenberger, K. S. 1991. *Introduction a la Méthode Accélérée de Recherche Participative (MARP): Quelques Notes Pour Appuyer une Formation Pratique*. IIED, London.

- * Molnar, A. 1989. *Community Forestry: Rapid Appraisal*. Community Forestry Note 3. FAO, Rome.
- P. A. C. T. 1989. *Participatory Evaluation: A User's Guide*. PACT, New York.
- Schönhuth, M and Kievelitz, U. 1994. *Participatory Learning Approaches: Rapid Rural Appraisal and Participatory Rural Appraisal*. G. T. Z. , Rossdorf, Germany.
- Thies, J. and Grady, H. 1991. *Participatory Rapid Appraisal for Community Development*. IIED, London.
- * Warner, K. 1995. *Selecting Tree Species on the Basis of Community Needs*. Community Forestry Field Manual 5. FAO, Rome.
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- * Available through the Community Forestry Unit, Forestry Policy and Planning Division, Forestry Department, FAO, Viale delle Terme de Caracalla, 00100 Rome, Italy.
- Available through the Sustainable Agriculture Program, IIED, 3 Endsleigh St, London WC1H 0DD, United Kingdom.

Appendix 3

Rapid appraisal tools that are useful for MIS assessments

Rapid Rural Appraisal (RRA) is a participatory research methodology that is especially useful for gathering information at the community level. Several tools of RRA are particularly well suited for gathering the kind of information needed in the assessment step of an MIS. Three of these tools will be briefly presented here. There are many other RRA tools, and readers are encouraged to consult the literature on RRA for more extensive information on the correct use of the methodology and its various information gathering techniques.

I. Participatory mapping

In participatory mapping, community members sketch maps to elicit information and provoke discussion on spatial issues. The maps are not intended to provide accurate cartographic information, but rather to display approximate information that can be used to generate discussion. Ideally, the maps should be drawn on the ground so that there is plenty of room to expand the scale of the drawings as the activity progresses. They can also be drawn on large sheets of paper, blackboards, etc. It is useful to have a group of people (rather than a single individual) participate in the mapping so that many people contribute their knowledge and the information can be cross-checked by several sources.

In gathering information for an MIS, it would be particularly useful to map where area markets are located and to use this to get information about transportation options, size of the market, etc.

of information, or training them in how to prepare clear information for transmission on the radio.

Finally, what skills do people need to *use* the MIS information to improve their business activities? This may involve training in financial analysis such as determining which transport option offers the most advantages given the price of transport, the size of the vehicle and the selling price of the good to be transported in various markets. Or, it might demand training in a certain handicraft activity if the MIS determines that people could earn more money by producing, for example, baskets instead of mats. Some training needs may not be evident until after the MIS gets under way. Design of training activities will continue throughout the implementation of the MIS.

As each training need is identified, the number of people who will need training and their characteristics should be noted. In order to increase the probability of sustainability, most MISs should start as a small system, perhaps 10 to 20 participants. The number of people involved will help determine the kind of training that will be appropriate.

The characteristics of the people to be trained will also be important in designing the most effective training. Are they literate? What kind of schedules do they have and when do they have time to participate in training? What language do they speak? Are they more comfortable in single or mixed gender groups? What kind of educational/training background do they have?

If people are to participate fully, it is critical that training activities are scheduled at a convenient time for the participants. This will determine the best season for the training (when people are not too occupied in the fields, for example) as well as the optimal time of day. It will also be a factor in deciding whether the training should take place over several days, a few hours at a time, or be concentrated in one or two longer sessions. Similarly, if people are to absorb the information, the training must take into account their educational backgrounds and their social and cultural needs. Because the turnover of MIS operators may be great, it is important to create an approach to training that will allow relatively easy training of new recruits.



Information that was gathered in the assessment step about the characteristics of the community and how it is organized will also be useful in designing training programmes. There may be organizations already in place, for example, that have the confidence of the local population and would be effective sponsors for community training activities. These or other organizations could also spread the word among their members about training opportunities.

The next task in designing training is to review what training resources are available. Some information was gathered in the assessment step; as the training needs become clearer, people may come up with new ideas about possible training resources. Training may take many forms, and the list of training resources should be as inclusive as possible. It may include formal training situations, such as using university instructors and extension workers to prepare short courses, but it also may include less formal learning situations, such as visits to other villages which have had interesting marketing experiences.

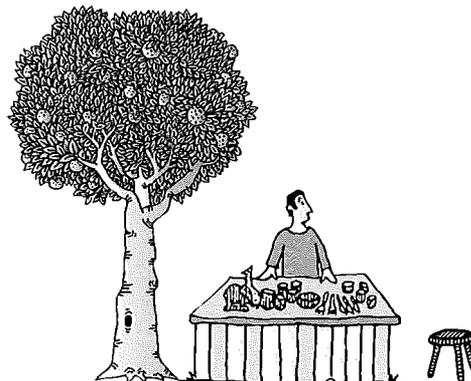
Once all of these questions have been considered, a training plan can be put together. If the training needs that have been identified seem overwhelming, it may mean that the proposed MIS is too ambitious given the characteristics of the community. This may suggest that some revision of the objectives and activities is called for, at least to get started. The training plan should begin with those needs that are essential to getting the MIS under way. As time goes on and interest in the system grows, additional training activities can always be added.

It is impossible to propose any specific recommendations for training that would be applicable to all the different kinds of MISs and communities that will use them. However, two general recommendations are broadly applicable.

 **Training activities should be as practical, applied and hands-on as possible.** If training is to be provided in data collection, at least some part of the experience should involve visits to markets to collect data. If people are to learn financial skills, they should bring information about their own NTFP activities and practise applying what they learn by analysing those activities.

 **When possible, people who have experience with an MIS and have backgrounds similar to the trainees should be used as trainers.** Experience suggests that often the most effective trainers are not academics, but peers who are able to establish a rapport with the people being trained.

Village women who have begun using an MIS in their own activities may be the best trainers for women from a second village who are about to begin collecting data. The village shopkeeper who has been doing effective record-keeping may be the best model for the person who will take that role in the MIS. As one participant from the Philippines noted, “it is easier for a farmer to learn from another farmer.” Teaching others also reinforces and develops the trainers’ skills and promotes greater self-confidence.



THE TRAINING PROGRAMME: THE PHILIPPINES

The initial training requirements for operators were kept to a minimum in the Philippines by selecting data collectors who already had some knowledge of markets and marketing. These volunteers helped design the information collection forms and therefore had no problems using them. As additional people volunteered, they received an orientation from the experienced data collectors, and the record-keeper explained how to use the data collection sheets.

Discussions in monthly meetings were used as informal training opportunities. The facilitator asked the data collectors why they thought prices had changed over the previous month and helped them understand the reasons that prices might change. She also brought publications related to marketing for MIS operators and users.

In retrospect, it is clear that the need to train the users of the MIS information was underestimated. There was no formal training of users at the beginning and some misunderstandings occurred as a result. Some users, for example, complained that the prices on the board were lower than those in the market. They did not understand that the prices

on the board were the prices the trader would pay for the goods (the wholesale price), which were lower than the prices in the market (the retail price).

As the MIS continued, participants identified new areas where training would be useful. Many people expressed an interest in learning methods for calculating the costs of production. They knew of one farmer in the area who already did such calculations. The group organized a training session in which the farmer, along with the facilitator, taught different approaches to calculating costs and determining profits.

In the first Philippine MIS site, most of the training was done by the facilitator. But, as new sites were developed, they were able to learn from the experiences of the first village. Data collectors and analysts from Sta. Catalina (the first site) travelled to the new villages to discuss the role of the data collector, describe some of the lessons they had learned and offer helpful hints for approaching traders. They did role playing to illustrate different experiences the data collectors had with traders and then discussed the scenarios.

SETTING UP TRAINING: UGANDA

In Uganda, most of the training took place during the monthly meetings organized by the MIS group. The facilitator helped participants with each activity, encouraging them to take more of the lead as they gained experience.

The group designed its data collection forms and met before they began using them, to make sure they agreed on and used common terms to describe different objects and their characteristics.

While eventually the secretary was expected to be in charge of data analysis,

initially it was done as a group so that everyone could learn the procedure. The facilitator showed people how to compile the data sheets and took the lead in actually processing the numbers during the first few months. Over time, the secretary took on more responsibility for this task until eventually she could do it herself. At the meetings, the facilitator led a discussion about the information that had been gathered that month so that users could begin to get a better idea of the usefulness of the information and how it could be applied to their businesses.

ESTABLISHING THE MONITORING SYSTEM

At this point in the design process, a community has all the elements in place for a successful MIS. However, there are still two more systems to be put in place: a mechanism for monitoring the MIS on an ongoing basis and a plan for periodic evaluation of the programme.

It is nearly impossible to design an MIS that can be implemented without problems. There are always unexpected factors to be taken into consideration as the activity progresses. The purpose of the monitoring is to catch problems as they arise and adapt these unanticipated situations into the system.

Monitoring should be done on a regular, ongoing basis to assess the design and implementation choices and to check whether the system is running smoothly and efficiently. Particular attention needs to be paid to the quality and consistency of the information that is being collected since this is the fundamental building block of the MIS.

In deciding how to monitor the MIS, several key questions should be considered.

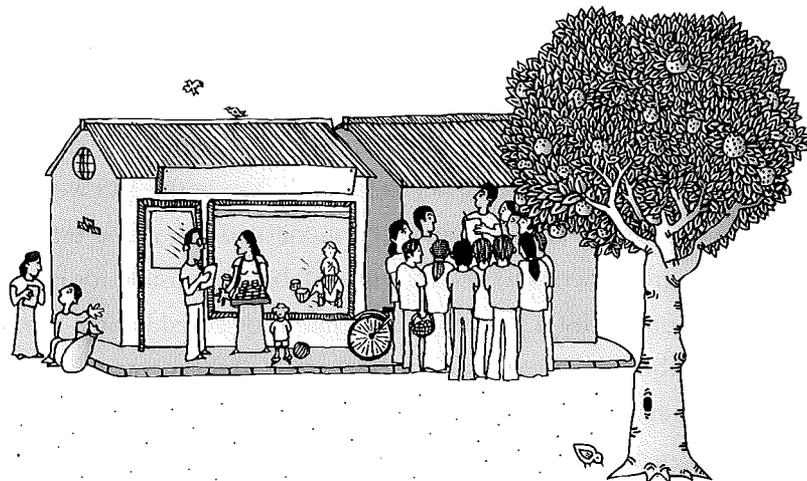
- 1. What elements of the MIS need to be monitored?**
- 2. What is the most efficient way to keep track of these elements?**
- 3. Who will be responsible for the monitoring?**
- 4. What will be done when problems are identified?**

The monitoring system need not be complex, but it should be systematic. Just as the training needs for each step in the MIS were clearly identified, so a list showing each activity to be monitored should be established from the start. The group needs to decide who will be responsible for monitoring each of the items on the list. One way to do this is to set aside time during meetings, perhaps at the end of each month, to review all the items on the list as a group. Members should be asked to make comments on how the activities are going and to suggest specific improvements that might be made. It also may make sense to dele-

gate certain people to keep track of specific aspects of the system. The record-keeper, for example, may be in charge of monitoring the regularity of data collection. If he detects a problem, he could then discuss it with the larger group.

It is important to monitor the system from the point of view of the operators (data collectors, recorders, etc.) and from the point of view of the users. In some communities (such as the Uganda example described in the text boxes) operators and users are the same people. In others (such as the Philippines case), while there is some overlap between operators and users, there are many people in the larger community who use the information but are not involved in the data collection and analysis process. The perspective of these people should be considered as well. A group member might be delegated to interview users from time to time, a community meeting might be called to discuss the MIS, or a suggestion box could be placed near the bulletin board.

Since the purpose of monitoring is to catch small problems before they become big problems, it is essential that the group not neglect this task. This will be particularly important at the beginning of the MIS when the plans for operation are being established. In the beginning, it may be necessary to review operations as frequently as every week to catch problems encountered by data collectors and to find solutions before the participants get frustrated and drop out. Later, monitoring may be reduced to once per month or even less often, depending on how smoothly the system is running and whether new activities are being added.



MONITORING THE MIS: ISSUES FROM THE PHILIPPINES

The Philippines MIS decided to monitor its system during monthly meetings attended by the facilitator, data collectors and other operators. Each person was asked to bring up any problems they had noticed during the month, and the whole group discussed possible solutions.

Among issues that arose were the following.

- Rain erased some of the information on the community blackboard. The board was moved to a covered area.
- One data collector had been collecting retail prices (the prices at which traders were selling goods) instead of wholesale prices (the prices at which traders were buying goods). A more experienced data collector was sent with the novice for two weeks to ensure that she understood the system.
- Price data on ginger was being confused because ginger was sold both fresh and dried. The group decided to collect price information for dried ginger consistently, as it was available most of the year. The price for fresh ginger would be collected when in season and noted separately.

- Data collectors reported hesitation from some shopkeepers who did not know why they were asking the questions. It was decided the data collectors would explain why they were asking for price data and that they would wear special vests that would identify them.

- Data collectors at times had problems getting to the farthest market. The group decided to provide a transportation allowance.

- Data collectors wanted to change the data collection day to Sunday, since that was their least busy day, and to post the information on Monday. The group decided to conduct a survey of users to determine when users need price information before making the final decision about when to collect and post the data.

The facilitator also designed a form that the record keeper could use to report when each data collector brought in the price information (see Appendix 4). In this way he could monitor the timely collection and delivery of data.

MONITORING THE MIS: UGANDA

The Uganda MIS group chose an informal monitoring system, meeting with the facilitator whenever he came to the village.

Among the issues that arose during monitoring discussions were the following.

- Data collectors were using different terminology to describe product characteristics, which made comparison difficult. The group decided on a list of standard terms.
- Some of the boxes on the form were not adequate to write in the information. It was decided to revise the form and, in the meantime, suggestions for shorthand descriptions were made to save space.

- Some members felt that the descriptive information (size, colour, etc. of the products sold) was not the most useful. The group decided to maintain the categories for the time being, but to do a more substantial evaluation of the kind of information being collected at a later date.

- Shopkeepers found it hard to record information when they had several customers at once. They were asked to do their best to remember the details of purchases and record them immediately afterwards. Alternatively, another person would assist with recording information on purchases.

There are always difficult trade offs in setting up communications systems. In one area of Peru where an MIS was set up, the only transportation between communities was by river. Farmers using the system were dispersed in a large forested region and only rarely travelled to the city. Instead, traders in motorboats visited the outlying villages to exchange wares. The people designing the MIS found that communications posed a particular challenge in this setting. Eventually, they decided to purchase radio time that could reach 300 000 local farmers with price information from the urban centre. This was an effective way of getting the information out to large numbers of dispersed people, but it was a costly solution. The project paid for radio time at the beginning, but it was not certain that this system could be sustained, particularly when project funds were withdrawn.

DESIGNING TRAINING ACTIVITIES

At this point in the design process of the MIS, the essential questions concerning the operation of the system have been answered. The users have (1) defined their needs, (2) proposed a system to collect and analyse the information they need, and (3) considered the most effective ways to communicate that information to people in the community. The next part of the process is to determine what training people need in order to make the system work and to use the information to improve their businesses.

To make the system effective, it is critical to adapt training to the needs and capacities of the operators and users of the MIS. Without such training, there is great danger that poor quality data will be collected (which risks jeopardizing the credibility of the system), that the data will not be correctly analysed (which reduces its usefulness), or that users will not understand how to exploit the information generated by the system (which wastes the time and efforts of participants).

II. Venn (or chapati) diagram

The Venn diagram, also known as the chapati diagram, is a map of a community's social structure. It can be used to identify influential people or committees in a community, as well as traders, sources of credit and other information relevant to the MIS.

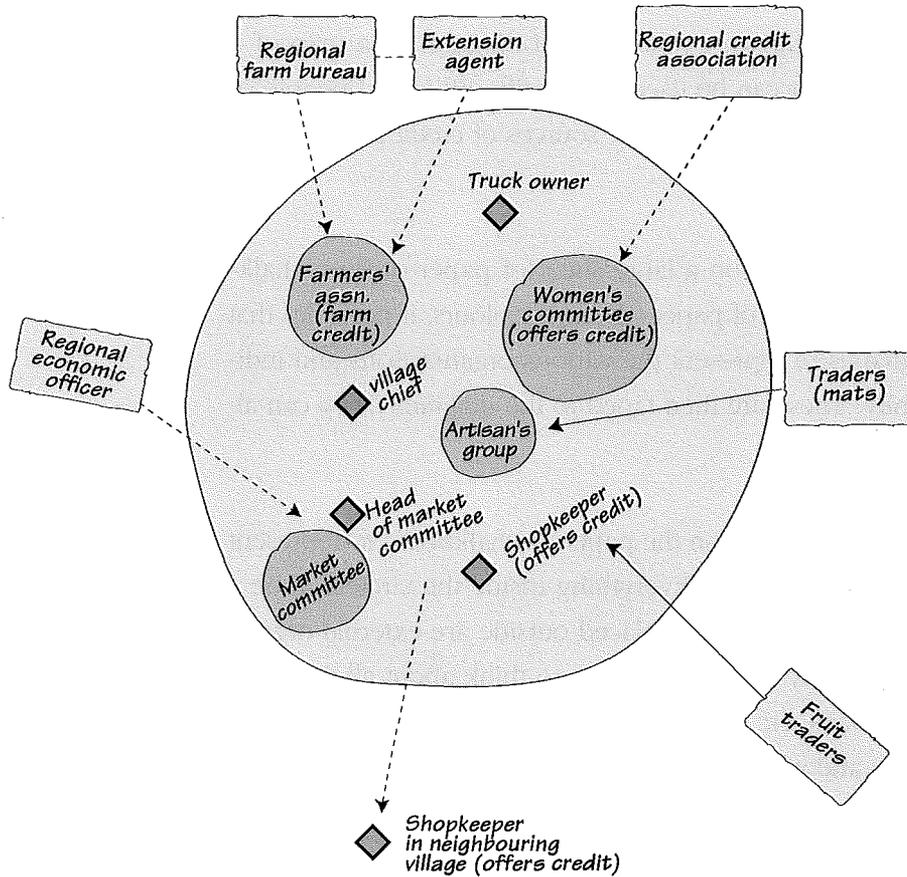
A Venn diagram can be done on a large sheet of paper or on a chalkboard. It is helpful to have pieces of paper (different colours, if possible) that are cut into different shapes to represent the various organizations and individuals in the community. These are then taped to the diagram. They can also be drawn.

To begin, a large circle is drawn on the paper or chalkboard to represent the village that will carry out the MIS. Everything inside the circle will be a committee or person in the village; those placed outside are external organizations or individuals. Begin by asking the group to think about all the organizations, committees, groups, etc. in the village. List each one on a piece of paper (a circle, perhaps) and affix it to the large paper, inside the circle representing the village. Continue with people who play a particular role in the village, especially those who have a role in business, marketing, credit or the management or production of NTFPs. These can be represented by triangles.

When all the village organizations and individuals have been put on the diagram, continue by asking about organizations and individuals outside the village. This might include traders who come to the village, people who offer credit, government officials who regulate marketing, etc. Place a shape for each individual (triangle) or group (circle) cited on the diagram.

Once the diagram is completed, use it to discuss the roles of the various groups and individuals and the implications for the production and marketing of NTFPs in the community.

Figure 7: Example of a Venn diagram

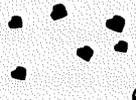
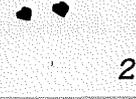


III. Matrices

Matrices can be used to explore many issues of concern in the assessment. A matrix is a double entry grid for analysing two variables. It can be used, as in the example below, to determine where (put markets on the vertical axis) people are selling different products (put the products on the horizontal axis). The first step in this example would be for the group to list what NTFPs they sell and where they sell them so that these can be put on the horizontal and vertical axes.

Data collector: _____

Date: _____

	Mats	Baskets	Stools
Sell by roadside	 10	 6	 3
Sell in Market A	 3	 1	
Sell in Market B			 2
Sell to passing traders	 8	 10	

Starting with mats, ask people to put stones in each of the boxes under mats to show whether they sell more mats at the roadside, at Market A or Market B, etc. Do the same thing for baskets and stools. Then use the diagram to provoke discussion about the advantages/disadvantages of different markets, why they favour one over another, what constraints they face in marketing, etc.

A matrix could also be used to rank the problems in marketing different goods. Once again, the goods could be placed on the horizontal axis. The group could then list the problems (e.g. cost of transport, breakage in transport, price offered too low to meet costs of production, stock does not sell quickly, product rots before it is sold) on the vertical axis. In this case, the number of stones would show how big a problem it is: more stones for a bigger problem, fewer for one that is less difficult. Such a matrix could be used to provoke discussion about how an MIS could be useful in overcoming some of the problems.

Another use of matrices in an evaluation is discussed in chapter 5. Matrices are infinitely adaptable as long as care is taken to use variables that are logical and consistent along the two axes.

In planning an MIS, many times the group is asked to rank priorities or problems. One of the most effective ways to do this is to list the issues, then ask the group to place stones next to the options indicating priorities or preferences. As people move the stones, they can reflect on why they are making certain choices and justify them to the rest of the group. It is often easier to structure a discussion in this way (and more people participate) than when the issues are simply discussed orally in a meeting.

Appendix 4

Data collection forms

The following form was used by data collectors in the Philippines to record information as they questioned traders in the market.

Data collector: _____

Date: _____

Type of product	Unit of measure	Wholesale price in (market location)					Comments
		Traders					
		1	2	3	4	5	
1. Coconut	piece						
2. Banana	piece						
3. Banana	piece						
4. Eggplant	kilo						
5. Cassava	kilo						
6. Ginger	kilo						
7. Black pepper	kilo						
8. Pineapple	piece						

The following form was used by the Mukono Women's Craft Group to record information on sales and consumer preferences.

<i>Data collector:</i>		<i>Date:</i>
<i>Product:</i>		
<i>mat</i>	<i>stool</i>	<i>basket</i>
<i>size:</i>	<i>colour:</i>	<i>material:</i>
<i>which colours do you prefer?</i>		
<i>which other products would you like to have available here?</i>		

The following is an example of how information on the Uganda forms was summarized for sales of different items.

Items sold from July 17 to August 30, 1993

	Mats	Trays	Baskets	Large baskets
<i>sold to tourist</i>	5	18	62 pairs	10
<i>sold to locals</i>	14	10	14 pairs	31
<i>total</i>	19	28	76 pairs	41

Effect of size on sales

	Mats	Trays	Baskets	Large baskets
<i>small size</i>	6	18	53 pairs	<i>available in one size only</i>
<i>large size</i>	13	10	23 pairs	
<i>total</i>	19	28	76 pairs	

Effect of colour on sales

1. Mats		2. Baskets		3. Trays		4. Large Baskets	
Plain (white)	8	Red	1	Purple and green	1	Orange and green	3
Green and purple	6	Purple	10	Yellow and green	3	Green	3
White and red	3	Purple and red	10	Purple and yellow	3	Red and white	1
White and green	2	Red and green	9	Purple and red	5	Green/purple/red	25
		Green and purple	3	Green and red	6	Green and purple	1
		White and orange	7	Red and yellow	4	Purple	1
		Yellow and green	1	White	1	Purple and red	2
		White and purple	2				
		Green	4				
		Orange and yellow	2				
		White and green	1				

Appendix 5

Evaluation instruments

I. Philippine Field Evaluation Interview Questions

Three lists of questions were devised for the first Philippine Field Evaluation. The first was used to orient discussions with data collectors and recorders. The second was used in interviews with farmers who participated in using MIS information. The third was used for local government officials and project staff with knowledge of the MIS experience. Each interview opened with an introduction of the evaluation team and closed with an expression of appreciation for the interviewee's time.

A. INTERVIEW GUIDE FOR DATA COLLECTORS AND RECORDERS

Name: _____

Assigned Market: _____

1. When did you start collecting or recording data for the price information system?
2. Did you volunteer to be a data collector or recorder? Why?
3. Is the purpose of the activity clear to you?
4. Do you know the reason(s) why we are monitoring prices? If yes, please identify.
5. Did the FAO counterpart provide adequate:
 - a. supplies (i.e. record book, pens, forms)?
 - b. direction or guidance in performing your duties?If not, what other assistance or support do you think would have been necessary?
6. On what day of the week do you collect or record price information? Why?
7. Were you able to make your report available to the data recorder or project staff on time each week? If not, why not?
8. How do data collection or recording activities affect:
 - a. your normal daily routines?
 - b. the selling of your products?
9. Three months from now, do you still see yourself as a data collector or recorder for this system? Why? or Why not?
10. What recommendations can you give to improve the system?

Interviewer: _____

Date: _____

B. INTERVIEW GUIDE FOR PARTICIPANTS (FARMERS)

Name: _____

Site: _____

1. Do you know about the price bulletin board?

(If answer is no, go to question 6.)

2. Do you know who collected this information? How was the information collected?

3. Why is this price information system being established?

4. Do you use it? If so, how often?

If you do not use it, why not?

5. Is this price information useful to you? If so, how? (in what way?)

6. Where else do you get price information aside from the bulletin board?

7. What product did you sell last week?

What was its price last week?

Do you know its price this week?

Do you know its price in other markets?

What is the reason for the difference in prices?

8. Have your sales or profits increased as a result of the system?

9. Is the price for the product(s) you sell also given on the radio?

Do you find this price useful? In what way?

10. What additional market information (other than price) also might be useful?

11. Do you have recommendations to improve the present system:

- products monitored
- markets monitored
- information given or content
- dates or time of collection
- bulletin board location
- additional bulletin boards
- other suggestions

12. Would you like to participate in the collection or dissemination of market information?

- as a data collector?
- as a record-keeper?
- to help post price and other information?

Interviewer: _____

Date: _____

INTERVIEW GUIDE FOR REGIONAL STAFF

Name: _____

Assigned Market: _____

1.
 - a. What do you believe to be the impact of the MIS on local people?
 - b. If there are several impacts, which is (are) the most important?
2. Could the MIS exist without external support from FAO? DENR?
3.
 - a. Does the site where the MIS is located differ from other sites?
 - b. In what ways?
4.
 - a. How would you change the approach to creation of the system if you had to set it up?
 - b. How would you adjust the system now?
 - c. Would you expand it? How?
5.
 - a. Do you think an MIS could be set up in the Baranguays where you work?
 - b. How might it need to be adapted to suit those locations?
6. Would you be willing to help train and share your experiences with other field workers?
7. Would you be interested in helping establish and manage an MIS?
8. How would you describe your supervisor's attitude toward work with the MIS (very supportive, supportive, indifferent, somewhat negative, negative)?

Interviewer: _____

Date: _____

II. Uganda Question Guide for Semi-Structured Interviews

In the Uganda evaluation the following question guide was used to orient the discussion with MIS participants, the facilitator and observers.

What do you think the impact of the MIS is on local participants?

(improved earnings, business skills, collaboration among small producers, awareness of marketing issues)

If there is more than one impact, which is/are the most significant?

How do you think the participants feel about the MIS?

Could the MIS exist without external assistance from Makerere? FAO?

(Could the system have been set up by the local people on their own? Can it now be sustained by them on their own?)

If not, why not and what could be changed to help facilitate independent existence?

Do you think communities will continue to operate the MIS after field testing has finished?

(Do you think they will change it, expand it?)

What significant differences exist between the two field sites? How do these differences affect operations?

If you could change the MIS establishment process, how would you do so?

How would you change the field manual?

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- 2 Community forestry: participatory assessment, monitoring and evaluation, 1989 (E/F/S)
- 3 Community forestry: rapid appraisal, 1989 (E/F/S)
- 4 Community forestry: herders' decision-making in natural resources management in arid and semi-arid Africa, 1990 (E/F**)
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- 1 Guidelines for planning, monitoring and evaluating cookstove programs, 1990 (E/F/S)
- 2 The community's toolbox: the idea, methods and tools for participatory assessment, monitoring and evaluation in community forestry, 1990 (E/F/S/Viet)
- 3 Guidelines for integrating nutrition concerns into forestry projects, 1991 (E/F/S)
- 4 Tree and land tenure: rapid appraisal tools, 1994 (E/F**)
- 5 Selecting tree species on the basis of community needs, 1995 (E/F**)

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- 3 Women's role in dynamic forest-based small-scale enterprises. Case studies on uppage and lacquerware from India, 1991 (E)
- 4 Case studies in forest-based small scale enterprises in Asia. Rattan, matchmaking and handicrafts, 1991 (E)
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- 1 The role of alternative conflict management in community forestry, 1994 (E)
- 2 Participatory approaches to planning for community forestry, 1995 (E)

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- 1 Women in community forestry: a field guide for project design and implementation, 1989 (E/F/S)
- 2 Integrating gender considerations into FAO forestry projects, 1994 (E/F**/S)

COMMUNITY FORESTRY AUDIO VISUALS

- 1 Forests and food security, 1993 (E/F/S)
- 2 Gender analysis and forestry development planning, 1993 (E/F)
- 3 What is a tree?, 1994 (E/F)

COMMUNITY FORESTRY CARTOON BOOKLETS

- 1 Food for the Future, 1990 (E/F/S/Hindi/Malaysian/Portuguese/Sinhala/Viet/Lao)
- 2 Our trees and forests, 1992 (E/F/S)
- 3 I am so hungry I could eat a tree, 1992 (E/F/S)
- 4 Fabulous forest factories, 1993 (E/F/S)

OTHER COMMUNITY FORESTRY PUBLICATIONS

- 1 Restoring the balance: women and forest resources, 1991 (E/F/S)
- 2 Forests, trees and food, 1992 (E/S)
- 3 Women and community forestry in Sudan (slide booklet), 1991 (E)
- 4 What is a Tree? The functional approach to species selection (slide booklet), 1995 (E)
- 5 Fruits of our work: women and community forestry, Tanzania (slide booklet), 1991 (E)
- 6 The gender analysis and forestry training package, 1995 (E**)

Ar Arabic
E English
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