Recording and using indigenous knowledge: A manual

(IIRR, 1996, 211 p.)
Compiled by Evelyn Mathias
Part 1 Indigenous knowledge and development

Introduction

Rural people have an intimate knowledge of many aspects of their surroundings and their daily lives. Over centuries, people have learned how to grow food and to survive in a sometimes difficult environment. They know what varieties of crops to plant, when to sow and weed, which plants are poisonous and which can be used for medicine, how to cure diseases and how to maintain their environment in a state of equilibrium.

This "indigenous knowledge," or IK for short, covers a wide range of subjects:

- agriculture
- livestock
- rearing
- food preparation
- education
- institutional
- management
- natural resource management
- health care, and many other topics.

IK is a valuable resource for development. Under certain circumstances it can be equal to or even be superior to the know-how introduced by outsiders. Development efforts should therefore consider IK and use it to best advantage. Although more and more development professionals have come to realize the potential of IK, it remains a neglected resource. A key reason for this is the lack of guidelines for recording and applying IK. Without such guidelines, there is a danger that IK will become just another empty buzzword of the sort that litters the history of development efforts.

This manual aims to overcome this constraint. It provides government and non-government rural development workers with the information and tools they need to integrate IK into their development work. The design of the manual allows for easy copying and use of the materials in training. We hope that this manual will facilitate the use and conservation of indigenous knowledge for the benefit of people and their communities.
Part 1 of the manual is an overview of IK-related issues.

Part 2 is a description of more than 30 methods for recording and assessing IK.

Part 3 discusses issues and methods for assessing the usefulness of IK in development.

In Part 4, 11 mini-case studies illustrate how projects can build on IK.

Part 5 contains more than 20 question guides that outline content areas to be considered when recording IK.

Part 6 lists some further resources that you can draw on when exploring the use of IK.
How the manual was compiled

The international Institute of Rural Reconstruction (IIRR) is a nongovernment development organization with a tradition of starting with "what the people know" and building on "what the people have." This manual draws on the varied experience of IIRR staff, representing decades of participatory development field work. The bulk of the manual is the result of a participatory workshop, an especially fast and efficient technique, pioneered by IIRR, to produce information materials.

Preparations for the workshop started in June 1994, coordinated by IIRR's Regional Program for the Promotion of Indigenous Knowledge in Asia (Reppika). IIRR staff and several non-IIRR specialists suggested topics and names of likely resource people. This produced a list of some 80 topics, which were assigned to specific resource people.

The two-day workshop was held in December 1994 and involved about 25 IIRR staff members. The group finalized the list of topics, adding some and dropping or combining others. They then formed small groups and prepared their assigned papers according to guidelines that had been circulated previously. The participants were assisted by a team of editors, desktop publishing specialists and artists. Resource material, listed in the reference section of this manual, was made available. In the afternoon of each day, outputs from the previous morning were presented, critiqued and improved by the entire gathering. In this way, some 45 papers were compiled and 10 were presented.

After the workshop, Reppika and the editors integrated the suggested changes in the papers and helped other staff members prepare papers on the remaining topics. Since the latter papers were not available in time to benefit from peer review during the workshop, they were circulated to selected staff members for comments. The same was done with papers submitted by outsiders.

As a result of this process, the manual draws on:

- Literature on participatory methods (e.g., participatory rural appraisal, rapid rural appraisal, participatory action research). All references listed in topic References.

- Publications on anthropological field methods.

- Field experience of IIRR staff members.

- Contributions from members of the Global IK Network (for more information on this network, See the section titled Ad dresses).
How to use the manual

There is no single approach to recording IK. This manual does not propose a new methodology for recording IK, nor do the authors claim to have invented the methods described. Rather, the manual attempts to describe how existing methods can be used to record IK.

The manual is heavily biased towards participatory methods (such as those used in participatory rural appraisal) because these are useful for capturing information on indigenous knowledge. However, it also recognizes the limitations of participatory approaches and the value of other methods such as sample surveys and in-depth interviews.

The manual does not provide ready-to-use approaches, but offers building blocks which users can put together to meet their specific objectives when recording IK. The examples at the end of the question guides in Part 5 are suggestions rather than prescriptions. Methods must be chosen, combined and modified to suit each field study. Creativity and flexibility are crucial for successful recording and application of IK.

The attitude and behavior of the rural development practitioner, or the "outsider," are also important. Professionals must face the challenge of "un-learning" assumptions which imply that "modern" must replace "traditional." Outsiders must be open, willing to learn from the people.

At the same time, local people, or the "insiders," must come to appreciate and value their indigenous knowledge. When people disregard their own knowledge, traditional wisdom and practices are slowly lost. To make IK work, all involved must recognize its usefulness and potential.

But even then, IK is definitely not a solution for every problem. Its contribution to development will also depend on the quality and approach of the projects in which it is used. If a project starts without insiders and outsiders jointly diagnosing the situation, it is likely that prescribed technologies and practices will not address what local people perceive as their main problems. Solutions will be rejected whether they are based on indigenous or western technologies, and the project may well fail.

Understanding IK is fundamental to participatory development approaches. However, we need to go one step beyond understanding IK. We must actively apply useful IK in the planning, implementation, and monitoring and evaluation of projects. This means employing local healers, using traditional education methods, multiplying indigenous tree species, working with local organizations, spreading messages through indigenous communication channels—to give only a few ideas how projects can use IK.

At the same we must recognize that actively promoting selected IK technologies and practices does not necessarily make development participatory. For example, a project can introduce indigenous herbal medicines in a village without first consulting with the local people. Villagers might, or might not, decide to use the herbal drugs, depending on how the project as a whole is presented, whether it is culturally appropriate, and so on. Only if the active application of IK is
part of a people-centered, truly participatory development effort, will we be able to realize the potential of IK in development.

**IK in people-centered participatory development**

The table below shows stages in the project cycle and how IK might be involved in each stage.

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<th>Project cycle</th>
<th>Involvement of IK</th>
<th>Where discussed in this manual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem identification</td>
<td>Understanding of IK is an integral part of truly participatory projects</td>
<td>Not discussed. Consult literature on RRA, PRA and other participatory approaches (e.g., Pretty et al. 1995)</td>
</tr>
<tr>
<td>Project design</td>
<td>Understanding of IK and its active application in projects</td>
<td>Part 1: Indigenous knowledge and development</td>
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<tr>
<td>Implementation</td>
<td>Step 1: Discovering if relevant IK exists</td>
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<td>Step 2: Evaluating the effectiveness and sustainability of IK (Use directly if performance is obvious or proven.)</td>
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<td>Monitoring and evaluation</td>
<td>Monitoring and evaluating the of IK Using IK to monitor and evaluate the performance of projects</td>
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<tr>
<td></td>
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<td>Part 2: Recording and assessment methodologies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Part 3: Assessment of indigenous knowledge</td>
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</table>
**What is indigenous knowledge?**

Indigenous knowledge is the knowledge that people in a given community have developed over time, and continue to develop. It is

- Based on experience.
- Often tested over centuries of use.
- Adapted to local culture and environment.
- Dynamic and changing.

Indigenous knowledge is not confined to tribal groups or the original inhabitants; of an area (called indigenas in Latin America). It is not even confined to rural people. Rather, any community possesses indigenous knowledge — rural and urban, settled and nomadic, original inhabitants and migrants. Other names for indigenous knowledge (or closely related concepts) are "local knowledge," "indigenous technical knowledge" and "traditional knowledge."

**Indigenous vs western knowledge**

Indigenous knowledge is often contrasted with "scientific," "western," "international," or "modern" knowledge—the knowledge developed by universities, research institutions and private firms using a formal scientific approach. This manual refers to this as "western knowledge" (despite the limitations of this term). See the section on Abbreviations and Definitions for a discussion on this.

In reality, there is a lot of overlap between indigenous and western knowledge, and it can be very difficult to distinguish between them. Agrawal (1995) has a critical discussion of this issue.

Because indigenous knowledge changes over time, it is sometimes difficult to decide whether a technology or practice indeed is indigenous, or adopted from outside, or a blend of local and introduced components. For a development project, however, it does not matter whether a practice is really indigenous or already mixed up with introduced knowledge. What is important is that instead of looking only for technologies and solutions from outside the community, we first look at what is in the community. We then use whichever knowledge is found to be effective. Or we combine the beat of both.

**Types of indigenous knowledge**

IK is more than just technologies and Practices. It includes:

**Information**

- Trees and plants that grow well together.

- Indicator plants (plants that show the soil salinity or that are known to flower at the beginning of the rains).
Practices and technologies

- Seed treatment and storage methods.
- Bone-setting methods.
- Disease treatments.
Beliefs

Beliefs can play a fundamental role in a people's livelihood and in maintaining their health and the environment.

- Holy forests are protected for religious reasons. They also may maintain a vital watershed.

- Religious festivals can be an important source of food for people who otherwise have little to eat.

Tools

- Equipment for planting and harvesting.
- Cooking pots and implements.
Materials

- Housing construction materials.
- Materials for basketry and other craft industries.

Experimentation

- Farmers’ integration of new tree species into existing farming systems.
- Healers' tests of new plant medicines.

Biological resources

- Animal breeds.
- Local crop and tree species.
Human resources

- Specialists such as healers and blacksmiths.

- Local organizations such as kinship groups councils of elders, or groups that share and exchange labor.

Education

- Traditional instruction methods.
- Apprenticeships.
- Learning through observation.
Communication

- Stories and messages; carved on lontar palm leaves
- Folk media.
- Traditional information exchange mechanisms.
Who knows what?

Types of knowledge...

Older people have different types of knowledge than the young. Women and men, farmers and merchants, educated and uneducated people all have different types of knowledge.

- Common knowledge is held by most people in a community; e.g., almost everyone knows how to cook rice (or the local staple food).

- Shared knowledge is held by many but not all community members; e.g., villagers who raise livestock will know basic animal husbandry.

- Specialized knowledge is held by a few people who might have had special training or an apprenticeship; e.g., only a few villagers will become healers, midwives, or blacksmiths.

... and types of People

The type of knowledge people have is related to:

- Age
- Sex (see question guide Gender and indigenous knowledge)
- Education
- Labor division within the family, enterprise or community
- Occupation
- Environment
- Socio-economic status
- Experience
- History, etc

This has important implications for development work. To find out what people know we must identify the right people to ask. For example, if boys do the herding, they might know better than their fathers where the beet grazing sites are. If we ask the fathers to show us good pastures, we might get only partial information. Development professionals sometimes think that villagers know very little, when in fact the wrong people have been interviewed.
Characteristics of local systems

The following characteristics of local systems can influence the outcome of development projects:

- Most local people are generalists

They tend to know a little about many things. This contrasts with academia, where people tend to be specialists, knowing a great deal about a few things. That said, some local people are specialists (see Who knows what? on previous page).

- IK systems are holistic

Local people face a set of interrelated problems and they often attempt to solve them by applying their knowledge in a holistic way. For instance, a farmer might view her farm as a whole rather than as a set of relatively separate enterprises. Her decisions about one enterprise might be affected by her knowledge and perceptions of other parts of the farm or environment. The relationships between the parts and the reasoning behind decisions might not be easily discernible to an outsider.

- IK systems integrate culture and religion

Religion is an integral part of IK and cannot necessarily be separated from technical knowledge. Religious beliefs and superstitions might be an important influence on what people do and how ready they are to accept new practices. Trying to change an undesirable practice might be difficult because it is rooted in deeply held beliefs that underlay many other aspects of the culture.

- IK systems minimize risk rather than maximize profit

Avoiding risk is important for local people. For instance, a farmer might keep a few goats as a form of savings, a source of ready cash in case a child falls ill. Since the goats are not a source of regular income, the farmer will try to keep feed costs and labor low, rather than try to optimize meat and milk production. Another farmer might have several small fields in different locations as a hedge against pest damage. This rules out higher yields from mechanization, but pests are less likely to wipe out the entire crop.
Why is indigenous knowledge useful?

- IK is the basis for self-sufficiency and self-determination for at east two reasons:

1 People are familiar with indigenous practices and technologies. They can understand, handle, and maintain them better than introduced western practices and technologies.

2 IK draws on local resources. People are less dependent on outside supplies, which can be costly, scarce and available only irregularly.

- IK provides effective alternatives to western know-how. It gives local people and development workers extra options when designing projects. Instead of searching only among western technologies for feasible solutions, they can choose from indigenous knowledge or combine indigenous and western technology.

- Indigenous technologies and practices are often cheaper than western once. They rely on locally available skills and materials and often require little on no cash outlay.

IK is easily overlooked

Be careful: indigenous practices are sometimes not very spectacular. Despite their effectiveness, they can easily be overlooked.

For example, a traditional irrigation system consisting of mud canals and bamboo pipes looks less impressive than an introduced system of neat, straight, and cemented canals. Nevertheless the local system can effectively distribute water to the fields. In the long run, it might even conserve water better than the cement canals. Research in Nepal has shown that farmer-managed irrigation systems based on indigenous knowledge resulted in higher agricultural productivity than systems built and managed by government agencies (DFM 1993).

IK is often overlooked because it seems "messy" and 50 is not obvious to outsiders. For example, people in some places do not weed their plots in order to reduce soil erosion. An outsider might get the wrong idea and assume nobody is tending the fields.

IK is an endangered species

IK is often transmitted by word of mouth rather than in written form. This makes it vulnerable to rapid change—especially when people are displaced or killed in famine or war, or when younger generations acquire values and lifestyles different from their ancestors.

Some IK is lost naturally as techniques and tools are modified or fall out of use. During the last decades, however, development processes and population changes have accelerated this, endangering the survival of IK.

What can we do to preserve this endangered species? Here are some ideas:

- Raise awareness about the value of IK for development.
- Help communities conserve their IK (see Helping communities conserve their IK).

- Record and use IK in applied development projects (see Using indigenous knowledge in development).

- Document IK and make the information available to people working in development.

- Make IK available to the communities from which it was obtained.

- Observe intellectual property rights when recording IK (see Intellectual property rights).
Helping communities conserve their IK

Despite limited documentation, people have managed to transmit knowledge efficiently from generation to generation, conserving wisdom for centuries. Social and technical skills are shared and used throughout communities, and in the process, passed to children. There is no patent recipe for conserving IK, but education, communication, and application can help.

Here are a few suggestions on how you can help communities preserve their IK.

Raise awareness in the community about the value of their IK

Record and share IK success stories in songs, drawings, puppet plays, story telling, dramas, videos, and other traditional or modern means of communication.

Demonstrate the usefulness of IK

Establish model farms, agricultural demonstration plots, handicraft enterprises, herbal gardens, and other indigenous technologies that can show people the value of their IK.

Help community members record and document their local practices

Circulate the results of IK recording efforts in a newsletter, book, video, and other traditional or modern means of communication. Encourage indigenous forms of record keeping (see Sources and documentation of IK in Part 2).

Make IK available

Involve local people in preserving their IK For instance, help set up a farmer-managed local germplasm bank.

Promote revival of traditions and selected local practices

Encourage the reintroduction of indigenous education. Encourage establishment or strengthening of indigenous organizations. This will encourage community members to place a higher value on local culture and practices.
Using indigenous knowledge in development

Usually development projects start with the identification of problems and with discussions on how these problems might be solved. For example, if soil erosion is a problem, conservation measures will be needed. If farmers need money for farm inputs, a credit program might be the answer.

How can such projects and others use IK? The flowchart below summarizes the decisions that must be made. We can identify four basic steps (these steps are the same as in the table in the section How to use the manual):

1. Identify problem
2. Does IK relating to problem exist?
   - Yes
   - No → Test appropriate outside knowledge
3. Is IK effective and sustainable?
   - Yes → Promote IK
   - No
4. Can IK be improved?
   - Yes → Apply and promote improved IK
   - No → Test appropriate outside knowledge
1 Determine whether relevant IK exists

Working together, community members and development workers record and briefly document all IK available in the community relating to the identified problem—what has been done in the past and what is presently done to solve the problem. For guidance on how to record IK, see Why is indigenous knowledge useful and Recording IK in communities. and the descriptions of individual recording methods in Part 2.

If time and financial constraints prevent a thorough recording and documentation, think of methods that allow for a quick assessment of at least some IK—such as brainstorming sessions with key informants (see Brainstorming in Part 2).

If no relevant local IK exists, it might be necessary to test, adapt, and promote appropriate knowledge from outside. This outside knowledge can be western knowledge, IK from other places, or a blend of both.

2 Evaluate the effectiveness and sustainability of IK

If relevant IK does exist, local people and development workers can together discuss and screen their findings, looking for IK useful to the project.

Remember that from a development point of view, not all IK is equally useful. Some might be ineffective, and some might even be harmful. De selective (Part 3 gives some criteria for validating IK).

When evaluating the effectiveness of IK, understand the reasons behind a particular practice or belief. For example, we may ask:

Why does farmer X build a stone wall in this particular place and not further down the slope like we teach at the university?

We might find that if the wall were built in a different place, it might be washed away by heavy rains. Thus IK can make sense even if it contradicts the teachings of outside specialists.

If the IK is indeed effective and sustainable, it can be promoted without further modification. For example:

- Make effective cooking devices more widely known.
- Promote local remedies that work.
- Employ local healers.

3 Test whether IK can be improved

Often, IK is effective but can be improved. For instance, a traditional cropping system might be made more productive by incorporating a new grass species or an improved crop variety. Alight
modifications to a traditional stove design might make it more fuel-efficient yet retain other desirable features.

These improvements can be made in various ways

- Through formal research in laboratories and experimental farms.
- By on-farm research managed by scientists (as is common in farming systems research).
- Through farmer-managed, participatory technology development (Veldhuizen and Zeeuw [1992] give guidance on this).

The outside knowledge can be both western knowledge and IK from other places. The table below, and Part 4 give some examples of blending indigenous and outside technologies.

In some cases, IK cannot be improved or adapted satisfactorily. Adaptations of a local cropping system, for instance, might prove consistently inferior in all respects to an introduced pattern. In such instances, it might be best to adapt and promote the introduced pattern.

Blending local and introduced knowledge

Farmers in East Nusa Tenggara, Indonesia have several practices to improve soil fertility and prevent erosion. The table below shows how indigenous knowledge can be blended with-and improved through western knowledge.

<table>
<thead>
<tr>
<th>Indigenous Practice</th>
<th>Western knowledge</th>
<th>Indigenous Practice blended with western knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carry dry biomass from the forest (e.g., from Albizia sinensis trees) and burn it on fields.</td>
<td>Green manuring using Desmodium, Gliricidia, and Flamengia.</td>
<td>Promote growing of indigenous tree species on farm for biomass production.</td>
</tr>
<tr>
<td>Slash and burn cultivation on rotation basis.</td>
<td>Use of leguminous tree species.</td>
<td>Use of leguminous hedgerows to maintain soil fertility on slash and burn fields to turn them into continuously cultivated fields.</td>
</tr>
<tr>
<td>Build contour barriers from dry branches, shrubs, and bamboo.</td>
<td>Contour canals and hedgerows to reduce erosion.</td>
<td>Strengthen barrier with live hedgerows and combine them with a contour ditch uphill from the barrier.</td>
</tr>
<tr>
<td>Integrate trees into fields in irregular pattern.</td>
<td>Regular planting distances among trees; trees not planted in fields.</td>
<td>Improve planting patterns of existing practices in fields.</td>
</tr>
<tr>
<td>Build terraces from rocks.</td>
<td>Live hedgerows.</td>
<td>Strengthen terraces with live hedgerows.</td>
</tr>
</tbody>
</table>
4 Apply and Promote improved IK

The improved IK can be promoted and applied through the extension service, farmer-centered extension, and other communication and education approaches. Participatory approaches to technology development have the advantage that local people have been involved in the development and testing of the improved IK. They are therefore more likely to use and promote it successfully than if top-down approaches are used.

Note Using IK in projects: An example of soil erosion

A village's harvests are low. Farmers and development workers identify heavy soil erosion as one of the causes. How can they design measures that build on IK?

First, local people and development workers discuss what has been done by the community in the past to solve this problem. Together they determine what resources are available in the village.

They record and document all IK relating to land management. They walk together around the fields and assess the situation. Out in the fields they become aware of facts and practices that a discussion in a room might not have brought out. They document everything: stone walls, terraces, bush species planted on hill slopes, planting practices, etc.

The team (insiders and outsiders) then decides whether any of the existing IK (information, practices, technologies, species, etc.) might be useful to the project. They discuss how the IK could be used—whether pure, modified, or blended with outside technological.

Finally, the project applies the selected practices, using some directly and setting up experiments to test and improve others.

Note Using IK in Projects: An example of credit

Farmers have asked a church group to lend them money to buy farm inputs. The church group agrees to make available a small amount of money to be distributed through a credit program. Is there any IK in the community that the credit program could use?

First, farmers and representatives of the church group sit together to discuss and record any forms of saving and credit practiced in the community. Indigenous forms do not necessarily involve cash.

Although many societies indeed have some arrangements for money lending, they can also involve valuable goods that are sold or exchanged when cash is needed. (For example, people often keep sheep and goats as forms of savings.)

The church group also talks with indigenous money lenders.
Then farmers and representatives of the church group screen their findings to determine whether some of the recorded IK could be useful for the credit program. For example, the project could consider employing indigenous money lenders. These money lenders are often very successful. They might, however, employ practices that the project might feel uncomfortable imitating, such as asking very high interest rates. But, the money lenders' success could also be due to the respect they enjoy in their community. In this case, they might be a valuable asset to the credit program.
**Recording IK in communities**

You should follow certain rules and procedures when collecting, recording, and documenting IK. Whether the IK is part of an applied development project for storage in a database, the same standards apply. The following is a general outline of activities, rules, and procedures to be followed when collecting, recording, and documenting IK. Part 2 contains detailed information on some 30 methods useful for recording IK.

**Preparations**

- Define your study objectives.

- Determine content and extent of the study: What do you need to know? How much do you need to know? Do not attempt to collect more data than necessary

- Select methods for recording and documentation. Methods should:
  
  - Yield the required information.
  - Be low-cost.
  - Be easily understood by community members.
  - Be fun.
  - Place importance on local people rather than the researcher and other outsiders.

- Prepare for each method thoroughly before going to the community. If several people are involved, divide the work and agree on who will do what.

- Collect as much relevant information as you can about the community and related topics before you enter the community.

- Obtain permission from the community before you start the study or project.

**Entering the community**

- Introduce yourself and other outsiders to all community members involved.

- Explain to the community, in detail, the study or project objectives. Do not raise false expectations.

- Let people know that you have come to learn from them.

- Discuss with the community the possible benefits of the study.

- Inform community members of how much of their time the study take.

- Learn the meaning of local terms (see Matching terms and concepts below).
- If possible, learn to speak the local language. This makes field work much easier and is usually highly appreciated.

Note

Matching terms and concepts

Many misunderstandings and mistakes occur because outsiders and local people do not understand what each other mean when they use particular words. Your Definitions and the way you classify things such as soils and diseases are not necessarily the same as those of community members. You may need to work together with local people to translate and match your terms and concepts.

In some cases local Definitions are broader than their western equivalent. For example, Fulani pastoralists in Africa regard several important livestock diseases as just one disease because they have similar symptoms.

In other instances, local descriptions are more detailed. For example, the Inuit of the Arctic have many words for snow; farmers in Central America have different names for corn depending upon its stage of growth or its intended use; and pastoralists in northern Africa have an extensive vocabulary describing parts of a camel's body, reflecting how important the camel is to these people.

Some abstract concepts, such as beliefs about what causes disease, have no western equivalent. It can be difficult to match indigenous terms and taxonomist with their corresponding western ones. Methods such as interviews, sorting, ranking, building taxonomist, and observation can help match indigenous and western terms.

Learning about IK

- Ask neutral questions. Do not ask leading questions.

Example

Yes: "What do you use this for?"
No: "Do you use this for cooking"


- Listen. Observe.

- Be open. Try to achieve an insider's perspective.

- Keep alive the interest of local participants—know when to Stop.
Follow the dos and don'ts of community work in the box below.

Note

Dos and don'ts of community work
Don't force people to participate in the process.
Don't be impatient.
Don't ask a lot of questions all at once.
Let people finish what they have to say and then ask your questions.
Listen attentively and learn.
Don't disturb ongoing discussions.
When people are discussing one subject, don't introduce another.
Include fence sitters (those who watch but do not actively participate).
Be wary of people who dominate discussions. Deal with them diplomatically.
When people discuss among themselves, do not try to influence them.
Don't show approval or disapproval.
Don't exchange signs between team members during discussions.
Learn and use the local language.

Source: Shogorip 1992

- Recording IK Record all information, even if it does not make sense from an outsider's point of view.

- Record as neutrally and value-free as possible.

Examples

Yes: "Farmers use local breeds."
No: "Farmers still use local breeds."
No: "The village appears less developed because farmers use only local breeds."
Yes: "Farmers use two or three types of medicine."
No: "Farmers know only two or three types of medicine."

When the study is finished

- Validate the output with the community.
- Provide the community with a copy of the output.
- Discuss how results will be used and how they can benefit the community.

Note

"Extractive research" is designed to provide information to outriders.
'Enriching research enables local communities. (Waters-Bayer 1994).
Intellectual property rights

Recording IK presents a dilemma. Consider traditional medicines: If we don't record IK, it is lost forever. If we do record IK, the results can be used to the disadvantage of local people—for instance, if the drugs are patented and marketed by outside firms, without any payment or benefit to the community as the inventor or source of the information.

How can we help prevent our work on IK from being abused? Here are some guidelines:

- Include local people as authors or credit them when recording their practices. Always include names, dates, and places in your records and in any document describing IK of a specific person or community.

- Help local people document their information, to become authors themselves.

- Record and use IK in the context of applied development projects.

- Leave copies of the outputs of fieldwork (e.g., maps, seasonal calendars) with the community.

- Make the outcome of your study available to the community (e.g., translate reports, make copies of videos, establish village-based databases, etc.).

- Help community members (or communities) copyright documents and patent technologies which are unique and promising.

- Help communities organize to determine for themselves how they wish to respond to inquiries from researchers and commercial companies. They might be able to bargain with such outsiders to ensure that they receive some benefits from sharing their knowledge.

- Know and comply with the local laws on export of artifacts and germplasm.
Part 2 Recording and assessment methodologies

Recording methods

This section outlines general procedures and rules of conduct when recording IK in communities. It briefly lists sources and ways to document IK and provides details on methods that have been used for recording IK. The description of most methods is organized as follows:

- Definition

- A brief characterization of the method.

- Purpose. General usefulness of the method, not necessarily regarding IK.

- Materials. Things needed when using the method.

- Possible approach. A step-by-step explanation of how the method can be used. To keep the manual short and avoid overlap, general procedures such as "seek permission from the community" or "introduce yourself are not repeated for each method. They are detailed in Recording IK in communities and are reiterated in some of the methods as reminders. The method Workshop outlines some principles of working with groups in communities.

- Value. Usefulness of the method for recording IK.

- Dos and don'ts. What to do and not to do when using the method.

- Modifications. Alternative approaches to or uses of the method.

- Notes or boxes. Additional explanations.

Sources are given only when the compilation of the method draws heavily on one or a few sources. When writers relied mainly on their field experience and backed the information up by consulting the various reference materials listed in the Reference section of this manual, no specific sources are cited.

There is no single approach for recording IK (see How to use the manual). Similarly, the steps outlined under Possible approach are not ready-to-use instructions, but just one of many possible ways a method can be used. The methods must be modified and combined to suit each field study. You must be creative and flexible to record and apply IK successfully.

Sources and documentation of IK

Sources

The following IK sources should be considered:
Community members, especially elders, are the best sources of IK. But, since IK is unevenly distributed in communities, it is important to find out who knows what in order to tap the right sources. Otherwise, data will not truly reflect IK in the community. For example, asking men about garden plants when women are in charge of home gardens, (might lead you to conclude that villagers know little about gardening (see also Who knows what?).

Folklore, songs, poetry, and theater can reveal a great deal about a people's values, history, and practices. These are often not written down and need to be recorded.

Community records—Although IK is mostly transmitted by word of mouth, some indigenous forms of record keeping exist. These include writings, paintings, and carvings. Records can also consist of trees planted as boundaries, notched poles, bones, and many other forms.

People working with communities, such as extensionists, can be valuable sources of IK.

Secondary sources include published and unpublished documents, databases, videos, photos, museums, and exhibits.

Documentation: compilation and storage

IK can be documented in the form of:

- Descriptive texts such as reports
- Taxonomies
- Inventories (For example, lists of plant species, tables listing remedies and their preparations, etc.)
- Seasonal pattern charts
- Maps
- Matrices
- Others
- Decision trees
- Audiovisuals such as photos films, videos, or audio cassettes
- Dramas, stories, songs, etc.
- Drawings
- Daily calendars
IK can be stored in:

- Local communities
- Databases
- Card catalogs
- Books, journals, and other written documents
- Audiovisuals
- Museums
- Others

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Strengths or strategic advantages of methods suitable for the recording of IK
Sample selection

How to draw a sample

Most of the methods described in this manual are qualitative, that is, they describe without necessarily quantifying observations. There might be times, however, when more quantitative data is required. Maybe you suspect that your observations, if systematically recorded and analyzed, will reveal patterns or associations which are not obvious without special testing. This involves the use of statistical analysis, a subject outside the scope of this manual; there are plenty of good books on the subject as well as powerful and easy-to-use computer applications.

In short, statistical tests allow you to draw informative conclusions about very large groups of people, things, or occurrences by observing a small representative sample of these people, things, or occurrences. Since this manual is about collecting information, it is worthwhile knowing what constitutes a representative sample.

Imagine that the population you are studying is a pot of stew with all sorts of vegetables, beans, and meat. Taking a spoonful from the top might lead one to believe that the stew is thin. A spoonful scraped from the bottom of the pot might suggest an especially hearty stew. To learn the true nature of a stew, you must first stir, then sample. In terms of your population under study, this means you will need information which adequately represents the diversity of the population. It does not mean you have to stir people in a big pot! But it does mean you have to know something about the population before you start.

1 Determine Your Population. What do you want to study? In what area? For instance, you might decide to study the indigenous cropping practices in the Western Highlands in your country. Your population might therefore be crop raisers in that region.

2 Decide on the unit of study. Are you interested in individuals, couples, households, families, organizations, or villagers? In plants, animals, herds, fields, farms, or watersheds? (For the crop variety study, the unit of study might be households—though you need to determine who in the household—male or female, old or young—you should interview.)

3 Determine Your unit of measure. For the study on crop varieties, this could be the yield per hectare (or the local unit of area) of each variety. It is likely that you'll be interested in other units of measure, too. For instance, you might also want to measure the number of varieties grown, the level of organic and inorganic fertilizer used, the time of planting and harvesting, the number of days labor put into a unit area, and other characteristics.

4 Work out how large the sample size will have to be. The sample must be big enough, otherwise your data, no matter how carefully collected, and your statistical analysis, no matter how skillfully performed, will be useless.
The minimum sample size depends on several things:

- How much time and money do you have?
- How big is the population that you want to generalize?
- How much variability is there in the population?
- How many subgroups do you want to split the population into during your analysis?
- How confident do you want to be that your findings are correct? (This is measured by the confidence level: a confidence level of 90% means that you can be 90% confident that the true value of a mean will be reasonably accurate. Gee a statistics book for details.)

The following table shows the minimum sample sizes required for various population sizes with a 90% confidence levels.

<table>
<thead>
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<th>Population size (N)</th>
<th>Minimum sample size (n)</th>
<th>% of population</th>
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<td>50</td>
<td>33</td>
<td>66%</td>
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<tr>
<td>50,000</td>
<td>100</td>
<td>0.2%</td>
</tr>
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</table>

Note that these are minimum numbers required. If you divide the sample into subgroups for analysis, or if you need a higher level of confidence, you will need to sample more than this. For a 95% confidence level, you need to sample about four times the number n shown in the table. In general, for populations of more than 5000, a sample size of about 100 is enough for most simple statistical analyses at 90% level of confidence (400 for 95% confidence level). You should not use samples of less than about 30 for statistical analysis.

Note
Draw a bigger sample than you need

It is usually a good idea to draw a bigger sample than you actually need (say, 15 to 20% larger than you need). You need to do this because some people may not be in when you visit, may refuse to answer your questions, or give responses that you decide you cannot trust. If you start off with a bigger sample than you need for the statistical analytic, you can always replace these people with the extra respondents.
In many instances, you might be tempted to go to the house next door if someone is not at home when you visit for an interview. You can do this as long as you are consistent. Beware of introducing bias—for instance, by interviewing a disproportionate number of elderly people, since these are the ones who are at home when you call.

5 Make a list of all members of the population. This is your sampling frame. You can make such a list in several ways:

- Ask local people to make such a list. Make sure that they include "invisibles" such as low-caste families or landless people.

- Develop the list through one of the other techniques described in this manual, such as Mapping or Sorting and ranking.

- Obtain a list from local authorities. Possibilities include the village leader, local land records, lists of school children (from the local school), patients (from the clinic), or cooperative members (from the coop). Beware: these lists might be biased to one section of the community. But they can be a good basis on which to build a more complete list with the help of local people.

Making a reasonably complete list can be very difficult, especially for large populations. If you cannot do 50, don't worry; you can use other methods of sampling (described below).

6 Draw the sample to study. You can use one of the techniques described below.

Drawing lots

1 Write all the names of the people (households, farms) in your sampling frame on small pieces of paper.

2 Fold the papers uniformly, put them in a big pot and mix them well. (For a stratified sample [see below], put the names for each subgroup in a different pot).

3 Then reach in the pot, without looking at the names, and pull out at random the number of pieces of paper (n) you need.

4 It is a good idea to pull out extra pieces of paper (extra households) to serve as substitutes in case some households have moved or cannot be located or contacted after several attempts. After two or three follow-ups without success, you can use the substitutions. These should also be chosen randomly.

Cards

This method can be used for drawing samples where there are less than 52 (the number in a deck of cards) individuals in the sampling frame.
1. On a piece of paper, list the names of all individuals in your sampling frame.

2. Number the list (1, 2, 3, etc.).

3. Shuffle a deck of ordinary playing cards and draw out n cards at random from the deck.

4. Write down the figures that correspond to the cards you have drawn, according to the following table.

   | A ♠ | A ♦ | 14 | A ♥ | 27 | A ♣ | 40 |
   | 2 ♠ | 2 ♦ | 15 | 2 ♥ | 28 | 2 ♣ | 41 |
   | 3 ♠ | 3 ♦ | 16 | 3 ♥ | 29 | 3 ♣ | 42 |
   | 4 ♠ | 4 ♦ | 17 | 4 ♥ | 30 | 4 ♣ | 43 |
   | 5 ♠ | 5 ♦ | 18 | 5 ♥ | 31 | 5 ♣ | 44 |
   | 6 ♠ | 6 ♦ | 19 | 6 ♥ | 32 | 6 ♣ | 45 |
   | 7 ♠ | 7 ♦ | 20 | 7 ♥ | 33 | 7 ♣ | 46 |
   | 8 ♠ | 8 ♦ | 21 | 8 ♥ | 34 | 8 ♣ | 47 |
   | 9 ♠ | 9 ♦ | 22 | 9 ♥ | 35 | 9 ♣ | 48 |
   | 10 ♠ | 10 ♦ | 23 | 10 ♥ | 36 | 10 ♣ | 49 |
   | J ♠ | J ♦ | 24 | J ♥ | 37 | J ♣ | 50 |
   | Q ♠ | Q ♦ | 25 | Q ♥ | 38 | Q ♣ | 51 |
   | K ♠ | K ♦ | 26 | K ♥ | 39 | K ♣ | 52 |

5. Select the names from the list that correspond to the numbers you have written down.

Calculator

Some calculators can generate random numbers at the push of a button. These numbers are typically a decimal between 0 and 1. To use the numbers generated, you can either:

- Multiply each number by the number in the population, plus 1. For instance, if there are 500 people in the population, multiply each of the random numbers generated by 501. (The extra 1 is necessary to make sure that the 500th individual also has a chance of being selected, since the random numbers generated range from 0.000 to 0.999, not 1.000).

- Alternatively, you can ignore the decimal point in the random numbers, and ignore any numbers that are higher than the total of your population.
Random number table

1 Make a list of all individuals in your sampling frame.

2 Number the fat (1, 2, 3, etc.).

3 Decide how many individuals you need to sample. This is your sample size, n.

4 In the table of random numbers on page 35, locate a starting point by closing your eyes and pointing with a pencil to any position on the page.

5 Starting at the number you have just chosen, read downward vertically and choose the next n numbers in the column. If you need fewer than 100 individuals, take the first two digits in the column (or the middle two, or the last two: it doesn't matter, as long as you're consistent). When you get to the bottom of the column, go to the top of the next column.

6 Select the names from the list that correspond to the numbers you have chosen from the table.

Systematic random sample

This method is easier than random sampling if your list contains a large number of individuals (say, more than 500).

1 Obtain a list of all individuals in your sampling frame. Count how many there are (say, there are 15,000 people).

2 Decide how many individuals you want to sample (say, you want to sample 200 people).

3 Divide the number of individuals by the number in the sample (i.e., 15,000/200 = 75). This is the sampling interval.

4 Select one individual from the list at random as a starting point.

5 Select every subsequent 75th person (or whatever your sampling interval is) from the list.

If you cannot get a list of the members of the population

You can still generate a sample that will be approximately random. Here are some suggestions.

Using a map

1 Obtain a map of the area (or ask local people to make one—see Mapping)

2 Select locations at random from the map. For instance, you can draw a grid of squares over the map, number the squares, and select squares at random using one of the techniques described in
this section. You can then go to the locations chosen and select the nearest house (field, farm) to the chosen location.

Random route

1 Select a location at random.

2 Identify further addresses (fields, farms) by taking alternate left and righthand turns at road junctions and calling at every nth address (field, farm, etc.) en route. (The number n depends on the sampling interval, see above under Systematic random sample.) Alternate between the right and left sides of your path.

Using a transect

1 Identify a series of transects at random (possibly using a map, ace above).

2 Walk along each transect and select every nth house (field, farm). Alternate between the right and left sides of your path.

Cluster sampling

Perhaps you want to interview a sample of people who live in villages scattered over a large area. There is no list of all the people in the area, and it would be impossible to make one. This is where cluster sampling can help.

1 Make a list of all the villages in the area (these are the "clusters").

2 Decide how many villages you can afford to visit (this may depend on money or time available). In general, select as many as possible.

3 Select this number of villages at random.

4 Within the villages you have selected, choose people at random using one of the other methods described in this section.

5 It may be necessary to draw a multistage cluster sample in some instances. For instance, you could select several districts at random, then choose villages at random within the districts, and choose people at random within each village.

Snowball sampling

Snowball sampling does not produce a sample that can be analyzed using standard statistical tools. But it is a useful way of identifying hard-to-find individuals. See Identifying indigenous specialists for a description of how to use this sampling method.
Stratification

Your population might contain an important subpopulation that might be underrepresented in a simple random sample. For instance, you might be interested in the indigenous knowledge of large landowners compared to smaller-scale farmers. But if there are only 20 large landowners with more than 2 hectares of land and 5000 small farmers with less than 2 hectares, you would need to sample a very large number of people at random in order to be reasonably sure of interviewing enough large landowners.

The answer to this problem is called stratification. You first divide the population into subsets, or strata. You can get local people to help you do this (see Identifying indigenous specialists and Sorting and ranking). Then randomly select individuals from within each subset. For instance, you might select 100 households with less than two hectares and all 20 of those with more than two hectares.


Table of random numbers

This table contains 1000 4-digit random numbers. See How to draw a sample for how to use the table to select a sample at random.
Identifying indigenous specialists

Definition

A method employing informal questioning and diagramming to identify individuals with specific know-how.

Purpose

To identify indigenous specialists. Indigenous specialists are community members who have special skills or expertise in one or more subject areas or who practice a profession (e.g., healers). The method can be adapted to identify other types of individuals—such as decision makers, innovators, political opinion leaders, etc.

Materials Notebook

- Pen
- Manila paper
- Marking pen

Possible Approach

1 Define the topic you want to investigate (such as farming or health). Be as clear as possible about its focus and scope.

2 Identify the type of people who can help. It might be useful to start with people who are involved in activities relating to the topic. For instance, if the topic is farming, you should ask people who do farm work (both men and women). If the topic is cooking, ask family members who do the cooking.

3 Select a sample of up to 20 such people. The number of people will depend on the topic. For highly specialized topics (such as irrigation tunnel building), you will probably need only a small number of people in the initial sample, since only a few people are likely to be knowledgeable about these subjects.

4 Ask each person to name the people in the village who know the most about the topic. Ask each respondent to name up to four people.

5 Write down the names of these people and where you can find them.

6 Visit each person named. Ask them to name the people who they think know the most about the topic. Add the new names to the chart and visit these new people.

7 If necessary, repeat steps 4 through 6 until no new people are named.
8 Draw a diagram showing all the people named. Draw each person as a circle with the name underneath.

9 Draw arrows from each circle pointing to the circles of the individuals each has named. Count and record the number of arrows pointing toward each circle.

10 The individuals attracting the highest number of arrows are the indigenous specialists for that topic.

Value

- This method quickly generates a list of individuals with specific skills or characteristics.

- These individuals can supply valuable information about their particular area of expertise. (See other methods in this manual which rely on indigenous specialists or key informants.)

Dos and don'ts

- Do repeat the process for other topics as required. A specialist one topic (such as farming) is not necessarily the most knowledgeable person on another subject (such as cooking).

- Don't rely on indigenous specialists for information outside their area of expertise.

- Do make sure that you include a fairly wide range of people in the initial sample. Include men, women, rich, poor, high- and low-caste.

Modifications

By changing the wording of the question, you can use a similar approach to identify other types of people or relationships. For instance:

- "If you need some advice, who do you go to?" — This helps to identify opinion leaders.
- "Who do you most often talk to in the village?" This helps to identify social networks.
- "Is there anyone in the village who you disagree with on (topic X)?"

This helps to identify a range of opinions.

Note:

Although certain people may have a reputation for their skills they are not necessarily the best informants. The success on which their reputation is built might reflect their reduced need to make compromises rather than their skills—often wealthier people who have more land and access to higher inputs and therefore are less dependent on indigenous knowledge (adapted from Fairhead in HED 1991).
1 First sample

2 First group names other people (second group).

3 Second group names other people (third group).

Diagrams
Observation and interviewing

Case studies

Definition

A comprehensive, in-depth investigation of a situation, a sequence of activities, or a procedure within its natural setting.

Purpose

To understand a situation, a sequence of activities, or a procedure to learn what happened, how it happened, and why it happened.

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<tr>
<th>Materials</th>
<th>Sometimes:</th>
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<tr>
<td>Notebook</td>
<td>Tape recorder end microphone</td>
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<tr>
<td>Pencil</td>
<td>Still camera</td>
</tr>
<tr>
<td>Interview guide</td>
<td>Video camera and accessories</td>
</tr>
<tr>
<td>Observation guide</td>
<td></td>
</tr>
</tbody>
</table>

Possible approach

1 Identify topic or focus—what you want to study.

2 Design the study

- Select the appropriate social unit. Will you study the individual, group, institution, process, activity, or system?

- Decide whether you will study a single case—one person, group, institution, or process—or a multiple case—two or more persons, groups, etc.

- Choose what you want to find out and how to observe and measure it.

- Select the site or sites for study.

- Set a timetable for gathering field data.

3 Prepare an observation guide—a list of things to observe—and an interview guide—questions to ask.

4 Seek cooperation from people on site in advance.
5 Gather information by interviewing people or by observing and using other methods described in this manual.

6 Record the information in a notebook, field diary, or logbook. Do this daily or according to a set schedule. You might find a tape recorder and camera useful for recording data.

7 Validate or cross-check the information through multiple sources. For instance, get information from several informants, or check findings with published documents or maps, or by measuring them directly.

8 Analyze the information.
   - Identify themes, variables which are related.
   - Look for strong evidence or corroboration.
   - Rule out competing explanations.

9 Validate findings with the informants or other community members.

10 Prepare a report.
   - Make sure that there is a narrative flow—an easily understandable pattern or progression. For instance, you could describe how things began, what led to what, and how events are linked.

11 Give a copy of the case study to the community.

Value

Case studies
   - are useful in investigating processes, such as documenting an activity from first to last step (e.g., rice production from land preparation to harvesting and processing).
   - can be used to investigate changes over time (e.g., changes in farm practices from Year 1 to Year 5).
   - are typically participatory and involve experiential learning—they can lead to exchange of information between the researcher and the participants.
   - emphasize the insider's perspective over the outsider's perspective.

Compiled by Perpetuo C. Librando and Eblas L. Blancas Sources: Bennett 1983 Yin 1984
**Field observation**

**Definition**

Outsiders observe what local people do or have.

**Purpose**

To collect supplementary data, validate information gathered through other means (such as interviews), to learn and record IK

Observation car, identify topics for further discussion.

**Materials**

- Notebook and pen.

**Possible approach**

1. During field visits, observe what people do, how they do it, what they use, etc.

2. Write down your observations in a notebook. Write as much detail as required. If you have questions, ask bystanders for help. Collect samples such as leaves, soil samples, etc., if the community permits.

3. Review your notes at the end of the day. Check whether any observation requires further clarification or follow-up.

4. Analyze your notes.

**Value**

Field observation will help you discover new IK and to see familiar IK in practice. It can validate responses received during interviews. Observation alone, however, might be insufficient to discover the reasons behind IK practices or to identify the causal relationships between practices; in order to answer the question why, this method must be combined with small-talk, interviews (see Interviewing), or other methods.
In-depth interviews

Definition

A form of interview in which questions and topics are built upon the responses to previous questions. It is probing and flexible.

Purpose

To uncover details about the "who," "what," "where," "when," "how," and "why" of practices, technologies, beliefs, or tools.

Materials

- Notebook
- Pens
- Initial list of topics for discussion and list of interviewees (if respondents are identified through random sampling)
- Tape recorder (if available)

Possible approach

1. Compile a list of topics. Be clear on the flow of questions and the relationship of each question to the rest.

2. Decide on a method to identify a sample of respondents. It can be based on random sampling (see How to draw a sample) or merely a group of people available and willing to participate at a given time. While the latter might be easier, it will give you biased results, because certain types of people might not be available at a given time. For example, farmers might not be available for interviews at mid-morning, or women might have time only during the evening.

3. If random sampling is used, prepare the list of respondents Make appointments with identified respondents.

4. Before each interview, explain the objectives—how the information will be used and the expected length of the discussion. About one hour IK recommended. Don't forget that your interviewee' time is valuable.

5. Ask for permission in advance if you want to use a tape recorder. Also, keep written notes of the essential points of the discussion. If neither are possible, keep mental notes and record them immediately after the interview.
6 Ask questions and allow the interview to flow. But make sure you do cover the flat of topics you drew up.

7 Stick to the agreed time.

8 Validate written notes with the interviewee and conduct any needed follow-up interviews.

Value

In-depth interviews help draw out the perceptions and experiences of individuals, expressed in their own words. This is useful for gathering in-depth information on specific aspects of indigenous knowledge.

Dos and don'ts

(See Interviewing.)

Note

If you are interested in a particular piece of equipment or process you can interview the respondent while she is making or using the equipment or doing the process. You can even try it out yourself—for instance, you can ask a mother to teach you how to cook a certain type of food or identify a medicinal plant in the forest. See also Participant observation and Participative technology analysis.

Compiled by Angelina C. Ibus
**Interviewing**

This topic provides general information on interviewing. The topics In-depth interview and Survey contain detailed descriptions on the "how-to" of these two forms of interview.

The word interview implies an interaction between two or more people. Interviews vary in style and format. We can broadly differentiate:

- Informal interviews without structure or control. Interviewers record details of conversations or discussions they have in the community or elsewhere. Such encounters can yield very useful information.

- Unstructured interviews based on a clear plan or a list of topics that the interviewer follows.

- Semi-structured interviews based on written lists of questions or topics that need to be covered in a particular order. These lists are called interview guides.

- Structured interviews based on a questionnaire or interview schedule which is closely followed during the interview. The course of the interview is mostly predetermined and little leeway is left for follow-up questions.

The less an interview is structured, the more it allows for an exchange between interviewer and interviewee, leading to mutual understanding.

Most forms of interviews entail a meeting between interviewers and interviewees. Interviews with some informants, such as researchers, can also be conducted by telephone.

Individual interviews usually involve one interviewer and one interviewee. But sometimes several interviewers or interviewees can take part. In the case of group interviews (i.e., interviews with several interviewees) it is useful to have several interviewers, each assigned a specific role, such as interviewer, recorder, or observer.

Here are some interviewing "dos and don'ts." Many of the suggestions in this table apply to many other recording and assessment methods and to community work in general. Therefore they might appear in other sections of this manual.

Dos and don'ts for interviewing. These do's and don'ts are worded for group interviews but most apply also for individual interviews.

Adapted from Mascarenhas 1993.
Do
Don't

Preparations:
Spend time:
forming the interview team.
defining roles and responsibilities.
understanding the topic.
planning the interview.
electing a spot for the interviews.
reviewing the dos and don't sof interviewing.

| Make appointments with the interviewees informants as you would with other important people. | Don’t take the villagers for granted—treat them with respect. |

During the interview

| Follow protocol as required by the situation. | Don’t blunder along confused. |
| Create an atmosphere of confidence, trust, and enjoyment (women, especially, should feel like expressing themselves). |
| Remember that you are a learner (leave your feelings of your own status, achievements, and experience behind). | Don't feel superior to the villagers. |
| Show your interest and enthusiasm when learning you to learn. | Don't feel that there IK nothing more for from people |
| Be sensitive to moods (anger, boredom, hurt, anguish, enthusiasm, etc.) and build on them. |
| Be alert—look for information and leads, seize on them and follow up. | Don’t hesitate to clear your doubts and curiosities with the villagers—but don't do it in a rude fashion. |
| Remember that everyone has something to say. | Don’t monopolize the interview. |
| Involve the silent ones, especially women. |
| Avoid conversation monopolies. (In case you run "talkers," take them for a walk 60 that the others can carry on undisturbed.) lecture. | Don't ask too many questions about a into topic of interest only to you |
| Facilitate and control the interview. | Don't talk at the same time as someone else—it is confusing. |
| Listen carefully and facilitate information flow. | Don't interrupt. It disturbs the flow of thought of the interviewees and upsets their concentration. |
| Allow "triangulation" to take place (i.e., cross-checking of information by the villagers themselves). | Don't misinterpret information. |
| Sham the work and change roles too.                             |
| Remember, good teamwork is an important part of any successful activity. |
| Terminate "bad" interviews without regret. But do try to analyze what went wrong. |
| Record the names of the informants and give them credit for the information they have given. |
Participant observation

Definition

Method of study in which outsiders immerse themselves in village life and observe or participate in daily activities.

Purpose

To collect, understand, and validate field data. Involves intense social interaction with people in their own setting which can lead to fruitful cooperation.

Materials

- Alert senses. empathy
- Notebook, pencils
- Perhaps a tape recorder to record local music, village noises, etc.

Possible approach

1 Plan your field work: draw up a research framework, select and contact a community, get permission for a village stay (in some countries this can take a long time and might be a cumbersome process). Let the community know how long you intend to stay.

2 Move into the village and establish rapport.

3 Take interest in the culture, daily life, and special events. Learn through observation and by talking to people.

4 Eat what the people eat and live as they live. Help in daily activities and participate in special events (for the latter you might need permission).

5 Take mental notes when you are with people. transcribe these mental notes when you are alone. Check your notes regularly. Look for entries which need clarification or follow-up.

6 Depart in a way that is appropriate to the Culture of the study community.

Value

Participant observation helps you learn and understand IK its advantages and problems, from the community's perspective. It is a key method for discovering the "how" and "why" of IK
Note

Participant observation is commonly combined with other methods such as interviews, mapping, ranking, etc. Unless the participant observer is already familiar with the local language and culture, it might take several months for this method to yield meaningful insights.

**Participative technology analysis**

**Definition**

A method of systematic analysis which outsiders and local residents, working together, can use to learn the detailed workings of a given technology, its nature of operation, the type of implement or implements used, its source of power, the social interaction the technology requires on encourages, the space it covers and the time it fills.

**Purpose**

To give an understanding of different elements of a technology or technique, their uses and the local peoples' reasons for using them. This can lead to adaptation and improvement of the technique.

**Materials**

- Type of tools used in the technique (e.g., plow, spade, hoe)
- Specimens or picture of sources of power (e.g., buffalo, 0, people who use the technology no or technique)
- Manila paper
- Marking pens
- Notebooks
- Pens

**Possible approach**

1 Identify multi-disciplinary research team of three to five people (outside facilitators: both natural and social scientists).

2 Visit the village site and identify three to nine village representative who possess key information about the technology or technique.

3 Convene a meeting of key informants (see key informant in Abbreviations and Definitions) to identify some Common farming problems which have technological solutions but which cannot be solved efficiently using existing indigenous techniques.

4 Identify techniques being used to solve the problems.

5 Let village participants prioritize the list of techniques for examination by the group (outsiders and insiders:).
6 Take one technique at a time (e.g., land preparation, crop sowing, animal housing, animal castration or composting) and ask the village participants to answer the following questions:

- Operation: Which activities are carried out in sequence? Which activities are carried out simultaneously? Where and when are these operations done and why? Record the purpose, advantages, and disadvantages of each operation.

- Implement: What tools or implements are used to carry out these operations (e.g., plow, hoe, animal feet, human hands, or tractor tiller)? Where and when are these implements used and why? Record the purpose, advantages, and disadvantages of using the implements. Source of Power: What sources of power are used (e.g., animal, human male/female, fossil fuel, wood fuel, solar, or wind)? Where and how are these sources of power used and why? Record the purpose, advantages, and disadvantages of using these sources of power.

- Social interaction: Who is involved in handling the implements and controlling the operation? How do they interact while carrying out the process? (1a the work solitary? Are there small or large groups? Is there group interaction? Looking at gender, do men and women do the same tasks? Do they work apart or in groups, in a specific sequence or simultaneously? Record the purpose, advantages, and disadvantages of the type of social interaction pattern. Where and when is this pattern organized and why?

7 Present to the participants the findings on one element of the technique and then the technique as a whole for validation before investigating another technique.

8 Present the overall findings at a village reflection session especially organized for the purpose.

Value

Participative technology analysis:

- is a powerful tool for recording and validating indigenous techniques.
- helps outsiders and insiders to discover the local technological foundation upon which to build.
- encourages respect and preservation of indigenous culture when introducing a new technology.
- helps identify what to change or modify without disrupting other elements of a technology.
- can be used to examine new technologies to discern their social compatibility, including their ecological and economic implications for indigenous systems.

Dos and don'ts

- Do use the guide questions to stimulate discussion among village participants.
- Do wait for their conclusions.
- If necessary, divide larger groups into smaller ones, each facilitated by a member of the outside research team.

- Don't record an answer unless it is agreed upon by all participants. Do note the names and addressees of participating village members and list them as co-authors of the recorded knowledge.

Elements of technologies and techniques to be studied when doing participative technology analysis

<table>
<thead>
<tr>
<th>Element</th>
<th>Example: Planting corn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation</td>
<td>Sowing corn behind the plow</td>
</tr>
<tr>
<td>Implements</td>
<td>Plow</td>
</tr>
<tr>
<td>Source of power</td>
<td>Animal</td>
</tr>
<tr>
<td>Social interaction in furrow (gender-integrated)</td>
<td>Male making furrow, women sowing seeds</td>
</tr>
<tr>
<td>Space</td>
<td>In the hills</td>
</tr>
<tr>
<td>Time</td>
<td>Rainy season</td>
</tr>
</tbody>
</table>

Compiled by Jit P. Bhuktan
Source: Bhuktan 1990, Chapple and Coon 1942
Surveys

Definition

A social Science research tool used to study a wide range of characteristics of a population.

Note

Population survey—studies a whole population.
Sample survey—studies a portion, or sample, of a population.

Survey instruments—questionnaires, interview schedules or interview guides (for a brief description of these survey instruments, see Definitions).

A survey is not inherently a participatory research tool. But it is increasingly being used in a participatory manner as community members use it to examine their own affairs.

Materials

- Survey instrument—questionnaires or interview schedules (one copy for each respondent) or interview guides
- Notebooks
- Pens

Purpose

To generate baseline and evaluation data (see Abbreviations and Definitions)—qualitative or quantitative—and to answer questions identified using other methods.

Possible approach

1 Develop a list of information to be gathered. Prioritize the data to be collected.
2 Choose the type of instrument to be used.
3 Develop the instrument (the questionnaire, schedule or interview guide). Use simple language.
4 Pre-test the instrument with the same type of population and in a setting similar to the intended research site. Revise the instrument if necessary. Repeat the pretest to ensure that information generated is reliable (the same quality of results should be generated again and again) and valid (it should gather the type of information for which it is designed). Surveys should generate the same results even if they are conducted by different interviewers.
5 Select the sample. You can select respondents at random or by using other appropriate sampling techniques (see How to draw a sample). The type of sample that you use will determine the type of statistical analysis you can perform.

6 Administer the survey.

- Mailed questionnaires—Send the questionnaire with a courteous cover letter and clear instructions. Send follow-up letters to remind respondents to return the questionnaire.

- Self-administered questionnaires—Give the instrument to the respondent (or group of respondents) and explain it. Ask if the respondents have any questions. Ask them to complete the questionnaire and return it to you. Quickly review the completed questionnaire and obtain any missing information before leaving.

- Personal interviews—Follow the guidelines for interviewing (see topic Interviewing). The researcher should write the responses on the instrument.

- Interview guide—C fine topics in sequence and try to maintain the interview's interest. Note responses an the interview form. At the d of the interview, review the information gathered ensure nothing has been missed.

7 Organize and analyze the

8 Discuss and validate the results with the community. Return the results to the community. (See topic Intellectual property rights.)

Value

- Surveys are useful for identifying and documenting people's indigenous knowledge, practices, and their cultural context.

- Sample surveys can be used when the indigenous knowledge of a large population must be inferred from a small portion of the population.

- Surveys can help determine how widespread is a practice, technique, or belief in a community.

- Surveys with structured questionnaires are useful to capture the "what," "who," "where," "when" and "how often" of IK, but they are less suited to discover details of the "how" and "why." This is true especially if the questions are closed-ended (offering only prescribed response choices).

- Questionnaires designed by local people can provide useful insights into their IK.

Dos and don'ts

- Do train interviewers in how to administer your questionnaire or conduct your interviews.
- Don't use a self-administered questionnaire when surveying illiterate people. Use an interview guide instead.

- Do pretest the questionnaire to make sure respondents understand the questions and can answer them correctly. Revise the questionnaire if necessary.

- Do keep the instrument short and simple. Ask only those questions which you need in order to answer the research question.

Note

Close-ended questions: Where the respondent chooses the answer from a predetermined list
Example: Where did you learn of this new farming practice:

(a) From family members
(b) From other relatives
(c) From friends or neighbors
(d) From the extension agent
(e) From other sources (specify)

Open-ended questions:

Where the respondent is asked to provide his or her own answer.

Example: How did you learn of this new farming practice? Responses to closed-ended questions are easier to analyze, but they may give less insight into the subject than open-ended questions.

Compiled by Jit P. Bhuptan
Sources: Frank Lynch 1979, Kerlinger 1982, Kidder 1981
Working with groups

Brainstorming

Definition

Group discussion in which members take turns offering ideas related to a specific topic.

Purpose

To pool the knowledge of several people to collect as much information on a topic as possible in a short time.

Materials

- Chalkboard
- Chalk
- Paper and pencil

Possible approach

1 Prepare activity (see Village workshop).

2 The facilitator asks each participant to give an idea related to the topic. The facilitator writes each idea on the chalkboard. Participants may take turns, or the process may be spontaneous.

3 Repeat step two until all ideas are exhausted.

4 Sort or classify ideas and consolidate the results.

5 Discuss the results with the group.

6 Record the results on paper.

7 Conclude activity.

Note

Idea cards

Instead recording ideas on a blackboard (or some other locally available drawing surface), consider whether participants might respond better using the card technique. Participants can write their ideas on carafe (one 10x30-cm card per idea) using marking pens, then tape them to display boards or Manila paper. Shy participants prefer this to speaking up. Some ideas might appear several times, however, making it more difficult to consolidate the output.
Value

Brainstorming

- can produce a quick overview or rough assessment of IK on a specific subject.

- is most useful for discovering the "what" of IK, but can also be used to explore "why," "how," "who," "when," and "where."

- affords a good take-off point for further research and for setting research priorities.

- raises people's awareness about their IK; however, the information produced is often sketchy and needs to be backed up and fleshed out using other methods.

Dos and don'ts

- Do make sure that everyone gets a turn and all ideas are discussed.

- If used with illiterate people, do use symbols for recording ideas. If this is not possible, read aloud all contributed ideas.

- Don't try this method with too many people. Seven to 10 people is best.

Compiled by Evelyn Mathias
**Five questions**

Definition

A five-step method of cause and effect analysis.

Purpose

To assess indigenous practices and beliefs. In particular to determine whether they are helpful, harmful, or neutral according to scientific research.

Materials

- Notebook
- Pens

Possible approach

1. Write a brief statement about the practice or belief to be analyzed. The statement should describe the practice and say why it is done (see example).

2. Identify the clauses in the statement which relate to the cause and effect of the practice or belief.

3. Identify the scientific research findings related to the cause.

4. Assess the belief or practice as helpful, neutral, or harmful according to scientific knowledge.

5. Specify the action to be taken:
   - Promote helpful indigenous practices.
   - Tolerate neutral practices.
   - Offer alternatives to harmful practices.

Value

This technique

- helps discern whether a particular belief or practice has basis in scientific science.

- is useful for determining the difference between local and scientific views.

- has been validated for assessing indigenous health practices and has potential for wider application.

- provides a scientific science view of indigenous knowledge.
- provides a way to plan future actions based on people's previous experience and explanations of the world.

Example

1 What is the practice/belief? A pregnant mother should not eat squash or else she will have a baby with a bald head.

2 What are the cause and effect? (cause) Pregnant mother should not eat squash.

Or (effect) She will have a baby with a bald head.

3 Scientific research findings related to cause: Squash is a rich source of vitamin A.

4 Helpful, harmful, neutral? Harmful, since mothers will be deprived of a rich source of vitamin A.

5 What action should be taken? Offer alternatives—Recommend green leafy vegetables and other yellow vegetables rich in vitamin A to make up for the lack of squash.

Compiled by: Estrella F. Gonzaga and P. Sandy M. fortune.
Games

Definition

Form of play or sport—contents played according to rules and decided by superior skill, strength, or good fortune.

Purpose

Used by development workers, games can build rapport, generate insights, and encourage participation by making training sessions and meetings more fun.

Materials

Depends upon the game.

Possible approach

Sample game which draws out participants' ideas:

1 Ask each participant to choose an item or action to represent. For example, each participant could represent a different item found on a farm,

2 Then ask participants, in turn, to connect themselves with rope or string, to a person representing a related farm item. For instance, a person representing soil might pass the end of his or her rope to the person representing a plow. The plow might pass a rope end to someone representing seeds, the seed might pass a rope end to someone representing water, and so on.

This game illustrates, in a fun way, the complexity of interrelationships. It could be used to demonstrate resource flows on a farm from the perspective of the participants.

Value

Games of all sorts can be devised or adapted to discover IK and bring complex concepts to the fore. They are useful to raise participants' awareness of their own IK.

Compiled by Rustico A. Bi
**Group discussions**

**Definition**

Discussions with groups of six to 15 knowledgeable community members covering one or several topics. (See key informant panels [KIP] and focus groups in Abbreviations and Definitions.)

**Purpose**

To generate information, to build consensus, to validate information gathered by other means, or to clarify information in documents lacking detail.

**Materials**

- Paper
- Marking pens
- Masking tape
- Chalkboard
- Chalk and eraser

**Possible approach**

1 Review available information on the community. Determine what data are needed.

2 Consult community leaders. Explain the purpose of the data collection and discuss the information you want to collect.

3 Determine, in consultation with community leaders, the criteria for group selection. Ideally, group members come from various walks of life and socioeconomic categories, representing formal and informal community organizations. The composition of the group will depend on the topic.

4 Let community leaders identify people in the community who fit the criteria. Be on the lookout for biases; make sure that people from the most remote hamlet or the poorest group in the community are represented. Otherwise the views and perceptions of the poor are not incorporated.

5 Prepare for the meeting:

- Set the date, time, and venue.
- Prepare guide question which will serve to steer discussions.
- Assign someone, possibly a group member, to record the proceedings.

6 Personally visit the group members to seek their agreement to participate in the discussion. Explain the purpose and objectives of the meeting.
7 At the start of the meeting, introduce yourself and a group members. Carefully explain again the purpose and objectives of the discussion and how the information will be used. Mention the benefits that the community might derive from the meeting (see also Village workshop).

8 During the meeting

- Ask the first guide question. Solicit participation from all group members. Make sure discussions are not dominated by a few people.

- When consensus is reached, or when an issue cannot be resolved, introduce a new guide question.

- Record major points and the results of consensus.

9 At the close of the meeting, summarize major findings and consensus.

10 Inform other members of the community about the results.

Value

Group discussions can provide IK data on farming and other livelihood practices, leadership structures and decision-making patterns, health practices and delivery systems, traditional medicines, labor sharing arrangements, local indicators of poverty and socio-economic standing, indigenous taxonomic schemes, and other information. Group discussions can also help the facilitator learn local terms and concepts that might have no direct equivalent in the outsider's language. When used in combination with other data-gathering technique, the information obtained can be of very good quality. The method is inexpensive and relatively easy.

Group discussions:

- foster participation and partnership in information gathering and analysis.

- generate information beyond what can be gleaned from interviews. When faced with conflicting information, several people can present bits of data until the group has enough information to reach consensus.

Dos and don'ts

- Do build rapport with group members.
- Do maintain a sense of humor while facilitating.
- Don't let one or a few members of the group monopolize the discussion.
- Don't create the impression that you are an expert on the topic (even if you are an expert).

Compiled by Teodoro L. Sevilla, Ella A. Jordan, Ricardo C. Armonia, Nita C. Abena and 5. 5. Tabrez Nasar.
Role play

Definition

Real-life re-enactment

Purpose

To capture movements, actions, sequence, roles, and relationships of people, things, and practices. Can be a useful tool in training.

Materials

Materials vary depending on the situation to be re-enacted.

Possible approach

1 Discuss objectives and topic with the community or group involved (e.g., participants of a training course).

2 Together, assess how much time will be needed to prepare and rehearse the play (it will vary with topic, people involved, etc.).

3 The implementing group discusses the play, assigns roles and prepares materials. Outsiders should not interfere unless they are requested to help.

4 The group practices the play.

5 The actual role play is performed. Keep mental notes or record the play on video if the performing group agrees.

6 Analyze the play based on the initial objectives.

Value

Role playing reveals to outsiders the "what" and "how" of IK. For example, when participants in a primary healthcare training course reenact how local healers treat patients, the course trainers gain a better understanding of the indigenous system. They are thus able to make the course more relevant to participants. At the same time, the actors become more aware of their practices.

Dos and don'ts

- In some instances, you might want to give guide questions to the audience before the role play begins. For example, give guide questions if you want to use the play for training purposes and give the subsequent discussion a specific focus.
- Don't announce the topic of the role play to the audience if you want to use the role play as a way to collect ideas on how, or for what else, a certain practice could be used, or if you want to discern how many people in an audience are familiar with a certain practice.

Compiled by Adelina H. bognot and Evelyn Mathias
**Strengths and weaknesses**

Definition

Group exercise to list and explain the strengths and weaknesses of a practice, event, or technology.

Purpose

To provide information for the possible improvement of a practice, event, or technology.

Materials

- Manila paper
- Marking pens

Possible approach

1 Prepare activity (see Village workshop).

2 Clarify topic with participants.

3 Draw a four-column table on Manila paper. Label the first column "+", the third column ",-", and the second and last columns "Why?"

4 Ask participants to fill in the first two columns. Ask: "What do you value in this practice (event or technology)? For what reasons?"

5 Ask participants to fill in the next two columns. Ask: "What are the drawbacks of this practice (event or technology)? What are the reasons for these drawbacks?"

6 Discuss the output with the participants. Use the information in the last two columns to identify possible actions and discuss possible constraints. Write these on Manila paper.

8 Copy output and leave original with the community.

Value

- Outsiders can learn about the strengths and weaknesses of a specific IK from the perspective of the insiders.

- The method highlights problems that need to be solved (column 4) and actions which could be taken to overcome these problems.

- Useful for assessing value of IK.
- Useful as a planning tool and for identifying follow-up activities.

Compiled by Evelyn Mathias

Examples

(Both are hypothetical and simplified. Both draw on field experiences of IIRR staff).

Traditional birth attendants (TBA)
Objective: Explore the use of TBAs for community health projects.

What do you value in a TBA? For what reasons?
What are the drawbacks of TBAs? What are the reasons for these drawbacks?

<table>
<thead>
<tr>
<th>+</th>
<th>Why?</th>
<th>—</th>
<th>Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td>easy to call</td>
<td>live in village</td>
<td>have limited equipment</td>
<td>no money</td>
</tr>
<tr>
<td>holistic care and personal approach</td>
<td>attends to nutrition and personal care of mother after delivery</td>
<td>cannot do complicated cases</td>
<td>not trained for these</td>
</tr>
<tr>
<td>cheap</td>
<td>have the same culture</td>
<td>can be harmful</td>
<td>sometimes spread infection</td>
</tr>
</tbody>
</table>

What could we do to solve the problems listed in column 4? Possible actions based on the reasons given for the weaknesses:

- Train TBAs, especially in hygiene.
- Equip TBAs Introduce or increase user fees.
- Introduce or increase user fees

Modification

A more elaborate modification of the strengths and weaknesses exercise is as follows. You can use the diagram on the next page to help visualize the Process.

1 Ask participants to identify a particular problem local people face.

2 Ask them to identify an indigenous practice which might be used to help solve this problem.

3 Participants identify who holds information on the practice (e.g., indigenous specialists) and why there is still a problem.

4 Participants identify strengths and weaknesses of the practice.

5 they suggest improvements to the practice, such as outside knowledge that could be blended with the indigenous practice.
6 They identify how such changes could affect the indigenous knowledge or people's perceptions and use of it.

7 They decide whether the practice is suitable for use or adaptation elsewhere.

Example of output

Compiled by Gregory C. Ira and participants of International Course on Regenerative Agriculture held at IIRR September 4-29, 1995.
**SWOT analysis**

**Definition**

A method of systematic group reflection—SWOT is an acronym which stands for Strengths, Weaknesses, Opportunities, and Threats.

**Purpose**

To gather, analyze, and evaluate information and identify strategic options facing a community, organization, or individual at a given time.

**Materials**

- Chalkboard
- Chalk

**Possible approach**

1 Prepare activity as described in the sections Brainstorming or Village workshop. Identify the topic—issues, situations, or specific techniques—to be analyzed. Possible topics include using the community's IK, IK and the environment, or intercropping.

2 Brief the community members on the procedure. Explain what you mean by strengths, weaknesses, opportunities, and threats (see sample matrix).

3 Draw a matrix that has nine fields (three rows and three columns). Leave upper left field blank. Label the other two fields in the upper row as "strengths" and "weaknesses." Label the second and third fields of the left column as "opportunities" and "threats."

4 Ask participants to list in the respective fields all strengths and weaknesses that they can think of relating to the issue, situation, or technique under discussion.

5 Do the same for development opportunities and threats.

6 Read responses aloud and discuss them.

7 Analyze the results. Use the following questions to fill in the four empty fields of the matrix:

   - How can strengths be employed to take advantage of development opportunities? (call this the "S-O analysis" for strengths-opportunities strategies).

   - How can strengths be used to counteract threats that tend to hinder achievement of objectives and pursuit of opportunities? (call this the "S-T analysis" for strengths-threats strategies).
- How can weaknesses be overcome to take advantage of development opportunities? (call this the "W-O analysis" for weaknesses-opportunities strategies).

- How can weaknesses be overcome to counteract threats that tend to hinder achievement of objectives and pursuit of opportunities? (call this the "W-T analysis" for weaknesses-threat strategies).

8 Ask participants to select options and to rate them according to their feasibility, potential for benefit, and urgency.

9 Discuss results with participants. Copy output and leave original with community.

Value

SWOT can be used to:

- learn how community members value their IK and how they can put it to best use.
- analyze and evaluate specific IK technologies or practices.
- raise a community's awareness concerning the value of their IK.
- identify ways to increase the use of valuable IK.

Dos and don'ts

- Do keep SWOT analysis groups small—10 people or less.

- Do provide guide questions or criteria to participants if specific information is required. For example, if the community wants to explore the topic IK and the environment, the discussion could start with the question: What specific IK practices, beliefs, and technologies affect the environment?

- Where possible, list strengths and weaknesses juxtaposed to opportunities and threats, in order to help identify options.

Compiled by Tom Limpo

Sample Matrix

<table>
<thead>
<tr>
<th></th>
<th><strong>Strengths</strong></th>
<th><strong>Weaknesses</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive characteristics and advantages of the</td>
<td>Negative characteristics and disadvantages of the</td>
</tr>
<tr>
<td></td>
<td>issue, situation, or technique.</td>
<td>issue, situation, or technique.</td>
</tr>
<tr>
<td>Opportunities</td>
<td>S-O Analysis</td>
<td>W-O Analysis</td>
</tr>
<tr>
<td>Factors, situations</td>
<td>How can strengths be employed to take</td>
<td>How can weaknesses be overcome to take advantage of</td>
</tr>
<tr>
<td>that can benefit,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>enhance or improve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Issue, situation, or technique. advantage of development opportunities? opportunities?

<table>
<thead>
<tr>
<th>Threats</th>
<th>S-T Analysis</th>
<th>W-T Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors, situations that can hinder the issue, situation, or technique. achievement of and pursuit of opportunities?</td>
<td>How can strengths be used to counteract threats that tend to objectives</td>
<td>How can weaknesses be overcome to counteract threats that tend to hinder achievement of objectives and pursuit of opportunities?</td>
</tr>
</tbody>
</table>

Below is a hypothetical example of a SWOT used to weigh the merits of a traditional intercropping practice using local cassava varieties in Ghana.

<table>
<thead>
<tr>
<th></th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Optimal use of space.</td>
<td>Intercropping might not allow for mechanization.</td>
</tr>
<tr>
<td></td>
<td>Intercrops can positively influence each other.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is labor intensive.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local varieties need fewer inputs.</td>
<td>Reduced yields of individual crops.</td>
</tr>
<tr>
<td></td>
<td>High overall productivity of plot.</td>
<td>Local varieties sometimes fetch low prices in market.</td>
</tr>
<tr>
<td></td>
<td>Local varieties meet local needs.</td>
<td></td>
</tr>
<tr>
<td>Opportunities</td>
<td>Seeds, planting materials can be produced locally.</td>
<td>Initiate field study to test whether high overall productivity applies to this specific crop combination. If results support this assumption, this will deepen interest in IK.</td>
</tr>
<tr>
<td></td>
<td>Periodic shortage of planting materials for improved varieties.</td>
<td>Encourage production of local cassava variety to benefit from increased market benefit.</td>
</tr>
<tr>
<td></td>
<td>Increased interest In traditional practices.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improved varieties need high inputs which are often difficult to buy.</td>
<td>Produce information leaflets stressing advantages of traditional practice.</td>
</tr>
<tr>
<td></td>
<td>High unemployment rate.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increasing market value of traditional cassava variety.</td>
<td>Make people aware of value of local cassava variety.</td>
</tr>
<tr>
<td>have high yield and high status.</td>
<td>varieties</td>
<td>Develop and test improved varieties that can be grown in the traditional intercrop</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Introduction of improved varieties has made local varieties difficult to find.</td>
<td>Stimulate production of local varieties.</td>
<td>System, e.g., make sure that canopy of improved cassava is not larger than that of traditional intercrop</td>
</tr>
<tr>
<td>Land scarcity with growing population. improved varieties might suppress growth of companion crops.</td>
<td>Improve local intercropping pattern to make optimal use of land.</td>
<td>Variety.</td>
</tr>
</tbody>
</table>

Sample matrix compiled by Evelyn Mathias
Village reflections

Definition

A participatory, two-step process of analysis involving small groups of selected community members. The first step involves a workshop to train local facilitators. These facilitators then assist the outside facilitators in repeating the workshop several times with other groups of villagers.

Purpose

To help community members: 1) validate information, 2) evaluate information, and 3) recommend interventions.

Note

By sharing their observations and expressing their ideas and feelings in small workshops, community members improve their ability to evaluate complex factors and relationships. This helps them to make plans and protect and enhance their interests.

- Materials
- Marking pens
- Blackboard
- Manila paper
- Chalk
- Masking tape
- Eraser
- Strips of paper (half or one-quarter the adze of typing paper) (optional)
- Pictures or drawings to stimulate discussion

Possible approach

Preparations

1 Explain the village reflection process to the community. Ask the community to select seven to 15 people as facilitators. These facilitators will participate in the initial workshop, learn the process, and then assist in repeating the sessions throughout the community as echo workshops.

Workshop 1

1 Prepare for the workshop (see Village workshop).
2 Make clear the topic to be discussed.
3 Make clear the following rules.
- Each person has the right to contribute.
- There is no right or wrong observation, experience or feeling.
- There can be consensus, but also differences of opinion, experience, etc.

4 Group the participants as practitioners, beneficiaries, users, observers, or according to other criteria relevant to the subject under discussion. There should be 2-3 groups with about five members each.

5 Members of each group select a facilitator and reporter. These are responsible for preparing the group's output for presentation.

6 Ask the participants to share ideas on the chosen topic. To stimulate and guide the discussion, you can pose guide questions similar to those listed in the box on page 74. You can also use other methods described in this manual (for example, Strengths and weaknesses).

7 Groups meet for about one hour to discuss the topic. Participants express in words or pictures their ideas, observations, or feelings about the topic. Responses can be printed or drawn on a blackboard or on large pieces of paper; or simply spoken.

8 The groups then collate their information and prepare it for presentation.

9 Participants meet as one large group. Each group takes 10 minutes to present its output.

10 Ask participants to:

- Note and highlight the similarities and differences between the outputs. (Responses written on strips of paper can be taped together, or colored pens or chalk can be used to highlight similarities and differences.)

- Analyze why similarities and differences arise. (What are the advantages, disadvantages, and other implications of such similarities and differences?)

- Specify factors that prevent or encourage others to share.

- Come up with a way to check with the rest of the community the validity of the findings.

Echo workshops

11 Arrange for the participants from the first workshop to organize several echo workshops in the community. The echo workshops can be held in different parts of the community, with different groups (men, women, old, young), or with people with different occupations or interests (e.g., large and small landowners, landless people, or health service providers and users). Each echo workshop can have about 20-30 participants.

12 The participants in the first workshop act as facilitators in the echo workshop. Apart from this, the echo workshops follow the same process as used in the first workshop. The participants
can be divided into 3-4 discussion groups during the workshop; one facilitator can be assigned to handle each group.

Leave as much of the facilitation as possible to the local facilitators. You should act as overall coordinator, observing and guiding the process.

13 During the final plenary session, you should facilitate the overall discussions and help the participants draw conclusions and reach decisions about action to be taken.

Value

- The reflection process helps people understand and analyze their

- The output can be used to help promote or improve an indigenous practice.

- The process provides a common, comprehensive, and area-specific understanding of a subject matter.

- Using several echo workshops can enable the discussions to include a large number of people—a group that would be unmanageable if all were to meet at one time.

- The echo workshops can be tailored to specific groups within the community. They allow cross-validation and "triangulation" of the outputs.

- It is important to choose the right local facilitators. Using local people rather than outsiders can help ensure that participants feel comfortable when discussing sensitive topics. Because they are community members, they can also immediately validate whether the information provided is accurate.

- The echo workshop process is valuable if you anticipate long-term work in the community. It is a useful way to train local people in organization and facilitation skills. However, because it involves a sizable time investment in such training and can raise local people's expectations, it might not be the most appropriate method if your plans are short term.

Dos and don'ts

- Do avoid judgmental comments.

- Do advise group facilitators to discourage groups from giving the "desired" response, those answers thought to be expected by the "outsider."

- Do encourage the most talkative of the participants to direct their energy toward helping others.

- Do use turn-taking or round-robin discussion to ensure maximum participation.
- For personal or sensitive issues, do start by volunteering some information or by sharing an example. Do cite other people's experiences; however, do protect their anonymity.

- Do encourage and explain the need for legible documentation of responses—these will aid further discussion.

- Don't use drawings if only a few participants are skilled in drawing, or if time is limited. Drawings require additional time for presentation, explanation and clarification.

- Don't allow more than 12 members per discussion group, otherwise participation and productivity will suffer.

- Don't mix different genders or ages when discussing very sensitive or personal topics.

Note

A modified version of the following question guide was used in an IIRR project to analyze health-related behavior.

Draw a table with four columns. Label the first column "Practice," the second "Why?" the third "Effect," and the fourth "Action."

Write the practices you want to discuss in the first column. To fill in the remaining columns, ask participants the following questions for each practice:

What is the purpose of this practice?

What is the effect of the activity—financial, emotional, cultural, environmental health, etc.? Is it desirable or undesirable?

What do you do, or who do you consult, when problems arise related to this activity?

Compiled by Andrea G. Sales and Francisco C. Saladores Jr.
**Village workshop**

Definition

Working meeting with the villagers intended to produce specific output.

Purpose

To produce a specific output. To get inputs and views from as many participants as possible. Village workshops provide a forum for use of other group methods.

Materials

Vary with expected output. For example, if you plan to produce a matrix, see section titled Matrix.

Possible approach

1 Define objectives of workshop and expected outputs. Determine activities.

2 Look for site.

3 Inform appropriate persons and get permission if necessary (be sensitive to local protocols and customs).

4 Explain objectives and purpose of workshop and criteria of participant selections. Request village leaders to help you identify suitable participants. The number of participants will depend on your objectives.

5 Select a good venue in the community. There must be enough room to perform planned activities.

6 Invite participants. Make sure nobody is forgotten.

7 Prepare workshop materials.

Workshop proper

1 Introduce yourself and all workshop participants.

2 Explain the workshop purpose, objectives, and the flow of activities. Explain what outputs are expected, how they will be used and how they will benefit the community.

3 Give time for questions and clarification.
4 Conduct the planned activities such as brainstorming, matrix ranking, webbing, etc. (see specific sections for details).

If the group is too large, divide it into smaller groups of five to sex participants, or as required for a specific method. Assign facilitators or ask participants to identify facilitators from the group.

5 Discuss outputs with participants—either help participants to interpret the results or explain the results to the participants.

6 If outputs were prepared in small groups, share these results with the larger group.

7 Close workshop. Thank participants.

After workshop

1 Consolidate and analyze outputs. (In participatory projects, community members should be involved in this step.)

2 Validate results with the community.

3 Leave a copy of the outputs with the community.

4 Use the outputs as planned.

Value

Workshops

- maximize participation of the community.
- provide a forum for many methods discussed in this manual.
- allow outsiders; to gain insights regarding community dynamics and perspective.
- allow for immediate evaluation of outputs.

Dos and don’ts

- Do make sure that everybody participates.
- Don't let one individual dominate the workshop.
- Do be diplomatic when dealing with dominant individuals.
- Do make sure there is enough space.
- Do make sure there are enough facilitators.
- Do work closely with your local counterpart.

Compiled by Angelina C. Ibus and Evelyn Mathias
Using diagram

Flow chart

Definition

Diagram Showing a Series of activities, procedures, events, or other related factors. Describes sequences, cycles, or flows from beginning to end.

Purpose

To condense long and detailed procedures into easy to interpret charts. Useful for planning.

Materials

- Marking pens and Manila paper, or chalk and chalkboard.
- Paper and pen

Possible approach

1 Prepare activity (Village workshop).

2 Together with participants, trace flow of action or events from beginning to end. For example, when recording how a community prepares its staple food, start with the question: What do you do first? Or, when studying how local working groups are formed, ask: What has to happen first when you want to form a working group?

3 Write down the step or event with a few words on Manila paper. You can also use symbols.

4 Ask participants what happens next. Write down the next step or event either beside or below the first step, or in a circular direction.

5 Continue until all steps of an activity or event are recorded.

6 If you want to highlight one or Several steps or events, you can surround them with different shapes or use different colors. For example, circle all activities that men do when preparing the staple food, and mark women's activities with triangles.

7 Use lines or arrows to connect the different entries.

8 Use + or - to indicate positive or negative impact relationships.

9 Discuss the outcome with participants and ask for clarification.

10 Leave a copy of the output with the community.
Flow charts can:

- highlight the sequence and flow of activities of indigenous practices.
- help outsiders understand the "what" and "how" of local practices and events.
- raise awareness among local people about their IK.

Flowchart of sequence of activities in shifting cultivation

Compiled by Perpetuo C. Librando
**Historical comparison**

**Definition**

Describes conditions, techniques, and practices in different time periods (e.g., agroforestry practices in 1965 as compared to 1995).

**Purpose**

To determine changes. Can be useful if no baseline data are available.

**Materials**

- Manila paper (if working with a group)
- Notebook (if working with individuals)

Can also be drawn on the ground with a stick.

**Possible approach**

1. Determine content outline (prepare and memorize a question guide) and identify time period(s) to be covered. (See Village workshop.)

2. Find village elders who know about the subject (3-5 people, both sexes).

3. Explain the purpose of the exercise to respondents. Discuss with them about important events or dates which fall within the period being covered (e.g., special festivals or birth/death anniversaries of family members, wars, disasters, dates according to the local calendar, etc.). These events or dates will serve as time markers.

4. Determine the facts about the subject you wish to investigate. For example, if you explore changes in agro-forestry, the historical comparison could describe species used, planting practices, soil conservation practices, etc.

5. Collect the information for each aspect or fact for all periods to be covered by your historical comparison. Ask: "How did you do this before the great festival, when your mother was still alive?", "What was the situation in 1953?", etc. You can either start with the present situation and work backwards, period by period, or start with the period that lies furthest back and end with the present situation. It's important to collect comparable information on aspects of the subject under investigation for each period.

6. Record information or ask people to draw or write down practices, techniques for the different periods. The information can be presented in a matrix (Matrix), a series of drawings, or in some other way convenient to your respondents.

7. Discuss and compare outputs of different periods with the respondents.
8 Present the results and discuss them with the villagers. Leave them a copy of the output.

Value

Historical comparison raises awareness of changes, helps reveal IK from previous times, helps explain changes in practices, and in the process, highlights advantages and disadvantages of specific practices.

Compiled by Raquelito M. Pastores and Evelyn Mathias Source Shogorip undated

Changes in the farm of Pedro Baile of Barangay Salvacion. St. Domingo. Albay, Philippines, through adoption of upland farm management technology. (Year 1985 before the contour farming)

Changes in the farm of Pedro Baile of Barangay Salvacion. St. Domingo. Albay, Philippines, through adoption of upland farm management technology. (1986)
Changes in the farm of Pedro Baile of Barangay Salvacion, St. Domingo, Albay, Philippines, through adoption of upland farm management technology. (1991)

Changes in the farm of Pedro Baile of Barangay Salvacion, St. Domingo, Albay, Philippines, through adoption of upland farm management technology. (1994)


**Illustrations and diagrams**

**Definition**

Illustrations and diagrams can be Simple or detailed drawings of people, objects, places, actions, or processes. They can also illustrate relationships and complex concepts, tell stories, or make information more interesting and easier to understand. People remember pictures better than text.

**Purpose**

To record objects, processes, technologies, etc.—to promote discussion, to help achieve consensus and understanding, to help make a point, to help make promotional and training materials understandable, informative, and attractive. Drawing by community members and facilitators can be made into a game to clarify details of village life. Such sessions can generate valuable baseline data.

**Materials**

- Paper
- Marking pens

Or use any locally available writing and drawing materials which can be preserved.

Illustrations and diagrams can be drawn directly on paper, or on some other material (a chalkboard or the ground) and then copied onto paper. Using the ground has advantages: more people tend to become involved in developing and drawing the picture, so it might better reflect a common viewpoint.

**Possible approach**

1. Decide where to use illustrations and diagrams, and what types could be useful for your purpose.

2. Gather and review, if necessary, available illustrations and references related to the topic in the community, local government units, or libraries.

3. Identify key informants or local specialists for your topic (see Identifying indigenous specialists). It is an advantage if a local artist can be found to do the rough and even the final illustrations.

4. Discuss the objectives of the project or activity (including the use of the illustrations) with a group of two to three key informants and the artist.

5. Come up with group objectives. Schedule activities. Decide how the output will be used, presented, and disseminated.
6 Convene the group with the illustrator to begin the illustrations. For each topic, the informants describe an object or they act out an activity, which the artist then draws.

7 Validate the illustrations with the key informants. This is the first pretest. Do the illustrations accurately depict the object, processes, or activities? Are they easy to understand? How can they be improved?

8 Revise and finalize the illustrations.

9 Prepare and finalize the instructions on how the materials should be used and how they will be disseminated.

10 The final output should be tested again (similar to Step 7). This can be done when the materials are first used in the community.

Value

- Diagrams and illustrations can be very useful for recording IK. They are particularly effective in communities with high illiteracy rates, in cultures with an oral rather than written tradition, in places divided by language and class barriers, and with children.

- Illustrations of an indigenous practice or technology drawn by villagers can be shown to other villagers to validate the information in the drawing and/or to find out how widely known the practice or technology is in the community. They can enable you to compare and contrast different perceptions, changes over time, and across different cultures.

- Illustrations can aid in generating ideas which can be understood quickly and easily.

- They can also stimulate discussion, especially when prepared by and presented to a homogeneous group. Illustrations can also deepen a group's sense of identity and help create consensus.

Dos and don'ts

- Do make people look human. Give them faces and hands.
- Do include important details in the illustrations. Avoid cutting people's heads, arms, etc.
- Do include arrows and numbers to help show sequences.
- Don't make people objects of ridicule.

Note

Many of the methods in this manual produce diagrams such as figures, sketches, maps, charts, and graphs. See the appropriate sections for details.

Compiled by Anna Reylene J. Montes Based in part on: Mascarenhas et al. 1991.
Mapping

Definition

A method for collecting information on where certain resources or features are located.

Purpose

To help identify and analyze the distribution of and the relationships between specific resources or features. The maps can show topography, soils, water, forest products, property regimes, land use (including where food is gathered), ecosystems, socio-economic data such as location of indigenous health practitioners, location of medicinal plants, common diseases, ritual sites, location of traditional birth attendants, and more.

Materials

- Paper
- Pencil
- Chalkboard
- Chalk

Any surface can be used. The map can be drawn with chalk on a concrete floor, or drawn on the ground with a stick. Some villagers have made detailed three-dimensional models using sand, earth, and stones.

Possible approach

1 Define purpose and scope of the mapping exercise.

2 Select key informants.

3 Together, define scale and boundaries of the map. The scale of the map will depend on the objectives of the exercise and the drawing surfaces available.

4 Determine resources or features to be mapped.

5 Prepare a base map if none exists. To do so, ask people to identify and draw key landmarks or reference points and reference lines— for instance, hills, roads, and rivers.

6 Ask participants to locate selected resources and features on the map. Symbols and colors can be used to represent quantity and quality of the different categories.

7 Revise the map.

8 Copy the final map on paper or take a photograph.
9 Leave a copy of the map with the community.

Value

Participatory mapping

- helps outsiders and community members identify, locate, and classify resources and features, revealing their importance and usefulness from the local people's point of view.
- reveals patterns of spatial organization as well as constraints and opportunities.
- can be used to collect baseline data and to monitor change in resources and patterns of use.
- can be used to evaluate impact.
- can be used to improve resource management strategies or to design new systems.

Dos and don'ts

- Do encourage participation during all steps (i.e., from selection of key informants and materials, to analysis), especially if the method is to be used for project management.
- If possible, draw the map in a place which has a good view of the surrounding area.
- Do consider indigenous materials and methods for drawing or creating resource maps.
- Do remember to include a legend to explain symbols or patterns.
- Do encourage participants to design their own symbols.
- Do limit the number of resources or features per map in order to avoid crowding and to facilitate analysis (pick two to three related types of features or resources).
- Do include the compass symbol or indicate direction of sunrise and sunset (indicate season or month).
- Don't worry about drawing to scale but do try to keep relationships accurate.
- Don't let one person dominate map-making.
- Don't compare, side by side, maps made by two groups or individuals. This can cause embarrassment.

**Matrix**

**Definition**

A method for listing items and recording their characteristics. Items such as livestock species or crop types are listed in rows and their characteristics, such as fodder requirements or yield and uses, are recorded in columns.

**Purpose**

To help reveal the characteristics and qualities of listed items, and in the process, reveal the preferences of local people. This can enable communities and program managers to make informed decisions.

**Materials**

- Stick and bare ground, chalk and chalkboard, or marking pen and Manila paper
- Stones, seeds, leaves
- Paper and pen

**Possible approach**

1. Identify interested and knowledgeable men and women.

2. Find a large, clear area to draw matrix—etched in the ground with a stick, drawn with chalk on a large board, or drawn with a marking pen on a very large sheet of paper.

3. Ask participants to define items (e.g., to list tree species).

4. Draw a row for each species. Write the name of the species at the left side of its row, or use a leaf or fruit from the species to mark its row.

5. Ask participants to identify criteria that are important to them. Examples might be the tree's growth rate, uses, regrowth rate after pruning, drought tolerance, etc.

6. List the criteria at the head of the columns.

7. Ask participants to rate each criterion (e.g., for the case of growth rate: high, medium, low, lowest).

8. Participants can place sticks or stones in the body of the matrix to represent level: for instance, one stone could represent lowest growth rate, five stones could represent highest growth rate.

9. Record the outcome on paper. Share and discuss the matrix with participants and leave them a copy.
Value

Matrices help identify preferences, priorities, trends, or specific categories from the respondents' point of view. They can show the availability of resources, their advantages and disadvantages, and people's opinions regarding usefulness.

Modifications

- Matrix ranking: Respondents are asked to rank the items listed in the column (see Sorting and ranking). Or the number of stones or sticks in each row can be added together to arrive at an overall score for each item. Then the items are ordered according to their scores. For an example of the output of matrix ranking, see Incorporation of local tree species in an agroforestry project in Layong Mabilog, Philippines.

- Historical matrices list items or activities in the rows and dates or events in the columns. Historical matrices reveal changes in the use of items or activities between different periods. They can show how people have dealt with problems over time.
Farmers evaluating tree growth (Agroforestry research plot in Parung Panjang, Indonesia)

Compiled by Evelyn Mathias
Modeling bioresource flows

Definition

Diagrams which depict the various components of agricultural systems and their interrelationships.

Purpose

To highlight resource flows and nutrient recycling on farms and to enable farmers to plan and optimize their farming operations.

Materials

- Large sheets of paper
- Marking pens

Possible approach

1 Together with household members, walk around the farm.
   - Identify natural resource types (e.g., backyard or home lot, river, lowland, etc.)
   - Identify as many enterprises as possible (do not forget off-season enterprises).
   - Remark on obvious evidence of bioresource flows (e.g., compost pit).

2 Return to the home. Ask the household members to recall what they have seen.

3 Ask them to indicate on a large sheet of paper all the natural resource types seen on the walk and ask them to draw cross-sections of each. (See example on the next page.)

4 Include in the drawing those natural resource types which were not visited but are accessed by the farm family (e.g., common grazing land, forest).

5 When cross-sections of all natural resource types have been drawn on the paper, ask household members to add symbols or small drawings to represent each enterprise found on each resource type (e.g., each type of crop, livestock, fodder, fish, etc.).

6 Ask household members to draw arrows between enterprises and natural resource types to represent flows of farm-generated biological materials (e.g., cow manure from the cow shed used as feed and fertilizer in the fishpond).

7 Next to each arrow, write the name, amount of the material, and frequency of flow.

8 Discuss the outcome of this exercise with the household and discuss what enterprises or resource flows could be improved.
9 Make a copy of the output and leave the original with the household.

Value

- Both insiders and outsiders learn how different enterprises and natural resource types support and regenerate each other.

- Outsiders gain an understanding of local farming systems.

- Extension services learn what inputs local farms might need and researchers learn where technology testing could begin.

- Local people save cash by improving the use of by-products, thus reduce the need for external inputs.

Dos and don'ts

- Don't include in the diagram product flows to market or household consumption because these do not represent recycling.

- Do include products from household consumption that are recycled (e.g., kitchen waste, cooking ash, and night soil).

- Bioresource flows can be expressed in several "currencies," such as biomass, nitrogen, energy, and cash. Based on experience, biomass is the most useful when discussing recycling.

- If participants prefer, do use local terms and units of measure.

Before and after integration:

Bioresource flows between natural resources, Philippines.
Seasonal Pattern chart

Definition

A pictorial representation of village life throughout the year.

Purpose

To highlight the interrelationships of variables and the timing of activities. It can help a community identify annual events, or combinations of events, which pose challenges and those which hold opportunity. It allows a community to identify not only the interventions necessary to address problems, but also helps with scheduling—from planning and implementation to assessment.

Materials

- Seasonal calendar matrix. This has twelve columns (one for each month) and key variables as row headings. Each cell in the matrix should be the same size as the blank cards used (see page 94).
- Blank cards 10cm x 10cm
- Marking pens
- Colored pens
- Masking tape

Possible approach

1 Identify the type of indigenous knowledge (= variables) you want to document, such as weather, common diseases, social and economic activities, household cash flow, agricultural activities, and food availability.

2 Have a local artist illustrate these variables (e.g., rain and sun for weather) on 10cm x 10cm cards. (Other cards can be drawn by participants during the actual community charting exercise.)

3 Identify a key informant panel (see KIP, Abbreviations and definitions and Group discussions). Brief the panel on how to conduct the exercise using pictures to represent events of the past year relating to the variables. For each time period the panel should discuss and select by consensus the picture that best represents the event which was "most frequently or commonly observed with the most people affected." It is very important to allow the panel to use local terms.

4 Work on one variable at a time, placing the illustrated cards on the matrix. If necessary, more than one card can be put in each cell.
5 When all variables of the chart are completed, ask the panel to analyze the interrelationships through time and discuss the results with a view to identifying implications and possible actions.

6 Leave the chart with the community. Keep a copy for future reference.

7 Such charts can also be used for monitoring and evaluating interventions.

Value
Preparation of a seasonal pattern chart can help discern the week-to-week, month-to-month, season-to-season activities of a community—its annual cycle—which in turn can reveal much about a people’s perception of time. Important events can be recorded. Lean and plentiful periods identified. The choice and description of discrete events (especially in the case of disease) draw out local perceptions of causation.

Dos and don'ts
- Use pictures that closely resemble the community.
- Use local terms.
- Don't use scientific terms.

Modification
Ask respondents to prepare their own calendar matrix rather than providing one "ready-made". Local people often have their own calendars and may classify seasons differently from the western calendar year.

Compiled by Estrella P. Gonzaga and Pedrito Sandy M. Fortuna. Sources TriPARRD 1993, Vilches and Gonzaga 1984

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<thead>
<tr>
<th>JAN</th>
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Sample seasonal calendar matrix
**Sorting and ranking**

**Definition**

Sorting is dividing objects or ideas into groups with special qualities. Ranking is ordering objects or ideas according to some criterion.

**Purpose**

To gain insight into the properties of objects or the nature of ideas, and reveal the preferences of local people.

**Materials**

- Cards and pens or sticks. Stones, seeds, leaves, etc.

**Possible approach**

Sorting and ranking can be done by way of individual interviews or informal discussions with informants, or with small groups of three to eight or more respondents during workshops or brainstorming sessions (See sections on these methods for details). Working with groups is preferred since results reflect group consensus rather than the opinions of an individual (provided that no one in the group is so dominant that he or she suppresses the opinions of others).

**Preparation**

- Identify interested and knowledgeable men and women.

**Sorting**

1. Write each object or idea on a separate card (or ask the respondents to do so). For example, write down the livestock diseases occurring in the community or represent them with objects such as pieces of skin for skin diseases, etc.

2. Collect the cards or objects and mix them so that they are not in any particular order.

3. Give all cards or objects to the respondents and ask them to sort them into two or more groups, either according to the respondents' own criteria or according to criteria given to the respondents before the sorting starts (for example, "which diseases can be transferred to humans and which cannot be transferred to humans?"). Allow the respondents to discuss how they want to sort the cards or objects— their discussion can provide valuable information.

4. When the cards are in different piles (and if the criteria were not set beforehand), ask why respondents grouped them the way they did. Ask what they have in common and what makes them different from cards in other piles. For example, one pile might contain all the names of
diseases that can be caused by spirits. A second pile might contain the names of diseases acquired through fodder, etc.

5 Record and discuss the outcome. Leave a copy of the output with respondents.

Ranking

1 Give each sorted pile to respondents and ask them to order the cards or objects according to a specific criterion. For example, ask which of the diseases in this pile is most dangerous to humans, which is the next dangerous, and which is the least dangerous, etc.

2 Record and discuss the outcome. Leave a copy of the output with respondents.

Ranking can also be done independent of sorting. Start with objects or ideas on cards or represented with symbols or pictures.

Value

Sorting provides information on the properties, advantages, and disadvantages of objects and ideas. It reveals how people classify objects and ideas.

Ranking helps identify preferences, priorities, and trends from the respondents' point of view. Both methods can support decision-making in development projects.

Dos and don'ts

- Do use the local language when sorting and ranking to allow active involvement of respondents.
- Make sure that all group members are involved in the discussion and that no one dominates.

Compiled by Eblas L. Blancas and Evelyn Mathias
**Taxonomies**

Definition

A way to classify, name, and group objects, ideas, and concepts.

Purpose

To help determine how people classify and structure objects and concepts, and to facilitate an improved understanding of an object or concept.

Materials

- Cards
- Marking pens

Possible approach

Constructing taxonomies involves three basic steps: 1) Recording terms, 2) sorting, and 3) constructing the taxonomy. It can be done with individual informants using interviews or informal discussions; or with small groups of three to eight or more respondents during workshops or brainstorming sessions (see sections on these methods for details).

1 Select respondent(s) knowledgeable about the object or concept to be classified.

2 Working with respondents, define the object or concept (for example, soil). This will be the focus of the discussion and form the highest level of the taxonomy (the "domain").

3 Elicit and record all local terms relating to the object or concept. For example, learn the respondents' terms relating to soil by asking questions such as "Are there different types of soil on your land? What types are there? What do you call them?"

4 Write each term on a separate card (or ask respondents to do so).

5 Collect the cards and mix them up.

6 Give all the cards to the respondents and ask them to sort the cards into two or more groups. Leave sufficient time for the respondents to discuss how they want to sort the cards—their discussion can provide valuable information.

7 When the cards are in different piles, ask the respondents why they grouped them this way and not in some other way. Ask what the cards in a particular pile have in common and what makes them different from cards in other piles. For example, one pile might contain the names of red soils, a second pile might contain the names of grey soils, etc. Note the feature that the objects in a pile have in common. The features of the different piles form the second level of the taxonomy (the contrast sets).
8 Give the first pile back to the respondents and ask them to subdivide the cards again. For example, the respondents might distinguish red soils with low infiltration from those with high infiltration.

9 Repeat step 8 with the second pile. Do the same for the third, fourth and any remaining piles. Again, note the common feature of the resulting groups as the third level of the taxonomy.

10 Continue sorting until the respondents say they cannot divide piles any further.

11 Construct the taxonomy based on the groupings done by the respondents.

12 Discuss the outcome and leave a copy of the output with the respondents.

Value

Taxonomies based on indigenous knowledge reflect how local people structure information. They aid in the understanding of indigenous knowledge and local decision-making. Taxonomies also help gather information on the object or concept classified. For example, the reasoning behind different categories of a rice taxonomy can reveal the environmental conditions a rice variety requires according to the experience of the local people.

Dos and don'ts

- Do use the local language when recording information on indigenous classifications to fully capture the respondents' view.

- Do make sure that all group members are involved in the discussion and that no one dominates.


Note

At the top of the taxonomy is a single object or concept (such as rice or soil). This is called the "domain." The levels below the domain consist of one or more "contract sets" comprised of "segregates." Contrast sets share at least one characteristic or feature (e.g., medium-duration rice variety, shortduration rice variety). Segregates within a contract set differ in at least one characteristic from each other. In Figure 1, for example, the categories "deep" and "shallow" form the segregates of the contrast set "black," while "wet" and "dry" arc segregates of the contrast set
Figure 1 Local soil terms and their classification in Tamil Nadu, India.
Transect

Definition

Method of collecting information about major land-use zones within a community. Involves walking along a carefully selected path that cuts across the main geographic features of a community to compare main features, resources, uses, problems, and opportunities of different zones.

Purpose

To provide a picture of how natural resources are managed and used by a community, and to help identify the problems and opportunities inherent to each zone.

Materials

- Community map
- Colored marking pens
- Flip chart (large sheets of paper attached to an easel)
- Notebooks
- Pens

Possible approach

1 Find key informants who are knowledgeable and willing to participate. Discuss the different information the project team would like to gather from the transect (crops, land use, trees, soil, water, problems, opportunities, etc.).

2 Identify on the community map the route to be taken for the transect. The route should cover all major ecological and production zones. A large and highly variable community might require more than one transect.

3 Walk with the informants along the transect route. Let the key informants give information relating to the categories selected. Ask questions on additional factors that might come up during the walk. Or become an observer while informants do the recording.

4 Transfer field data to a clean sheet and add illustrations.

5 Validate data with key informants.

Value

A transect walk is a useful tool for tapping local people's knowledge about land use, natural resources, soil types, problems, and possible solutions. It can yield a wealth of information on IK which might be overlooked by other data-gathering methods, especially if the informants classify and record the information.
Compiled by Teodoro L. Sevilla and Ella A. Jordan.

<table>
<thead>
<tr>
<th>Water Source</th>
<th>Source</th>
<th>Method</th>
<th>Soil Type</th>
<th>Crops</th>
<th>Forages</th>
<th>Trees</th>
<th>Animals</th>
<th>Problems</th>
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<td>Rain</td>
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<td>Rice</td>
<td>Grass and legumes</td>
<td>Guava</td>
<td>Cow</td>
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Transect of Pook Paliparan, Dasmarinas, Cavite, Philippines
Venn (or chapati) diagramming

Definition

A participatory method that uses small circles of paper to identify community institutions (both traditional and external) and the nature of their relationships with each other. It is sometimes called "chapati diagramming" because the circles of paper look like chapatis (round, flat bread).

Purpose

To identify and establish relationships between a community and its environment (both internal and external). These relationships are presented in such a way as to highlight the relative importance of particular relationships.

Materials

- 20-30 pieces of colored paper cut into circles of different sizes (ranging in diameter from 5 cm to 25 cm), plus a large circle of paper about 40 cm in diameter
- Marking pens
- Large sheet of paper
- Glue, paste or tape

Possible approach

1. Assemble a small group of people (both men and women) representing a cross-section of the community. Explain the exercise to the participants.

2. Lay out a large sheet of paper on the floor or a table. Group the participants in a circle around the sheet.

Paste the large circle in the middle of the paper. Write the name of the community in the circle. This circle represents the community.

3. Ask participants to identify institutions, groups, organizations (formal and informal), and individuals (both from within and outside the community). Encourage participants to think in broad terms to include non-formal institutions such as the family, etc.

4. Ask the participants to select a paper circle to represent each entity. They should choose larger circles for entities that they think are more "important"; small circles should represent less "important" entities. For example, if a traditional healer provides more timely and coat-effective health service to the community than the government health worker, a larger circle should be used to represent the healer.
5 Write the name of each entity on the corresponding circle.

6 Ask the participants to discuss the institutions represented by the various circles and place them on the large sheet of paper. Much discussion will ensue about the appropriate size of the circles (importance) and the distance from the village (amount of influence).

- Entities within the community should be placed inside the village circle.

- Entities based outside but with a presence in the community (such as the extension service) should overlap the edge of the village circle.

- Outside entities with no presence in the community (such as a hospital in a nearby town) should be placed at a distance from the village circle. The distance should depend on the strength of the links the entity has with the community; an entity with few or no links should be placed far from the village circle.

- Entities that influence each other or have members in common can be placed so their edges touch or overlap; the degree of overlap represents the amount of influence or number of common members.

7 After the participants have thoroughly discussed the matter and reached a consensus about the various sizes of each entity and their placement on the paper, the circles should be pasted to the base sheet to make a permanent diagram.

8 A variation can be used by drawing lines between the village circle and the other circles, with the thickness of the line representing the strength of the relationship.

9 This exercise can be completed in about 45-60 minutes. However, a more indepth discussion can continue for some time.

Value

Venn diagramming is a powerful tool that can be used to identify local or indigenous formal or informal institutions, such as communal work groups, village councils, etc. It can also be used to discover the relationships between these groups.

More importantly, this exercise can highlight local perceptions regarding the relative importance and influence of local institutions as compared to external institutions. It might show that there is no need to create new organizations in a community if ones already exist.

The completed diagram can serve to focus discussions analyzing the strengths and weaknesses of the various institutions and their contributions (or constraints) to the development of the community.
Dos and don'ts

- Do include and encourage active participation of people from across the community (both men and women).

- Don't attempt to undertake this exercise if a single, very influential community member is in the group (e.g., district commissioner, large landowner), as the participants might be reluctant to discuss sensitive community relationships in this parson's presence.

- Do try to include as many different institutions as possible (both local or indigenous and external) in order to ensure that the exercise is comprehensive.

Source: Shogorip, 1992

Sample Venn diagram Influence and importance of different organizations in Titupara Village in Magura District of Bangladesh

Compiled by Scott A. Killough
Webbing

Definition

A method of illustrating relationships on a chart, or web, of interconnected text blocks or sketches.

Purpose

To illustrate situations, problems, and their causal relationships. Useful tool to prioritize problems and identify solutions.

Materials

- Crayons, marking pens, charcoal, or other writing materials
- Manila or craft paper, banana leaf (or other large leaf) or other writing surface

Possible approach

1 Find knowledgeable key informants willing to participate (see Abbreviations and definitions).
2 Prepare activity (see Group discussions, Village workshop).
3 Explain the process, objectives, and expected outputs of the activity.
4 In the middle of the paper write the theme (situation or problem) to be discussed. Use one or two keywords or draw a small sketch to illustrate the theme.
5 Ask what problems or situations relate to the theme. Write the answers in less than 10 words or draw small sketches somewhere on the paper to illustrate each situation or problem. If you use sketches, make sure that everyone understands what the sketches represent. Label the sketches to remind people what they mean.
6 For each situation or problem, ask what are its causes and consequences.
7 Draw arrows from one text block or sketch to another to indicate their relationship. The arrow should point from the cause to the result or effect.
8 Initially, the facilitator might lead the questioning and draw the illustrations. Later, participants can take over these roles.
9 After the discussion is exhausted, ask the participants to reflect on the output. Ask what can be learned from the facts or perceptions of the facts.
10 The facilitator then summarized what has been discussed.
Post workshop

1 Redraw the workshop output on a small piece of paper. Leave a copy with the community.

2 Dome participants might avoid discussing certain issues or problems, particularly matters which are political in nature, for fear that they might be reprimanded. The facilitator can follow up with people who he or she feels still have concerns to raise.

Testing the process beforehand with key informants will give the facilitator an idea of what illustrations or symbols can be used and will alert him or her to controversial issues or problems that might come up.

Value

- Webs record problems, relationships surrounding problems, the community's perception and analysis of these problems, and the value or weight they give to these problems.

- The method enables local people to express their understanding of their situation. It gives the outsider an idea of which problems should be given priority in planned development efforts.

- It develops symbols that local people recognize. These symbols can be used in subsequent educational activities.

- The method helps raise awareness among community members regarding the causes of their problems.

- The animator might choose to focus discussion on village level problems, municipal or country-wide problems depending on the time available, capability of the animator, and the objectives of the workshop. In some instances, the discussion can even go to the level of international relationships.

Compiled by Jojo Pastores, Rio Armonia, Nita Abena and Tabrez Nasar
Diarrhea

- Ate food that was exposed to sun and flies or was stale.
- Ate junkfood.
- Indigestion.
- Drank water from another place.
- Baby is starting to grow teeth.
- Child has worms/parasites.
- Had milk that is not "hiyang" or not compatible

Types of diarrhea
- Hard stool "tibe"
- Watery stool
- Dark or green stool
- Loose bowel movement and throwing-up-Eltor
- "Ite"

If diarrhea is "Ite" (small amounts and soft), it is caused by insufficient or improper bathing.

Source: Community members of the village of Piragahan, Maragondon, Cavite, Philippines.

Example of one-level web Causes of diarrhea
Example of three-level web Causes of lack of cattle fodder (as seen by farmers in Barandi, India)

Source: Lightfoot et al. 1990.
Audio-visual media

Cassette documentation

Definition

Recording interviews, group discussions, meetings, music, stories, dramas, and natural sounds with a cassette recorder.

Purpose

To record stories, dramas, folklore, rituals, and other information and dialogues which can be developed, preserved, and reproduced for dissemination.

Materials

- Two cassette recorders
- Cable to connect the two recorders together so you can record from one to the other
- Cassette tapes
- Microphone
- Batteries
- Paper
- Pens

Possible approach

Sound recordings can be used in many different ways. The process below describes how to make a simple audio program that you can use in a training course or play over a local radio station. Some radio stations might also be able to do the recording and editing for you.

Preparation

1 Identify a situation in which the use of a sound recording can help (For example, the villagers might be preparing for a meeting which will reveal an indigenous organization's key features. Information about the organization could be used by people in other villages to improve their own organizations.)

2 Identify your target audience. Think of their characteristics (age, sex, income, location, attitudes, knowledge of the subject, etc.). Decide what types of information they already have, and what types of information they might respond to.

3 Set your objectives. What do you want the audience to think, feel or do after they have heard your recording?

4 Review any available audio recordings and references related to your topic.
5 Prepare a topic outline and a draft script.

6 Test your tape recorder to make sure it works.

Recording

7 Make it clear to everyone that you are making a recording.

8 Discuss your objectives with the participants or actors.

9 Start recording. You can record interviews with local people (try to find a place with as little background noise as possible). Ask each person to say his or her name at the beginning of the interview. You can also record music and "wild sound"—the background noises of a festival, meeting or community that make the recording sound realistic.

10 Regularly check to ensure that the recorder is functioning and that you have sufficient tape.

Post-recording.

11 Review the recording and label the tape—event, date, duration.

12 Review the tape and "log" it: write down the counter number at the beginning and end of any segments that you would like to use in the finished program. For those segments, transcribe what each person says so you know exactly when to start and stop the recorder while editing.

13 Revise the script and incorporate the interview segments and wild sound.

14 Record the narration (if any) and music onto separate tapes.

15 Using two cassette recorders record the narration, interviews, music, and wild sound in the right sequence onto a clean tape. If you have sophisticated equipment, you can add music or wild sound in the background.

16 Pretest finished tape with your target audience to assess your recording's effectiveness. Assess their reactions. Did they agree or disagree with the statements made? Did the tape generate a lot of discussion?

17 Use the tape in training or for radio broadcast as planned.

Value

- Cassette documentation is an easy and useful recording tool, especially in communities with an oral (story-telling) tradition.

- Recordings can help preserve, disseminate, and promote IK in the language of the target audience.
They can enliven an illustration, photo, or slide show, or be used in video or radio programs.

Recording a meeting or interview can enable you to go back over what was said later.

It can be used to record the local language and possibly serve as part of a language tutorial.

Dos and don'ts

- Avoid creating distraction while recording.

- Avoid interrupting people you are interviewing. Ask them questions that need more than a yes/no answer. And encourage them to say more by nodding and smiling rather than by saying "yes" or "uhhuh."

- If possible, record in the natural setting of the subject or event. But try to avoid overly noisy locations (such as near a market or passing traffic). You can select a microphone that will eliminate much of the background noise (ask a specialist in an audio shop to help you with this).

- Store cassettes in well-ventilated areas, protected from dust, humidity and insects.

- Don't record too much. It's easy to make hours and hours of recordings that you'll never listen to again.

Note

You can also record your own ideas and comments on cassette. A pocket microcassette recorder is particularly useful for this if you cannot write your thoughts down (for instance, if you're riding in a car). Remember to transcribe the cassette as soon as possible afterwards so you do not forget the context.

Compiled by Anna Reylene J. Montes
Participatory video

Definition

A method of video documentation which engages local people as camera operators and directors.

Purpose

To find and document IK from the insiders' point of view and then prompt discussion and raise awareness using the videotape output as a focal point.

Materials

- Video camera
- Microphone
- Video tape
- Batteries and power source
- Artificial light source
- Television or video monitor
- Cables

Note

Buy, borrow or rent?

Participator video does not necessarily require substantial investment. Hand-held video cameras, which are becoming more and more common, are ideal. Maybe you can borrow or rent.

Note

Easy editing

Remember the principal audience for participatory videos is the people who make them. Don't fret too much over production quality. But, if a community wishes to share its video with other communities, very rough or unnecessarily long scenes can be easily removed or shortened. Just hook your camcorder to a video cassette recorder and transfer only valuable material to a fresh tape. To ensure that you don't cut valuable material, ask community members to supervise your editing. Better yet, teach them to do it themselves.

Possible approach

Train a selected group of community members—men, women, young, and old—in basic video production, especially camera operation. The rudiments can be taught very quickly—in a matter of minutes—right in the community.
Have community members discuss a theme for their video, such as food preservation and storage, or local farm implements. This discussion can be facilitated by the "outsider."

Community members record footage of what they want to document and share. In so doing, they record information—spoken and visual—that they wish to emphasize, highlighting their point of view.

View the video with the group. Make a mental note of the images that were selected and listen for comments which can be brought up later in discussion.

Initiate a group discussion on the topics covered in the video. (Gee Group discussion and Village workshop for ideas on how to do this.)

Leave a copy of the tape with the community.

Value

Participatory video:

- allows insiders to tell their own story.
- encourages rapport.
- can serve as a focal point for in-depth discussion of indigenous knowledge, technologies, practices, and beliefs.
- can raise awareness of IK and foster pride in the local ways.
- can lead to improvements in IK.
- puts illiterate insiders on a more equatable footing with literate outsiders.
- can be entertaining and thus attract participants. can help outsiders find valuable IK.
- can lead to the sharing of knowledge and know-how.

Dos and don'ts

Do allow community members to shoot whatever they choose. Do let many community members become involved in order to provide several different perspectives from within the community. Don't persuade or dissuade them from taking certain shots.
Note

You can also produce video programs on IK for training or broadcast. Such programs typically require careful preparation and scripting: they also need more equipment than most organizations have.

One way of producing a video program cheaply is to ask a local video store (the type that usually shoot videos at weddings) to help you. Develop a scripts and list of shots you will need (see the section on Photo/slide documentation for hints on the steps to follow). eke the video team with you and tell them what you want to shoot (make sure they use a tripod to hold the camera steady!). Then work with the team to edit the footage into a finished program.

Note that video for broadcast may have to be higher quality than most hand-held cameras can provide. Contact the local television station for details.

Compiled by Scott A. Killough and David G. Abbats
Reference For A listing of films on and by indigenous peoples, see TVE 1994.
Photo/slide documentation

Definition

Taking photographs as prints or slides. Individual prints or slides can stand on their own or be shown in sequence with narration to convey complex messages or illustrate themes.

Purpose

To preserve images—objects, practices, and dynamic processes in a community. Photos are useful for recording baseline data, visually chronicling implementation, and in monitoring and evaluation. They can also stimulate discussion and action by local people and by outside organizations.

Materials

- 35mm camera
- Flash and batteries
- Film
- Paper, marking pens and push-pins
- Notebook and pencil

Possible approach

Photographe can be used in many different ways. The process below describes how to use photos in a simple exhibit or slide-tape program that you can use in a training course.

Preparation

Identify a problem for which photographs can help. (For example: you have been assigned to introduce a number of IK practices to a large group of people. You might choose to prepare a slide presentation.)

Identify your target audience (see assette documentation).

Set your objectives. What do you want the audience to think, feel, or do after they have seen your photos?

Gather and review, if necessary, available photos and references related to your topic from the community, local government units, and libraries.

Prepare a topic outline, a list of shots to take, and/or a script.

Make sure your camera works.
Shooting

Make it clear to everyone concerned that photographs will be taken. If needed, ask for permission.

Explain your objectives, who and what you want to photograph, and who will see the presentation.

Follow your shooting guide or script to document the practices you need to record. As far as possible, take pictures of people and objects in their natural settings. Take more photos than you need in case some do not come out as desired. after shooting

After shooting

Review your shots and label them (event, actors, date, significant details, including any information on IK).

Select the shots you need and put them in a logical sequence.

Write or refine the narrative to accompany the shots.

Prepare the presentation.

Prints: You can put prints in an album for presentation, or make an exhibit (it's best to use enlargements for this purpose). Write or type labels with a narrative to accompany the photos. Pin them on the wall 50 readers or visitors can follow them without any extra explanation.

Slides: It is best to keep a slide set in a projector tray. You can make title slides by writing with chalk on a blackboard and then taking a picture of it. You can write the narration (with notes on when to change the slides) on paper and keep this with the slide set. Or, you can record the narration on an audiocassette and play it back while you show the slides.

Pretest your shots or your slide show with members of the target audience. Assess the impact on the audience. Note how they react. Change the individual shots or the sequence and narrative if necessary.

Use the finished exhibit or slide-tape program as planned.

Store the slides prints and negatives in a well-ventilated place free of insects, dust and humidity (an air-conditioned room is best). Make sure they are labelled and ordered in a way that enables you to find photographs easily.

Value

- Photography is a powerful, yet simple, low-cost way to capture detailed images. Photos can show objects, events or processes.
- They can stimulate discussion and preserve, promote, and disseminate details of a people's culture, practices, traditions, and lifestyle.

- Photos can also be used in many other ways—for instance, as illustrations in publications, on posters, and as stills in video programs.

- They are a particularly effective way of communicating IK to people outside the local community.

Dos and don'ts

- Get as close as possible to your subject when shooting. The most common mistake in photography is to stand too far away—causing the subject to appear too small in the print or slide. If you cannot get up close, use a telephoto lens.

- During shooting, be guided by your script or shot guide. Try to avoid taking photographs just for "documentation." Try to keep a purpose in mind when you are shooting. Buying and processing many rolls of film is expensive.

- Avoid creating distractions while taking photographs.

- Take your photos in the natural setting of the object or event. Try to avoid "posed" shots, with everyone looking directly at the camera.

- Encourage community members to prepare their own photo and slide shows. People can easily be trained in basic photography.

Compiled by Anna Reylene J. Montes
Part 3 Assessment of indigenous knowledge

Assessing IK

Recognizing the general value of IK is one thing; assessing specific aspects of IK for application in development projects is another. To use IK in development we must be selective. Some IK is out-of-date, some is ineffective, and some is even harmful. We must, therefore, establish methods to assess IK, giving importance to the perspectives of both insiders and outsiders.

Assessing IK means identifying potentially useful IK and evaluating its effectiveness. It is necessary to do this in Steps 2 and 3 of project implementation (see How to use this manual and Using IK in development).

Many examples in this manual contain general ideas and advice on how and what type of IK could be improved or blended. For example, you could consider employing indigenous money lenders to implement credit schemes (see Using IK in development). Mini-case studies (in Part 4) describe how a traditional animal dispersal scheme was modified to help more farmers, and how insiders and outsiders together experimented in the germination of teak tree seeds.
Criteria for assessing IK

When assessing each type of IK—practice, technology, organizational structure, human resource, etc.—consider the following criteria:

Criteria

- Efficacy: Does it work? Is it effective? Under what conditions?

- Cost-effectiveness: Is it cost-effective? Affordable to poor people?

- Availability: Are its "ingredients", available in this location? In sufficient amounts? Decreasing?

- Understandability: Is it easy to understand? Easy to handle?

- Cultural appropriateness: Is it culturally appropriate? Will it be accepted? (These two questions apply only when IK from one location is introduced to another location, ethnic group or caste.)

- Effect on different groups in communities: How will it affect the different user- and non-user groups in the village? (Who would be burdened? Who would benefit?)

- Environmental soundness: How does it affect the environment?

- Constraints: What are potential constraints to its use or application? Can they be overcome?

These criteria resemble those applied to western knowledge. Due to its special nature, however, the measurement standards for IK might have to be distinct from those applied to western knowledge.

Special characteristics of IK

IK is holistic (ace Characteristics of local systems).

Indigenous systems are often complex, their various components interrelated. This makes it difficult to measure their efficacy or economic return accurately. To overcome this, western science has tended to pick only bits and pieces of local systems for comparison with their western counterparts. For example, yields of local crops were compared to those of improved western varieties. The fact that the local crops were well adapted to specific intercropping arrangements was often ignored despite the fact that total economic return from some intercropped fields is higher than that from improved monocrops.

Western science has been slow to develop methods to assess complex systems. Rather than measuring the yields of single crops, we need methods which can measure economic returns of intercropped fields over extended periods. To assess the productivity of particular livestock species, we need methods which take into account inputs—coat of feed, medicines and labor.
Up to now, analyses have focused on outputs—milk production and meat production—and neglected the benefits of local breeds which thrive on minimal inputs.

The value of some IK cannot be expressed in monetary terms.

Some practices fetch low economic returns but perform valuable social functions. Other practices which seem less effective than outside technologies might preserve the environment—a benefit that is difficult to express in economic terms. In other words, assessment of IK must recognize the context in which it was developed and in which it is applied.

Adapting measurement standards to accommodate the special nature of IK is not enough. We must also identify the criteria and standards by which local people themselves judge IK. This can be difficult.

We can, however, find out:

- What people value most in a specific IK
- Why they chose it
- What they see as its strengths and weaknesses
- What they think would happen if the IK were not available
- Who would be most affected if the IK were not available
- What features people look for when they test a technology, and so on.

In other words, we attempt to learn the people's view of IK. Methods described in this manual can be adapted to this purpose.

Only if we combine both insiders' and outsiders' assessment, will we be able to identify and better understand the value and usefulness of IK.

Compiled by Evelyn Mathias
Tapping assessment

Outsiders can learn about the advantages and disadvantages of indigenous practices from local people themselves. This not only provides valuable information about IK, but also helps identify opportunities for—and constraints to—the promotion of specific practices.

While some require adaptation, many of the methods for recording IK described in Mart 2 can also be used to assess IK:

- Strengths and weaknesses and SWOT analysis can help insiders and outsiders alike assess the advantages and disadvantages of a particular item of IK in solving problems.

- Participative technology analysis can show the uses of a practice and how it might be modified or promoted.

- The five question technique can reveal whether a practice is helpful, harmful, or neutral, and therefore whether it should be promoted.

- Village reflections enable villagers themselves to analyze and make decisions as a group on complex issues facing them.

- Individual interviews or group discussions can reveal the reasoning behind an indigenous practice or technology. They can also reveal how villagers assess the effectiveness of specific IK practices or technologies.

- A series of resource maps drawn by local people can help gauge the effect that indigenous practices have on the environment.

- Historical comparison can suggest why a specific item of IK has changed and suggest possibilities for improvement.

- A matrix showing characteristics of various practices or species can highlight their relative strengths and weaknesses.

- A flowchart listing the steps of an indigenous practice can focus discussion on the problems encountered at each step, and in the process help solve these problems.

- A web can help reveal causal relationships between a specific IK and other factors. This can help determine whether to improve a specific IK, and if so where to start.

- Sorting and ranking allow comparison of different IK practices and technologies and can help identify which of them are most effective.

What is true for recording IK is also true for assessment: the more participation a method provokes, the more the output will reflect the people's views and experiences.
Another possibility is to study how local people themselves assess their knowledge. Some communities or regions have specific bodies that meet, discuss, and decide on practices. In Bali, Indonesia, for example, regional networks of "water temples" manage and regulate water distribution for rice cultivation. The network would be a valuable source of information for anyone wishing to study and evaluate the local irrigation system.

And, local people do experiment. They might plant a new tree species in their home gardens to check its performance, they might test herbs for new medicines, or try some new cooking ingredients. Their experiments range from just trying something new, to deliberate, systematic experimentation (for further information on indigenous experimentation, See Boef et al. 1993). Outsiders can learn a lot from these community experiments and build on them when testing technologies. Assessment of IK is more than observing indigenous practices it means looking at the various processes and structures through which IK is generated, shared, tested, and applied.

Compiled by Evelyn Mathias
Using western science methods to assess IK

First, by "western science methods" we mean methods used by western science to develop and test technologies, methods, or practices. For example, soil sample tests, measurement of animal feed intake, or blood tests to monitor the effects of certain drugs.

But IK can be different IK is holistic. It can be difficult to differentiate into many subject matters, each treated separately by western science. And, to attempt to describe all western science methods which could be used to assess IK would be impractical. Instead, we will highlight some principles and give a few examples.

Principles for assessing IK with western science methods

- As with all research, the selection of western science methods for assessment of IK should be based on objectives defined before the assessment (see Recording IK in communities).

- The assessment needs to be based on a thorough understanding of the IK to be assessed.

- The experimental design should do justice to the special nature of IK (e.g., recognizing its holistic nature, not purely economic benefits, etc.).

- Insiders' assessment should complement western science methods.

- IK should be viewed in the broad context of culture, society, and history.

- We must recognize the limitations of western science for the assessment of IK in order to interpret our study results correctly.

1 Western science methods can lead to false conclusions when used to assess IK (see Criteria for assessing IK).

2 Western science, lacking the means to understand an indigenous practice or technology, might belittle it. A classic example is acupuncture. For a long time western science had no explanation for acupuncture and therefore disregarded it. This is changing and acupuncture is being integrated into western medicine's curricula.

Examples of western science methods used to assess IK

The following are some examples of western science methods which could be used to assess IK. This list shows that approaches developed in different disciplines can be used. Keep in mind that these methods should be combined with insiders' assessment.

Animal Production and healthcare

Let's suppose that a community wishes to expand and improve its livestock production system. The following western science methods could determine the efficiency of local animal
production and healthcare practices and indicate which aspects of the indigenous system could be used, improved, or blended with western practices:

- Measure productivity of animals, recording both inputs and outputs (see Criteria for assessing IK).

- Observe the condition of livestock kept in the community (this could be done by ocular inspection, weighing and measuring animals, etc.).

- Test for Parasites by investigating feces of randomly selected animals (this will require some laboratory tests).

- Identify medicinal plants used by the community and test their efficacy. The medicinal qualities of some plants have already been established in the scientific literature.

Indigenous paper making

- Calculate amount of raw materials and energy used in the production process.

- Test quality of paper in the laboratory (do not forget to keep the local use in mind when making any statement about the paper's quality).

Effect of IK on environment

- Assess biodiversity in the environment of the study community (e.g., count number of species in an area of a certain size).

- Measure nutrients in soil.

- Measure runoff and soil erosion from fields.

Indigenous birth attendants

- Collect data about course and outcome of deliveries assisted by indigenous birth attendants and analyze results using statistics.

- Investigate condition of instruments used by local birth attendants (e.g., whether the instruments are clean, which bacteria they contain, etc.).

Indigenous communication

- Assess number of Persons reached by messages transmitted through indigenous channels.

- Measure time needed for transmission.

Compiled by Evelyn Mathias
Monitoring and evaluation

Monitoring is the regular collection of data on an activity, technology, social event, relationship, or some other topic. Evaluation is the analysis of these data, comparing them to set objectives. For example, monitoring and evaluating (M&E) the use of herbal medicines in a small community of some 20 households could be done through regular visits to all households, recording whether any of the household members had been sick since the last visit, whether anyone had used any herbal medicines to treat an illness or for any other purpose, whether they used any other type of drug, etc. After, let us say one year, the data would be analyzed. We might count how many households and who in each household had used herbal medicines, how many different types of herbs were used and how they were prepared, for which diseases herbal medicines were used, etc. It is important that we determine, before the monitoring starts, just what data are needed and how they will be analyzed.

M&E enable development workers to determine whether their projects are meeting their objectives and to determine what changes are needed.

Monitoring and evaluating IK

Monitoring and evaluating IK means regularly collecting data on a specific IK and analyzing the data against defined objectives.

Examples

<table>
<thead>
<tr>
<th>Monitoring</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regularly measure and record the yields of indigenous crop varieties</td>
<td>Determine whether they reach the production target set at the beginning of the project</td>
</tr>
<tr>
<td>Regularly document the return rates of an indigenous credit scheme</td>
<td>Determine how they compare to those of an “introduced” scheme</td>
</tr>
</tbody>
</table>

Many of the recording and assessment methods described earlier in this manual can be adapted and used to collect data for monitoring and evaluating IK. Combinations of methods afford a comprehensive analysis, allowing assessment from the insiders' end outsiders' perspectives. Such a comprehensive assessment is also useful for cross-checking and validating data through triangulation (i.e., ask the same question in different forms or ask different people).

For example, let's look at a project promoting indigenous stoves to villagers. To obtain technical data on the stoves, the project might measure the stoves' energy consumption, smoke emission and cooking efficiency under village conditions during different seasons. Parallel to this testing based on western science, regular group discussions—or some other IK assessment method—
would be held to learn the villagers' experiences using the various stoves: What problems were encountered with the new stoves? Which stoves meet the villagers' needs? How can village stoves be improved, etc?

What applies to M&E activities in general, also applies to M&E of IK. We must determine from the outset of a project:

- What do we want to measure? What are the objectives of our planned M&E?
- What type of data must we collect in order to learn whether we have reached our objectives?
- What methods are best suited to collect the data?
- What methods are best suited to analyze and interpret the data?

Using IK to monitor and evaluate projects

IK can be used to monitor and evaluate projects. For example, hunters might know that the disappearance of a certain wildlife species means that a certain habitat is deteriorating. A project aiming to improve this habitat could use this information. By monitoring this indicator species, the project could gauge the effectiveness of its efforts. Or, local people might have their own way of calculating profit. A project aiming to increase the number of local enterprises in a village could use this indigenous method of record-keeping to monitor and evaluate enterprise success.

The use of IK in M&E is poorly documented. Therefore there exists no easy "recipe." But similar to the steps outlined in the sections How to use the manual and Using indigenous knowledge in development, applying IK to M&E should start with thorough documentation of any IK related to the objectives of the M&E. For example, if you want to monitor changes in the condition of the environment, make a comprehensive record of IK relating to the environment. Next, screen the recorded IK looking for any information useful for your M&E.

Or, you could ask the local people how they would monitor progress of the project. Their ideas could be very useful. You could develop an M&E approach together with them.

Finally, identified IK must be integrated into your M&E design. Again, a combination of both IK and outsiders' knowledge will probably prove most effective.

Compiled by Evelyn Mathias
Part 4 Mini-case studies - How development can build on IK

Mini-case studies

This section features 10 mini-case studies. They are based on field experiences of IIRR and several other organizations.

Each case highlights one or several of the many ways development projects can build on IK, what can be done, and what hasn't worked. In particular case studies illustrate:

- the use of IK in planning, and the integration of IK recording in planning.

- the application of different types of IK (such as i technologies, animals and plants, human resources, local organizations, and schemes) during project implementation.

- the use of selected methods in recording and assessing IK.

- the modification of selected IK challenges faced when introducing to extensionists IK as a useful resource.

The cases are short and focus on project aspects which relate to IK.
Kiko Rosa is one of the seven sub-villages of San Francisco in General Trias, Cavite, Philippines. It is a lowland agricultural village approximately 10 kilometers from the town center. It was chosen to be the site for IIRR's Participatory Nutrition Project because Kiko Rosa had the high-test number of malnourished children under six years of age in San Francisco.

Participatory research was conducted to assess factors affecting the nutritional situation of the village. A trained core group, composed of representatives from both parts of Kiko Rosa, designed and conducted the research (data collection, collation, and analysis).

The care group used their research findings to identify the problems underlying the children's malnutrition. The group prioritized the problems using the following criteria which they developed:

- Problem was mentioned in both parts of Kiko Rosa
- Frequency of complaint and intensity of effect on people
- Scope of population affected
- Solvability
- Impact of problem's solution on the other problems
Problems were further classified according to their solvability, long term or short term. Short-term processes are those which can be implemented immediately by community residents. Long-term solution are those requiring external negotiations or longer time to implement.

The problems where ranked as follows:

1. Inadequate income
2. Air pollution caused by the local commercial piggery
3. Lack of pump wells for drinking water
4. Unsanitary/unhealthy environment (further qualified)
5. Road impassable to public vehicles
6. River water cannot be used for drinking
7. Vices: gambling, alcoholism, use of prohibited drugs by the youth
8. Lack of classrooms and teachers in the elementary school
9. Distance from market
10. Insecurity of home lot ownership

Because of the interrelationship of the problems affecting the nutritional status of children under six years of age, representatives from various government agencies at all levels needed to become involved. The indigenous classification and prioritization clearly showed the need for a broader range of health-related activities (e.g., construction and repair of the road, construction of a health center, a forum to address insecurity of home lot ownership) than the usual health service package (e.g., immunization, weighing of children, food distribution).

Compiled by Phoebe V. Maata
Community managed health in Pinagsanjan, Philippines

Learning from local residents was a critical first step in the establishment of the Appropriate Community Managed Health Program (ACMHP) in Pinagsanjan, Cavite, Philippines, begun by IIRR in spring 1994.

Villagers selected 14 community members to become core group leaders to conduct participatory action research. They included male and female villagers and represented different levels of education and economic status. After receiving training in participatory action research, they discussed their health concerns and then multiplied the discussions in groups of 12 to 20 villagers. The second phase consisted of data analysis and planning. Both were done by the villagers in close collaboration with IIRR staff.

The villagers expressed a clear concept of health and quality of life - health is not just the absence of sickness, but physical, mental, and social well being. But, perhaps most significant to the success of the planned health intervention, villagers were able to tabulate their health care needs in detail according to sex, marital status, and age, and to identify specific problems to be solved.
These included:

- lack of trained medical professionals in the villages.
- lack of both local and western-style trained birth attendants.
- non-functioning of the government clinic in the village.
- lack of medicine.
- drinking, gambling and drug addiction.

Based on the findings the health program has been able to direct proper attention to where it is needed in the community. The program has also adopted a broader view of health, to match the villagers' observation that stable and happy families and communitie produce healthy and happy people.

In particular, the program:

- trained 11 villagers as voluntary health workers.

Trainees were selected based on criteria provided by the community and included farm wives, spiritual healers, and young people. In order to reopen the clinic, the villagers set about raising funds to buy the necessary basic medical equipment.

They are coordinating their activities with the township government doctor to arrange for supervision, back-up, and supplies.

- Identified herbal medicines which can be used to treat common illnesses

Some of these medicines have been tested and are recommended by the Philippine Department of Health; others were suggested by the villagers themselves. The clinic will be using and promoting both traditional and commercial drugs.

- will strengthen safe home delivery and local care after birth.

Village health workers will be trained by an indigenous birth attendant from another village.

- strives to improve social life in the village.

Young people organized themselves to promote sport in the village and solicited funds for sports equipment. They also performed dramas during village fiestas and revied poetry and balagtasan, a local form of debate in which arguments are written and presented in poetry. The youth used these traditional means of communication to make their stand known on drinking, gambling, and drug addiction, and to raise awareness concerning these issues.

Compiled by Andrea G. Sales
Incorporation of local free species in an agroforestry project in Layong Mabilog Philippines

Layong Mabilog is an upland village in Cavite province, Philippines. According to the community, major problems are low crop yield and low productivity due to slash-and-burn cultivation, soil erosion and deforestation. In response to these problems, IIRR started an agroforestry project in Layong Mabilog in 1991.

A main component of this project is its community-managed tree nursery. The purpose of the nursery is to produce good quality seedlings of timber, fodder, fuelwood, fruit, and green leaf manure trees for distribution to community members.

The farmer cooperators and villagers who run the nursery have produced 25,000 seedlings, mostly exotic varieties.
Farmers planted these seedlings on their farms, in their home yards and along roadsides. After two years, some exotic species had failed to live up to expectations. The trees grew very fast, but their trunks and branches were weak, unsuitable for making farm implements, and unable to withstand typhoons.

Some species, when cut for fuelwood, regrew too slowly or had very poor coppicing ability. Another problem were the unavailability of seeds for propagation.

The failures of introduced tree species have resulted in renewed interest in local tree species. To identify local bushy plants and tree species which could be integrated in the agroforestry system, the project did an inventory of the local vegetation. A team of scientists and farmers walked through the village and listed scientific and local names of the trees and bushy plants (indigenous and introduced).

Now, promising local tree species are grown in the community nursery along with exotic species. A group of key informants was asked to identify those species which they regarded as especially important. The group came up with a list of four exogenous and six indigenous species based on various criteria. They said that trees must be suitable for planting as pioneer species on infertile open grassland. Therefore they need to be hardy, fire resistant, have good coppicing ability, have many uses, must generate income, and seeds or planting material must be readily available.

The farmers then ranked the species according to these criteria. The matrix on the next page shows their evaluation of the ten species' suitability for the various uses they had identified (for details of the methodology, see the Section on Matrix).

This exercise helped the project members identify useful indigenous agroforestry species and learn about their characteristics from the farmers’ point of view. It also raised awareness among farmers about the economic value of their trees.

The results of the matrix ranking were presented to the whole community during a general assembly and served as the basis for an action plan for the protection and conservation. One of the outcomes was a poster-making contest for school children to promote the protection, conservation, and multiplication of vanishing tree species. Villagers also plan to establish woodlots, plant boundary trees, and reforest using local species.

The project demonstrated that farmers' knowledge of local tree species must be considered and respected in the selection of potential agroforestry species. Responsibility for decision-making must rest with the farmers, not development workers.

Compiled by Raquelito M. Pastores and Romeo E. San Buenaventura
Matrix ranking of tree species Layong Mabilog, Cavite, Philippines

<table>
<thead>
<tr>
<th>Local name of species</th>
<th>Scientific name</th>
<th>Type</th>
<th>Fuelwood materials</th>
<th>Construction</th>
<th>Fertilizer</th>
<th>Fodder</th>
<th>Fencing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kakawate</td>
<td>Gliricidia sepium</td>
<td>local</td>
<td>xxxx</td>
<td>xxxx</td>
<td>xxxxx</td>
<td>xxxx</td>
<td>xxxx</td>
</tr>
<tr>
<td>Ipil-ipil</td>
<td>Leucaena diversifolia</td>
<td>exotic</td>
<td>xxxx</td>
<td>xxxx</td>
<td>xxxxx</td>
<td>xx</td>
<td>xxxx</td>
</tr>
<tr>
<td>Calliandra</td>
<td>Calliandra</td>
<td>exotic</td>
<td>xxxx</td>
<td>xx</td>
<td>xxxxx</td>
<td>xxxx</td>
<td>xx</td>
</tr>
<tr>
<td>Lanete</td>
<td>Wrightii laniti</td>
<td>local</td>
<td>xxxx</td>
<td>xxxx</td>
<td>xxx</td>
<td>xx</td>
<td>xxx</td>
</tr>
<tr>
<td>Akling parang</td>
<td>Albizia procera</td>
<td>local</td>
<td>xxxx</td>
<td>xxxx</td>
<td>xxx</td>
<td>xx</td>
<td>xxx</td>
</tr>
<tr>
<td>Alibanghang</td>
<td>Piliostigma malabarica</td>
<td>local</td>
<td>xxxx</td>
<td>xx</td>
<td>xx</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>Akling gubat</td>
<td>a wild forest tree</td>
<td>local</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>Mangium</td>
<td>Acacia mangium</td>
<td>exotic</td>
<td>xxxx</td>
<td>xxxx</td>
<td>xxx</td>
<td>xx</td>
<td>xxx</td>
</tr>
<tr>
<td>Anonang</td>
<td>Cordia dichotoma</td>
<td>local</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td>Auri</td>
<td>Acacia auriculiformie</td>
<td>exotic</td>
<td>xxxx</td>
<td>xxxx</td>
<td>xxx</td>
<td>xx</td>
<td>xx</td>
</tr>
</tbody>
</table>

The original was drawn on the ground and stones were used instead of x's.

x = poor
xxxxxx = excellent
Local vegetable varieties for home gardening programs

Local vegetable varieties can produce stable yields, have high nutritional value, and tolerate extremes such as drought. They can be used not only for food but also for medicine, fodder, fertilizer, fiber, and fuel. Plant breeders look to them for valuable traits. And, since local varieties resist disease and pests, farmers can reduce or even eliminate their need for environmentally harmful pesticides and fertilizers.

IIRR encourages the use of traditional varieties. They benefit small rural and urban gardeners while preserving valuable genetic material.

IIRR home gardening programs start with an inventory of vegetables indigenous to the program area. Sometimes, seeds are collected from promising indigenous varieties in remote areas. They are then assessed and promising accessions are propagated and distributed.

Community members, particularly elders, are asked about the characteristics of their area's indigenous vegetables—growth patterns, tolerance to extreme conditions, pest and disease resistance, palatability, and food preparation. An IIRR worker tours the project area with community members to help ensure that all indigenous vegetables, including those not commonly eaten, are identified.

Seed retrieval in remote areas focuses on varieties which are becoming rare. With the help of some knowledgeable community members, seeds and important information about the plants are collected.

In the Philippine provinces of Cavite and Negros Occidental, traditional varieties introduced from other provinces have adapted very well. Information gathered from people at the sites of seed retrieval helped maximize the potential of the introduced plants. For example, the people in Negros used to eat only the root of cassava (Manihot ecculenta), until it was learned on visits to other provinces that cassava leaves can also be eaten. This information was transferred during training and farmer meetings. cassava leaves, which are more nutritious than the root, are gaining popularity in Negros.
In Ethiopia and Kenya, vegetables which are abundant but no longer commonly eaten, have been repopularized as a result of an IIRR intervention which has focused on indigenous knowledge. Elders were interviewed regarding local plant varieties. They identified, among others, amaranth (Amaranthus gracilis), spider plant (Gynandrapsis gynandra), and nightshade (Solanum nigrum) as plants which had, over time, dropped from the local diet. IIRR staff encouraged their use through hands-on training, appreciation session and farmer meetings. Now these plants are again grown in home gardens.

Compiled by Normita G. Ignacio
Traditional animal dispersal schemes in Cavite, Philippines

The Green Revolution of the 1960s and '70s contributed to the 1056 of livestock in many farming systems in the Philippines. Intensive monocropping has since proven unsatisfactory, but the high cost of livestock is preventing many farmers from returning to mixed farming systems.

Farmers in the Philippine province of Cavite want to reintroduce animals to their farms, for draft work and income. 50, as part of its effort to promote crop-trees-livestock farming systems, IIRR borrowed and adapted a livestock dispersal scheme traditionally practiced by farmers in the province.

In the traditional practice, an animal's offspring are shared between the animal's owner (nagpapaiwi) and the animal's caretaker (nangingiwihan). The animal's first offspring goes to its caretaker as payment for tending the animal. The animal's owner receives the second offspring, the caretaker the third and so on. Offspring are shared only between the owner and the caretaker. If a cow produces 10 calves during the production period, the owner gets five calves and the caretaker five. At the end of the production period, the cow is returned to the owner.

The caretaker and the owner share responsibility for treating the animal in case of sickness. Normally, farmers depend on para-veterinarians who use indigenous plants. Fodder from crop residues and naturally growing grasses make up most of the animal's ration. If an animal does not produce offspring, the owner and the caretaker share equally in the net proceeds from sale of
the animal, after deducting the original capital cost. The owner shoulders the cost of replacing
the animal.

Under the IIRR scheme, the traditional dispersal practice has been modified. IIRR has granted
livestock to a local farmers' cooperative. The cooperative acts as owner of the animals, which are
turned over to cooperative members who serve as caretakers. But unlike the traditional system,
caretakers receive the second and subsequent offspring, but not the first. The first offspring goes
to the owner, in this case the cooperative. This animal is then assigned to another cooperative
member still waiting for an animal. This modification was Recording and Using Indigenous
Knowledge adopted to speed up dispersal of animals and to spread benefits to more farmers.
Also, caretakers of cattle and buffalo become the owner of the assigned animals after five years,
caretakers of small ruminants own the animals after three years.

If for some reason an animal does not produce offspring, total proceeds from sale of the animal
go towards buying a replacement. If there is money left over after purchase of a replacement
animal, this money is shared between the cooperative and the caretaker.

The system has worked. It has ensured that farmers care for their assigned animals and that first
offspring are reassigned to other members of the cooperative. In 1989, for example, the project
distributed 17 cattle heifers to 17 farmers. By 1994, 17 first offspring of these heifers had been
assigned to a second "set" of farmers, and from these, another 7 offspring had already reached
new owners.

There were shortcomings, however. The dispersal system was slow and provided no incentive
to the cooperative to handle distribution. To remedy this, the cooperative slightly changed the
policies of the dispersal system. Now it charges a small fee for each animal distributed. And, not
only the first, but also the third offspring is returned to the cooperative.

Compiled by Nestorio B. Roderno
Increasing food Production in Negros, Philippines

In 1984, when global sugar prices plummeted, more than a quarter of a million people in Negros Occidental, Philippines, lost their jobs. Hunger and malnutrition spread. At the depth of the crisis the provincial government and the United Nations Children's Fund asked IIRR to help. IIRR and local organizations responded in 1986 with an intensive program to teach thousands of rural families to grow their own food through big-intensive gardening. In 1990 the project was expanded to include livestock production, sea farming, and pond fish production.

The project built on IK in three ways:

1 Its technology development end dissemination approach encouraged participation and indigenous experimentation. Farmers adapted IIRR's big-intensive gardening models to fit available labor, resources, and the environment. For example:

   - They modified the double-digging bed preparation method so that it became less labor intensive.

   - They used old bottles, bamboo, and other locally available materials as enclosures for plant beds, instead of banana or coconut trunks as suggested by the project.

   - One farmer developed a method which eased the task of crushing shells for fertilizer.

2 The project promoted indigenous vegetables and fruits through collection and distribution of seeds of indigenous species.
Project staff valued the indigenous practices. At first, staff advised cooperators to grow mussels using the bamboo "wigwam" method common in southern Luzon. After a typhoon washed away many of the wigwams, cooperators noticed that a neighbor's mussel poles were not heavily damaged. They found that the traditional method he used was better suited to the area's sandy sea bottom. Following the 'read of their experienced neighbor, cooperators split their bamboo poles in half, making them less buoyant and less apt to wash away in storms. And by splitting the poles, cooperators were able to increase the size of their plots using the same amount of materials.

Compiled by Laurito B. Arizala, Rustico A. Bi and Evelyn Mathias
Overcoming labor shortages through indigenous mutual-help groups

Farmers in the Philippines often form informal mutual-help groups. These groups are called hunglunan in Albay province, alayon in Cebu, and tropa in Cavite. They usually consist of four to six, sometimes up to 10 or more members, who help one another with labor-intensive agricultural activities such as land preparation, planting, weeding, and harvesting. Members also help one another at social events such as fiestas and weddings. Naturally, information is often shared by the group members. IIRR used this traditional labor arrangement to implement its agroforestry projects in Albay and Cavite provinces.

The Upland Farm Management Project in St. Domingo, Albay, was initiated in 1986 by IIRR in collaboration with World Neighbors and the Mag-ugmad Foundation. It was to address problems experienced by marginal upland farmer soil erosion, poor soil fertility, lack of on-farm diversity, limited supply of fuel wood and fodder, low yields, and low cash income.

During the initial phase, the project arranged farmer-to-farmer visits with a similar project in Cebu which successfully used alayon to carry out labor-intensive activities. Once back in Albay, IIRR's farmer cooperators decided to form their own hunglunan. They started with one group in one village. After eight years, the project counted more than 40 hunglunan totaling 210 farmers in 10 villages adapting and adopting the agroforestry technologies offered by the project. IIRR staff considered ..., the hunglunan key to the fast spread of Agroforestry technologies in Bicol.
In Layong Mabilog, a village in Cavite, the introduction of soil and water conservation measures initially progressed very slowly because of the high labor intensity of these activities. During a village visit, IIRR staff observed a group of five to six farmers plowing a field. Realizing that farmers in Layong Mabilog were used to waking together, staff members explored with their cooperators the possibility of using tropa arrangements for the project. The farmers agreed and subsequently formed four groups whose members helped one another to plant farm hedgerows and build terraces. In Layong Mabilog, however, the project's technologies did not spread as widely as in Albay. One probable explanation is Layong Mabilog's proximity to Manila with its opportunities for employment.

Compiled by Raguelito M. Pastore, Samuel Operio and Evelyn Mathias Source: Librando 1994
Promoting the use of IK in Venezuela

Trujillo is an agricultural state in a pre-Andean region of Venezuela. Most farms in the region are small and poor in resources. The main crops include corn, plantain, cassava, sugar cane, and pineapple. Some farmers keep dual purpose cattle for milk and meat. Among other problems, land degradation has led to a considerable decline in yields.

Researchers and extensionists at the local research station are used to working on their own when it comes to setting research agendas and carrying out experiments. Farmer participation is seldom sought. Local knowledge is ignored.

In 1992 an attempt was made to convince these researchers and extensionists to incorporate the study and application of IK as part of their daily routine. A 10-day workshop, spread over 10 weeks, covered the theoretical bases for IK and gave a chance for hands-on experience. This workshop, carried out by staff from the Center for Tropical Alternative Agriculture and Sustainable Development at the University of the Andes was not successful. However, some lessons were learned concerning IK promotion:

- Institutions should, as part of their philosophy, forge partnerships with farmers and farm families.
- Do not assume that extensionists are sensitive to IK issues.
- Do not spend too much time talking about IK related issues. The best way to learn is through hands-on experience—by listening to, learning from, and sharing with farmers and farm families.
- Break an old habit. Organize sessions where extensionists are required to listen to and learn from farmers. Perhaps this will prompt a change in attitude and in time lead to true partnership between extensionists and farmers.

- Be patient. Changes in behaviors and attitudes do not occur overnight. Bear in mind that some traditional extensionists feel threatened by the IK approach.

More specifically, the IK workshop failed because:

- Too much time was spent trying to explain IK in holistic terms. The institution is commodity oriented, not people oriented. Specialists were expected to devote all their efforts to their assigned crop.

- The culture of collaboration among institutions is weak. Some participants showed positive attitudes, but there were many who felt that working with IK was the University's job.

Compiled by Consuelo Quiroz, Versik (For address see Addresses.)
Teak is a tree species valued by most farmers in the dry zone of Sri Lanka—its timber is good for home use and for gale. Establishing teak trees, however, usually entails some cost—for purchase of seedlings or for travel to a teak producing area. The alternative, growing teak from seed, presents a problem: teak seeds are difficult to germinate and few farmers know how.

A project in Sri Lanka intended to answer the following question: What is the best method for germinating teak seed, for small scale nursery production?

The project also had three non-research objectives:

1 To increase the farmers) confidence and experience in raising tree seedlings.
2 To stimulate interest in group experimentation—possibly as the start of a wider program of experimentation.
3 To grow teak.

Having learned during informal farm visits that people were interested in trying to raise teak, two project agroforesters organized meetings to discuss the difficulties associated with germinating teak seeds. A few farmers in each group had heard of one or two techniques to enhance seed germination. Very few had actually tried these techniques— they lacked some technical details and they lacked confidence. The agroforesters and farmers pooled their ideas. They identified three methods and identified the advantages and disadvantages of each.
1 The traditional burning method—Teak fruits (with seeds inside) are placed on a shallow bed of paddy husk, covered with paddy husk, and set alight. The aim is to burn the hard outer seed coat without damaging the seeds inside. After burning, the fruits are planted.

2 Soaking and drying method—Fruits are alternately soaked and dried over a period of two weeks before planting. Most farmers felt this method would be reliable.

3 Opening the fruit to expose the seed—A sharp knife is used to open the teak fruit and expose the seed. Most farmers were unfamiliar with this method.

Farmers were asked to decide how much seed they wanted, and to decide which germination method or methods they would use. At this point, the idea of experimentation arose spontaneously in several groups—the groups divided the methods among their members. In return for the free seed, farmers were asked to keep records. The information, farmers were told, would be pooled and used to select the best method of teak seed germination.

All the farmers who received seed tried one, or more, method. The agroforesters made regular farm visits to help keep the farmers motivated, to help overcome technical problems, and to record results. This second set of records was a backup. It was found that if the farmers’ streets were not filled daily, the information became unreliable.

Many farmers chose not to follow their initial plan: some who had volunteered to try several methods in fact only tried one; others who had not appeared interested in experimenting tried several methods. In a few cases farmers asked for, and were given, more seed for further experimentation.

Analysis of the results was carried out in the groups and between the groups. It involved looking at the yield of the different methods: how many seedlings were obtained from a certain number of seeds. The methods were also judged for their convenience.

In order to help the farmers draw conclusions, they were helped to prepare a simple matrix to rank and score the three methods. The results of some groups were inconclusive. It was decided that the experimental procedure would be modified and experimentation would continue.

[adapted from PMHE (forthcoming), Report of the second PTD workshop, PMHE Project, P. O. Box 154, Kandy, Sri Lanka; based on fieldwork by Stephen Connelly and Nicky J. Wilson].

Source: Veldhuizen and Zeeuw 1992 (Vol. 4.2:28-29),
FARM Africa, a British NGO, has been implementing a dairy goat project in the highlands of Ethiopia since 1988. The project works with nearly 1,400 families in the densely populated highlands of the east and south. Working with women from the poorest families the project aims to improve their incomes and welfare by improving the milk production and growth rates of their goats.

Local goats are provided on credit together with a training package of forage development health care, and general management. Credit may be repaid in cash or in kind by returning a goat to the project for loan to another woman. Selected women are trained as paraveterinarians and earn money treating their neighbors' goats. The goat groups are managed by an elected committee of women trained in group organization and management.

During the course of the project, staff and collaborators learned of a traditional method used by women in Welayta district to save money and help one another.

Known locally as eddir small amounts of money are saved regularly by a small, informal group of women. The money is allocated to women in the group in turn, or given or lent to those in need. Members of goat groups in Areka village, Welayta, acting on their own, organized the Women's Self-Help Goat Society.

Each member contributes a small sum at their weekly meeting. Most members are mature war widows who show a very serious attitude toward development opportunities. Some groups
decided to set aside a portion of their savings to purchase goats for other needy women. Project staff were 50 impressed with the efforts of these women that they were eager to suggest it to groups in other areas.

The idea was shared with other extension staff during the regular project training courses and quickly spread to all project sites where it was enthusiastically adopted.

Compiled by Christie Peacock, FARM Africa
Part 5 - Question guides

Question guides

These question guides provide frameworks for recording IK on specific subjects. While many of the guides could equally be used to study western knowledge, recording IK requires something more: a probing, active search for knowledge and practices hidden from the casual outsider. Look beyond the first best or "conventional" answer. Dig deeper to learn the whole story (or at least more of the story). For example, if a community member answers your question, "How do you save?" with the reasonable reply, "at the bank," don't put away your notebook. Follow up. Is there a local credit scheme? Do community members keep goats to sell during times of emergency? Sometimes banks walk on all fours.

The following question guides provide ideas, guidance on what to look for when recording IK. The question guides are not meant to be used as questionnaires and should therefore not be applied in the field as they are. Select from each guide only those aspects which meet the objectives of your study. Adapt, reword, and combine selected questions and topics with questions and topics from other question guides.

Some but not all question guides give examples of methods that could be used to record IK on this topic. But, again: be flexible and creative — adapt and modify the approaches.
**Gender and indigenous knowledge**

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives!

Gender and IK are linked in many ways. Women and men often possess very different skills and different knowledge of local conditions and everyday life (See also Who knows what?). As important users and processors of natural resources for human subsistence, women are often the repositories of IK on matters of sustainable resource management. In many societies they have the main responsibility for growing and collecting food, securing water, fuel and medicines, and for providing cash income for education, health care, and other family needs. Women also contribute much of the labor and day-to-day decision-making that goes into crop and animal production.

The roles and tasks of men and women in society differ. It is natural then, that the knowledge women and men possess also differs. Tapping the valuable knowledge of both women and men, can help ensure the sustainability of development efforts. Recording and documenting the IK of women and men is indeed crucial.

Similarly, older men and women and children (girls and boys) also play different roles in society and the economy. The questions below could equally be applied to these age/gender groupings.

The following examples are suggestions for themes to explore when recording information regarding gender differentiation in indigenous systems—biodiversity and conservation, and livestock care and production. These guide questions can be modified to explore other topics such as agriculture, land management, and community health.

**Biodiversity and conservation**

How do women and men interact with their natural surroundings?

What unique knowledge about the environment, species, and natural resources do they gain from these interactions?

How can this knowledge be tapped for conservation and sustainable development?

**Livestock care and production**

What are women’s and men’s roles in livestock care and production?

What unique knowledge about livestock care and production do they gain from these roles?

How can this knowledge be trapped for better livestock care and production?

Possible methods for obtaining IK based on gender
Separate focus group discussions with women and men.

Key informant interviews of women and men who might have unique or substantial knowledge and skills in the area being studied.

Participant observation.

Seasonal or daily activity calendars that show which of the activities are performed by men and which by women.

Compiled by Esther Catherine C. Valasco
Farmer-to-farmer extension and farmer experimentation

See also guide on Communication.

Note

This isn not a questionnaire! Adapt. reword, and combine questions and topics to suit your objectives!

Problem identification

How are problems identified? How are identified problems prioritized? Who is involved in problem identification and prioritization?

Technology identification

How are solutions identified? How do people learn of possible solutions? Do they start with their own resources or do they look outside of their community? With whom do they consult? On what basis are specific technologies and practices selected? What are the criteria to determine whether a practice is useful? Who decides how to proceed and what to do?

Experimentation and adaptation

Are there people in the community who are by nature experimenters and adapters of technology? Who are they? Do they experiment alone or in groups? How are practices selected for adaptation? How are experimentation and adaptation undertaken? In a systematic manner or spontaneously?

Monitoring and evaluation

How are experimentation and adaption monitored and evaluated? Do people record results of adaptation and experimentation? What recording techniques and methods do people use? Who are the villagers who keep written records? Why do they keep written records? What are the criteria for evaluating practices for continuous adaptation? How are the criteria for evaluating practices developed? How are criteria weighted against each other?

Technology dissemination
How do farmers obtain information on successful adaptations? Who are the key sources of information?

How are results of experimentation and adaptation passed to or shared with other farmers? What traditional activities facilitate information sharing?

Compiled by Angelina C. Ibus
Soil fertility

(See also question guides on Cropping systems and Agroforestry)

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives!

Types of soil

What kinds of soil do farmers recognize on their farm?
Which criteria do farmers use to differentiate soil types?

Soil condition

What is the color of the soil? What is its consistency: hard, sticky, soapy, etc.? How deep is it?
What is the proportion of stones? of lime?
How quickly (or slowly) is water absorbed in the soil? How long will the soil hold water? When does it develop cracks? Does the soil have a white coating immediately after the rains?
Any special characteristics of the soil?

Cultivation

Is the soil easy to cultivate? What crops do best grown on which soils?

How deep does the plow normally cut into the soil?

Do farmers apply treatments designed to improve soil quality? What do they use? how do they apply them and why?

Compiled by Evelyn Mathias
Cropping systems

(See also question guides on Agroforestry and Animal husbandry and healthcare and section on Modeling bioresource flows.)

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives!

Land preparation and planting

How do farmers select land for planting? Do they consider a plot suitability for specific crops? What other criteria?

At what time of the year is land prepared? Why? What indicators are used to determine when land preparation should begin?

What methods (e.g., oxen-drawn plow, hoe, dibble stick, etc.) are used for land preparation? for seed-bed preparation? Why are these methods used?

How are crops planted? How are they arranged throughout the field?

How are fields designed or laid out in order to accommodate crops (e.g., bunded terraces, contour plowing, etc.)?

Who is involved in land preparation? in planting?

Soil fertility management

Do farmers improve their soils? How do farmers know (i.e., what indicators do they use?) whether the quality of a soil is increasing, decreasing, or being maintained?

What inputs (e.g., animal manure, legume grains, cover crops, tree leaves, etc.) do they use?

How do farmers prepare such inputs? When and in what amounts are these applied?

See also Soil fertility.

Weed control and Pest and disease management

Are crops arranged in a special manner (i.e., intercropping) to control or avoid weeds, pests, and diseases?

What crop combinations (e.g., crop rotations, relay cropping, etc.) are used to prevent or reduce weeds and pests?
What additional methods or strategies do farmers use to prevent or control weeds, pests, and diseases (i.e., encouraging pest predator species, soil amendments to reduce soil-borne pests)?

Crop varieties

Which crops and crop varieties are preferred? Why?
What evaluation criteria are used by men and women to select crops and crop varieties?
How are new crops and crop varieties tested and selected?

Harvesting, processing and storage

What traditional methods do farmers use for harvesting crops? processing? storage?
What implements or machinery are used?
Are both men and women involved in crop harvesting? processing? storage?
What problems do farmers encounter with traditional-methods of harvesting? processing? storage?

Seed selection processing and storage

Where do farmers get their seeds? Why?
What evaluation criteria are used by men, and what criteria are used by women to select seeds for storage?
What traditional methods are used for seed processing? seed storage?
What problems are encountered with traditional seed processing and storage methods?

Integration of livestock

Why do people keep a particular livestock species (e.g., cattle, water buffalo, poultry, etc.)—for meat, draft power, manure, or what other purposes?
Are there linkages between crop and livestock components? How are they linked (e.g., incorporation of animal manure in the field, use of crop residues as fodder, etc.)?

Incorporation of trees

How are trees planted? Are they allowed to grow in the fields? Why?
What types of trees. are planted or allowed to grow in the fields?
What products do they provide to the farm or household?
What are the specific linkages between crop and tree components (e.g. crop residues as mulch for fruit trees, tree leaves as natural manures for crops, etc.)?

Cropping Patterns

How are different crops arranged in a particular type of field?

What cropping patterns are used during different times of the year? Why?

What products or services do different types of crops provide to the farm or household (e.g., food, soil conditioner, fuel, etc.)?

Compiled by Scott A. Killough
Gardening

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives!

Types of crops

What plants (vegetables, bamboo, fruit trees, etc.) are grown in homegardens? why? Where did people learn to plant these crops? For what do they use them (e.g., food, sale, medicine, timber, ornaments)?

Do they plant crops throughout the year? What is the main season for cultivation? What plants are grown in which seasons/months?

Can any of the crops be stored for a long time?

Planting materials

Where do people get their planting material? Which plants are grown from indigenous seeds, roots, and cuttings obtained locally? What are the sources of seeds and other planting materials?

How do people identify good seed from bad seed?

How do they preserve and store seeds and other planting materials?

Cultural practices

How do they plant? How is land prepared for planting?

Are there specific cultivation methods for specific crops? Do plants require specific conditions (e.g., shade, humidity)?

What are the cropping patterns? How do people choose the location for specific plants? Which species are grown together? Which must be kept apart?

Is relay cropping practiced? Give Come examples.

Which plants are pruned? Are mulches used? what? how? when? fertilizer or manure used?

Are crops weeded? If yes, how? How is harvesting done?

Is water available throughout the year? Do people water their homegardens? Are all plants watered or just a select few? how? What are common water sources?
What tools are used? Is lack of tools a limitation?

Pest control

What are common problems and diseases? How are they controlled? Do they use pesticides? Local or bought?

Do they grow any plants to repel insects? which ones?

Are there predators? How are they controlled?

Labor

Who works in the garden? Who does which chores? How much time does each household member spend each day in the garden?

Consumption practices

What vegetables, fruits, and other crops from the garden are eaten?
Are there plants which are not eaten? Are certain crops taboo?
Which plants are collected from the wild and which are grown in the garden?

Marketing

What is done with excess produce? What proportion of each crop is eaten? sold?

Where are crops sold? Who does the selling? How much do families earn selling surplus garden produce?

Problems/constraints

What problems are faced in gardening? How are they overcome?

Agroforestry

(See also question guides on Cropping systems, Gardening, and Animal husbandry and healthcare.)

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives!

Types of crops

What tree or other plant species are valued by the local people? Where are these found (specific areas of the community)? Are these trees/crops planted?

What are their uses? What specific parts of the plants are used? What plants are used as medicine for humans or animals? Where did knowledge of these medicinal plants come from?

Farming practices

What criteria do local people use when selecting plants grown in their agroforestry system?

Do people plant certain plants together? How are the different crop combinations planned?

When are the crops planted? What planting materials are used? Where do the people get these planting materials?

How are seeds produced, processed, and stored?

How did the people learn to plant the crops? What cultivation methods were introduced by outsiders and which are traditional practices? What modifications did local people make to cultivation practices introduced by outsiders?

Do the people use chemical fertilizers and pesticides? Do they use compost and other types of organic fertilizers? What are these and how are they produced?

Do people weed? How do they do this? How often?

What local pests and diseases affect plants? and animals? How are they recognized? How are they controlled? How are they treated? Are chemical pesticides used? Are there any local pesticide concoctions? How was knowledge of these concoctions gained? Are specific plants grown as insect repellent? which ones?

What medicinal plants are used to treat animals? How was knowledge of these medicinal plants gained?
How do people harvest?

How are harvested products preserved?

What farming implements are used by the local people? How are these implements made? Is manufacture of these implements a specialized skill? From where did this know-how come? Do farmers share farm implements? If so, under what arrangements?

What do the people do to conserve water? How does the community control soil erosion? What fallow practices are followed?

What are common beliefs and superstitions related to farming activities?

Integration of livestock and fish

What animals are raised? For what are these animals used? What are they fed? Is commercial feed used? Are feeds planted? How is animal waste used?

Do the people raise fish? What types of fish are raised? how?

Labor

How is land prepared for planting? Which household members contribute to land preparation? Are specific roles assigned to women, men, and young household members? What are these roles? How about during the harvest season?

Does the community use any form of labor sharing arrangements? Describe these arrangements. Do households employ farm labor? How are hired laborers compensated?

Common resources

What are the views of community members regarding the usage of common resources such as forests, streams, and rivers? How are conflicts resolved?

Does the community allow outsiders to use common resources? under what terms and conditions?

Land ownership

Do the farmers own the land they till? What traditional rights do they enjoy? How are these rights made clear? How are such traditional rights passed from generation to generation?

What traditional arrangements or relationships exist between farmers and landowners? Are these arrangements passed from parents to children, generation to generation?
Marketing

Are agroforestry products used for Subsistence or are they sold outside the community?

How are goods exchanged within the village? Does there exist a system of barter?

How do people market their products outside the community? Who markets and who receives the income?

Constraints and problems

What challenges do people face in crop and livestock production? What constraints exist and how are they overcome?

Compiled by Romeo K. San Buenaventura and Teodoro I. Sevilla
Watershed management

(See also question guides on Agroforestry, Soil fertility, and Cropping systems)

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objective.

Do people see any cause-effect relationships between upland=, lowlands, and coastal areas? For example, have they found that, activities in the uplands affect the lowlands or vice versa? how? Describe the activities and their effects. If people have observed ill effects, do they do anything to prevent/control these?

How do people determine the boundaries of their community? Are water sources, streams, etc. part of their consideration? If so, describe. Do they do anything to conserve their water resources?

Do people conserve any parts of their community's territory? If yes, describe what type of area and why they conserve it. Any specific measures (e.g., prohibition of cutting trees, protecting plant and animal species, replanting, etc.)?

Do people manage their environment? What are their cropping practices and what are the reasons behind specific practices? Do people control soil erosion?

Some ideas and examples how information on watershed management could be documented:

Produce a map of the area showing landscape, resources, vegetation, and/or protected areas, etc.

Describe soil conservation practices. Include illustrations.

List local rules governing the use of resources in the watershed.

Compiled by Kennedy N. Igbokwe
Environment, natural resources, and biodiversity

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives.

Environment

How do local people classify the different features of their environment? How do they differentiate one area from another (e.g., forests, grassland, etc.)? What is the basis for this classification? What are the physical indicators (e.g., elevation, soil type, water availability, climatic conditions) found in each area? How do people differentiate areas within these major groups (e.g., different types of forests, etc.)?

What are the main plants and animals in each area? Are there any indicator species (i.e., a species that is specifically associated with a particular area)?

What are the local beliefs concerning the environment? Local definitions?

What else do people know about their environment, climate, etc.?

Can they predict changes in the weather?

Species

What animal and plant species do people know and differentiate? How are these classified?

Where is each species found? What are the characteristics of the area where it lives? What is the role or importance of the species in the area where it is found? What are the factors that affect the distribution of each species? How are the different species interrelated? What do people know of the life cycles of plants and animals?

What species of plants and animals are used or a regular basis? only occasionally? For what purposes (e.g., for food, medicine, clothing)? In what ways are they valuable (cultural, environmental, economic)?

Which species are domesticated and which are wild? How are they cultivated or raised (if domesticated) or collected (if wild)? What are the growth requirements for the different species (e.g., light, humidity, altitude, soil, etc.)?

How are they processed? How are they consumed or used (food, clothing, medicine, economic reasons)?

Do any species have a cultural value (religious value, mythical connotation, etc.)?
Which species are detrimental to the community (e.g., mosquitoes, rats, poisonous plants, etc.)?

Management

How do people interact with their environment (e.g., agriculture, hunting, collecting, etc.)? Are there any mechanisms to control or regulate this interaction (e.g., beliefs, taboos, community rules, etc.)?

Are people aware of changes in their environment or differences between different areas? How would they describe these changes and differences? Do they see change as a continuum or do they differentiate specific stages?

Are plant and animal populations increasing or decreasing? If so, are overall numbers changing? Or are particular species disappearing or increasing in number? If so, which ones? How fast? How do people know whether the numbers of a species are changing?

What are the causes for such changes (over exploitation, disease, habitat degradation and destruction, displacement by non-native species, etc.)?

What do people perceive as the main threats to their environment (e.g., conversion, pollution, exotics? Do these differ for different areas?

What do people do if they notice changes in their environment? What measures do they take to safeguards or conserve species? the environment? What factors have led to the breakdown of the traditional management systems, if any?

Some ideas and examples how information on environment, natural resources and biodiversity could be documented

Make fables summarizing people's information about species and ecosystems
Make transect.
Produce a resource map.
Make a historical comparison to gauge change.

Compiled by Gregory C. Ira
Coastal resource management

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives!

Local fish

What do people know about the fish and other Sea animals in the locality? How many species have they observed? How do the differentiate and classify them? Do people know the market value of the species? Are there poisonous fish in the area?

What time of the year are fish abundant? Is there a pattern, or peak season for any particular fish? Are species becoming scarce?

Which fish species are caught at the bottom and which at the surface? Which at a particular distance from the shore?

Are fish dying of diseases? Are any species increasing in number? Are any new species rising in number?

Management and utilization of resources

What species do people consume? How often and in what amounts? In which seasons?

What else do people use, from the sea (e.g., salt, algae, etc.)?

Are resources being depleted? How do people recognize whether resources are increasing or decreasing? How do they explain such changes?

What do people do if resources become depleted? Do they know of alternatives that they can use? Do they do anything to conserve resources and reverse depletion? Are there any innovations that help conserve resources? Are there fishing device/gear that attract fish or increase fish populations in the area? How does the community manages these devices?

Who is involved in the protection and conservation of resources? Are there any unwritten laws or rules practiced in the area to protect or conserve resources? Are there traditional fishing rights? How are fishing rights assigned? Who makes the decisions? Does the community protect certain species Explain the fishing ethics.

Are there fish or coral sanctuaries in the area? What triggered establishment of these sanctuaries?

Does the community regulate fishing seasons? What considerations go into declaring a closed or open fishing season? Of what water problems or pollutants are the people aware?
Are pollution problems addressed by the community? how? Do the people know how pollution affects coastal resources?

How are land use and land ownership in coastal areas determinea?

Is the community aware of the relationship between uplands, lowlands and the productivity of coastal areas? Does the community do anything to increase the productivity of these lands (e.g., advocacy, etc.)?

Organizations

Are there organizations in the area? How are they structured and what are their functions? Are they involved in conservation?

Are there fishing organizations in the area?

Do organizations in the area work together? how? Do they share resources? how?

Are the organizations reaching their goals? What are the common problems in the organizations? How are they solved?

Fishing practices

How do people fish? \hat practices are used? Where did they learn to fish?

How often do they fish? In which part of the sea? During what part of the day?

Do they fish in groups or alone? Who fishes (men, women, or children)?

Is fish poison used? How is this prepared? During what part of the fishing operation is this applied?

What are the problems?

Fishing tools

What kinds of fishing gear are used? Of what are they made? local materials or imported? How much does the equipment cost?

Do people use a particular gear for a particular fish? Are there alternative gears for catching this fish?

Are the gears used during the entire year or in specific seasons?

How effective do people judge their gear in catching fish? Are the gears easy to use? What are the most popular gears in the area? What are their characteristics?
What is required (e.g., number of people, time) to set the gear and what does it cost? How many people are involved in preparing the gear? Which family members are involved in preparation?

When did people start using this gear or tool? Did they modify or improve it? how?

Fish processing

When were fish fires processed in the area?

What fish species are commonly processed?

How are they processed? Where did the people learn this process? What are the advantages and disadvantages of the common methods? What are the problems encountered? How are they addressed? How long do the fish keep?

Are the materials needed for processing locally available?

How much does it cost to process a kilogram of fish during the rainy months compared to during the dry months?

What effect does fish processing have on the well-being of the community?

Constraints

What problems do the community encounter? How are they solved?
What opportunities exist?

Compiled by Arnold Velarde
Aquaculture

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives!

Species

What fish species do the local people culture? For what purpose: consumption or sale? Where did they learn to grow fish? What do people know about each species (including myths and beliefs)?

Do they keep certain species together? if yea, why? if no, why not?

Do they keep any other organisms in the fish pond? Are there any harmful organisms or predators?

The pond

How do people select the site for the pond? What are their criteria?

Describe the pond or any other container or site where fish are kept; consider the age of the pond, how long it will likely last, its location (sunny, shady, etc.), size, shape, depth, lining, surroundings (plants, dikes used for planting, etc.), water source, soil type, and building materials used (if any), vegetation in the pond, etc.

How do people keep the fish in the pond? free? in cages? If cages, describe (e.g., design, materials, etc.).

Does the pond have other uses?

Are there problems? How can they be solved?

Management

Where do they get the fish or fingerling? How do they catch fish and fingerlings

Do they feed the fish? if yes, with what, when, how often?

Any water treatment?

Breeding

What do they know about fish reproduction?
How do they breed the fish? Aspects to consider: breeding season, growth rate of fish, how often they breed, how they breed, how many eggs they lay, how the eggs are fertilized-how they are hatched, etc.

Fish diseases

What do the people know of fish diseases? How do they recognize them? How do they treat them?

Beliefs

Any beliefs or taboos relating to fish? Do these affect management, consumption, etc.? how?

Constraints

Are there problems? How are they solved?

Some ideas and examples of how information on aquaculture could be documented

List fish species (drawings or photographs can help identify species).

Make a table that lists fish species and includes information on each.

Draw a pond and label important features.

Make a table which lists the strengths and weaknesses of the pond.

Record the local knowledge of fish reproduction.

Make a flow chart of the key steps in fish pond management.

Produce a matrix which shows fish species, their different characteristics, needs, etc., as identified by the villagers.

Compiled by S. S. Tabrez Nasar
Animal husbandry and healthcare

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives.

Species

What animal species do people keep in the community? For how long have they been keeping these species?

Why do they keep them? Who decides what species to keep? What factors are considered when selecting animals? Where are animals procured?

Feeding

How do people raise their animals? Do they hand feed? What kind of feed do they provide? How do they give it and how often? Why?

Where do they get feeds? Do people grow fodder?

Do they provide concentrated or other special feeds to their animals? How much and how often? To which species? Does this differ with the age and sex of the animals? Where do they get the concentrate or special feeds?

Do people supplement the regular fodder? Why? How much?

If people do not hand feed, do they graze their animals? Where? Who herds the animals?

Housing

Where are animals kept?

Which animals are housed? Why? Do they provide separate housing according to species, age, and sex? Describe the animal housing (size, building materials, etc.).

Is the animal housing cleaned? How and how often?

What is done with manure and left-over feed?

Reproduction

Do people breed their animals? How?
Do they control breeding? how? when? why? What do the people know about breeding? How do they choose animals for breeding?

Are breeders given any special feed? for males? females? why?

Do people provide special care to pregnant animals? if yes, what?

Are pregnant animals kept apart from the rest of the herd?

Do mother and new offspring receive special care? Does the community have a system for animal dispersal?

Animal health

What animal diseases do people observe in the community?

Who diagnosed the diseases?

How are diseases recognized?

According to the local people, what causes these diseases? Do they know how diseases are transmitted? How do people protect their animals from disease?

Are diseases treated? how? Who treats them? Where did this person learn to treat animal? Are there traditional animal healers in the community? How are the traditional healers compensated?

What treatments are used? What medicinal plants are used? Where are they obtained? Do people cultivate these plants? which ones? how? How are they prepared? applied? What rituals are performed?

Constraints

What problem are faced in livestock production? How are they solved?

Compiled by Nestorio B. Roderno and Nita C. Abena
**Food and nutrition**

**Note**

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives.

**Food production**

From where do people get their food? What food do they produce? What food do they gather? Do they buy food in the market or from other sources? Where else do they get food? Who is responsible?

Do people give food to their neighbors, relatives?

**Food preparation and consumption**

How many times does the family eat daily?

What food is eaten and in what quantities? Why do they eat the foods they eat?

Do all family members receive the same food? Do men and women eat the same foods? the old and the young?

How is food commonly prepared? Describe the local cooking methods, utensils, and ingredients.

What foods are available in the community? Which are not eaten by the family? why?

What are the beliefs and practices related to food preparation and consumption?

**Nutrition of newborns and children**

Do mothers breast-feed? how often? up to what age (child's age)? What are the practices (dos and don'ts) related to breast-feeding?

If mothers cannot breast-feed, what do they do? bottle-feed? What kind of milk or milk substitutes are used? how often? how much? What are the practices (dos and don'ts) related to bottle-feeding? Do they feed any other food to babies?

How old are the children when they start receiving food other than milk? what kind of food? how much and how often?

What foods, available in the community, are not given to children? why?

What are the common beliefs and practices concerning food?
Nutrition during pregnancy, after birth and during breast-feeding

What do women eat during these periods? How does it compare to food normally consumed?

What are the beliefs and practices (dos and don't) concerning food for pregnant women, new mothers, and breast-feeding mothers?

Nutrition during illness

Do sick people receive special food? Are different foods given for different illnesses (e.g., fever, cough and colds, diarrhea, skin infections, etc.).

What are the beliefs regarding feeding the sick?

Coping mechanisms

How do families cope with food shortages? Do people have home gardens, livestock, fish ponds, or some emergency source of food?

Some examples and ideas how information on family food security could be documented

List the foods produced and bought.

List methods of food preparation and consumption.

Record the rationale behind practices related to food preparation and consumption.

Produce a daily calendar which illustrates each family member's activities which relate to food security.

Produce a map which shows the community's food sources.

Compiled by Phoebe V. Maata and Elia A. Jordan
Reproductive health and family planning

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives.

Reproductive health and family planning are taboo subjects in many cultures. It can be difficult to obtain accurate information, or even to discuss them at all.

When discussing such subjects, it might be helpful to select groups of the same age and sex (e.g., all teenage girls or older women). Certain topics might best be discussed with married couples of individuals rather than in groups.

It might be necessary to get to know (and be well known in) the community before exploring the questions outlined below. Games and humor can be useful ways of broaching sensitive subjects (check beforehand whether it is appropriate to use them). Often, however, people are surprisingly frank and open, provided the right conditions exist.

General

How would community members define healthy and normal sexual behavior and relationships among women, men, youths, and the elderly, between spouses/sexual partners?

What abnormalities or deficiencies in sexual relationships and behavior are known and what are the perceived causes of these? How are they prevented or cured? Who is consulted?

What events or signs indicate that boys and girls have reached reproductive age? What are the customs, beliefs, and perceptions of the community regarding such developments?

Are there particular events or practices related to reproductive health (e.g., circumcision, rites of passage, etc.)? What are these? What are the reasons? Who is involved? Do these practices have ill effects (on health or otherwise)? What are these? What are the traditional methods to prevent or cure such ill effects?

What are the perceptions and common beliefs of the community regarding menstruation? Are there incidence of irregular or abnormal menstruation? What are the perceived causes? Are there traditional methods to prevent or cure these? How? What are the steps?

What are common illnesses related to reproduction among women, men, young people, and the elderly? What are the perceived causes? What methods do people use to prevent or cure such illnesses or infections? What are the steps?

Fertility and infertility

How do people define fertility or infertitility for different age groups?
Do they recognize different types of infertility? How do they know whether someone is infertile? How do they diagnose infertility? What are the criteria?

What are the perceived causes of infertility? Are there ways of "curing" infertility? how? What are the steps?

With whom do infertile spouses or couples consult? What services are provided?

Family planning

What is the ideal number of children? why? Who decides the number of children in the family? why?

What is the ideal spacing of children? why? Are there traditional methods of spacing children? What are they? Where was this knowledge learned?

Are there traditional ways to control or prevent pregnancy? temporarily? permanently? What are these? What are the steps? Who is consulted? What types of services are provided? What materials are used? for what?

Do people have preferences regarding the sex of their children? Are there traditional ways of determining the sex of a fetus? What are the steps? Who do people consult? What are the methods used? Where were these methods learned?

What do women do if they become pregnant and do not want the child? Who decides whether and when to abort? Do women induce abortion by themselves? or do they seek help? from whom? why? What traditional abortion methods are known? What method(s) are preferred? why? Are the methods safe for the mother? How is safety ensured?

Pregnancy

What do women do when they are pregnant? any precautions? special food? Who do they consult? What problems or difficulties are experienced during pregnancy?

Are there incidences of premature birth, stillbirth, or miscarriage? What are the perceived causes? Are there ways to prevent or avoid such incidences? What are these? With whom do women consult? why? What traditional methods are used?

Birth

Where is the baby delivered? Who helps to deliver the baby? What methods are used? What are the processes and steps? What materials are used? for what?

What problems are experienced during childbirth? How are they prevented or treated?

What do women do after giving birth? any special precautions? Do they breastfeed?
What problems are experienced after childbirth? What are the causes? How are the problems prevented or cured?

Are there incidence of abnormalities, deformities of fetuses or babies? What are the perceived causes? Are there traditional methods of preventing or curing abnormalities, deformities? With whom do women consult? What types of services are provided?

Compiled by Emmanuel P. Pastores and Ma. Carolina S. Mariano
### Water and sanitation

**Note**

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives.

**Water**

Do people have sufficient water?

Where do people get their water? river? spring? well? other sources? Who controls access to and distribution of water? the community? if so, how? If organized, what is the organizational structure and how are different functions assigned?

Are sources different for drinking water and water used for other purposes (e.g., cleaning, livestock, irrigation)?

How do people get the water to their homes? through pipes or do they collect and transport it? in what containers? Who fetches the water?

How do households store water? in covered or open containers?

Is drinking water treated? how? filtered? boiled? any other methods?

What problems are encountered and how are they solved?

**Waste disposal**

How do people dispose of their household waste? Do they recycle it? how? what parts? in what amounts?

What do they do with waste that cannot be recycled? Do they bury it? burn it? throw it away? what else? Where do people defecate?

What do people do with manure and other farm waste?

What do people do when animals die? eat them? burn or bury them? Or what?

What problems do people face? How are they overcome? Does the community provide guidance or rules for waste disposal?

**Sanitation**

In what type of houses do people live? Of what materials are houses constructed?
What are the conditions with regard to space, light and air? Are houses heated? how? Is smoke a problem?

How do people clean their houses? how often? Who does, it?

Where do people wash their clothes? how and how often? What type of soap do they use? Who does it?

Where and how do people store their food? Is it prepared fresh for each meal? Or, for how long after preparation is it regarded as suitable for consumption?

What sanitation problems do people face? flies? other insects? What do they do? Do they use smoke or herbs to deal with these problems?

People are knowledgeable about what kinds of parasites? Which can they differentiate? Which are problems? How are they prevented? treated? With whom do people consult regarding parasites?

Some ideas on how to document information on water and sanitation

Make a flowchart describing how drinking water is treated.
Draw a community map showing distribution of water sources.
Draw a diagram of the organizational structure (if community is organized for water distribution).

Compiled by Evelyn Mathias
Health financing schemes

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives.

Nature of scheme

What types of urgent health problems do local people face?

What happens when someone in the community falls ill? (What happened last time someone in the family was seriously ill?)

How do local people pay for health care? Possibilities range from a separate fund controlled by a community organization to a scheme by which relatives and neighbors each contribute a small amount of money in an emergency. In many instances, poorer families borrow money from their better-off neighbors. Or fees may be paid in kind.

To whom do they go for help to pay for health care?

Does the community have a separate scheme or fund to pay for health emergencies?

What is the government’s role in cases of emergency?

Resource generation

How is money for the fund generated? Identify indigenous means of generating resources.

How else might funds be generated?

Utilization

Under what circumstances can people draw on the fund?


What can people use the money for? For instance transportation, medicines used at the beginning of the illness, delivery by traditional birth attendants.

Who can draw on the funds? members only? or also immediate family members? anyone else?

How much money can a person draw each time? How often can a person draw on the fund?

How do people draw on the fund? How is the decision made regarding who should receive assistance and for which illnesses?
Repayment

Does the borrower have to repay the loan? over what time period and condition (e.g., with interest)? What happens if the patient dies?

How can the loan be repaid? in cash, kind, or labor?

What social or other pressures are there to ensure that the loan is repaid? What happens if the loan is not repaid?

Management

Who keeps the fund? where? how are loans recorded and audited
Who screens and approves the release of money?
Who ensures that the loans are repaid?

Some examples and ideas how information on indigenous health financing schemes could be documented

List urgent health problems.
Make a flow chart showing the sequence of activities when someone falls ill.
Make a Venn diagram showing all who are involved in the scheme.
Write a text describing the scheme.

Complied by Phoebe V Maata and P. Sandy M. Fortuna
Healthcare systems

Note

This is not a questionnaire! Adapt, reword, and combine questions and top co to suit your objectives

Concept of health and illness

Ask people what it means to be healthy. What is a healthy community? What is illness?

What are the major health problems that people experience and differentiate? For each problem, describe the symptoms, causes, dangers, means of prevention, cure, and under what circumstances should the sufferer be referred to a qualified health practitioner.

What do people regard as good and bad food for babies, children (boys and girls), adults (men and women), and elderly people?

Consultative behavior

When do people seek help? when they feel sick? how sick? For what other conditions (e.g., pregnancy) or problems do they seek help?

What do people do when they have a problem or fall ill? With whom do they fires consult? why?

Are different practitioners consulted for different age Groups, conditions and disease problems, and/or disease causes? Who is consulted for what? Ask people to name or people describe: (a) the instances when they commonly consult or seek help from others (e.g., pregnancy, birth and after birth care, broken bones, massage, snake bites, etc.); (b) the type of practitioner they consult.

If the fires practitioner cannot help, where do people go next? why? Who is consulted after this? why?

Practitioners

What types of practitioners are available to the community?

From whom do practitioners get their healing power? Where did they learn their skills? how? through training? what type? from whom? on what topics and skills? for how long?

Where do the practitioners live?

Do practitioners refer patients to fellow healers or to outsiders? What are the reasons for such referrals?

Are practitioners paid? if yes, how? with money, in kind, with tokens of gratitude, mutual obligations? how much? if no, why not?

Are practitioners willing to train others? if 50, how? if not, why not?

Role of community

Does the community play a role in the healthcare of its people? If yes, what are the roles and who performs them? (See Health financing schemes.)

Some examples and ideas how information on healthcare systems could be documented:

Draw a map showing distribution of indigenous healers by specialization, residence.

Make a diagram which illustrates the indigenous referral system.

List for each illness

—signs/symptoms
—causes
—dangers
—preventive measures
—curative measures
—when to refer

Draw a calendar showing at what time of year certain types of illnesses often occur.

Compiled by Estrella P: Gonzaga
**Occupational health**

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives.

In what activities are community members involved? Who is involved in each activity?

Are there health-related problems caused by any of the activities? What kind? Any accidents? Are people getting sick? Why?

What causes these problems? Do they occur regularly or sporadically? During specific seasons or times of the year?

How are health-related problems solved or prevented?

Some ideas on how to document occupational health

Develop a matrix listing daily activities and related health problems.

Draw a calendar showing seasonal occurrence of specific health problems.

Ask people to draw a "magical" amulet that would protect them from accidents. Their drawings might reveal the very dangers they face in their day-to-day work.

Compiled by Pedrito Sandy M. Fortuna
Organizations and leadership

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives.

Community level

What groups exist in the village? How many groups are there? What are the purposes of these groups? How were they created?

Who are the recognized leaders in the community? Who are the women leaders?

How are leaders chosen? What abilities have they demonstrated to make them leaders? What are their responsibilities as leaders?

How are community-wide concerns raised? How are they discussed? How are they resolved?

How are decisions made on community affairs? Who in involved in decision making? What are the processes followed to arrive at decisions?

How is information from outside accessed? Who from the community brings information from outside? How is such information spread in the community? What is the general information flow in the community?

How are community decisions and information shared with outsiders? Who is responsible for disseminating village information to outsiders?

What relationships exist between the different groupings? What are the mechanisms for coordination and collaboration?

How do different groups manage to sustain themselves? Where do they get material support for their work?

How are resources allocated? Who decides?

What processes must be followed when working with the community? What are the different ways to involve community members?

What social arrangements exist between groups? Are these rules practiced in the community? Are these rules known to everybody? How are such rules disseminated?

How is compliance with the rules enforced? What are the punishments and rewards?
Is there such a thing as community planning, monitoring and evaluation? Who are the primary actors in each stage?

Group level: For each group, find out:

How was the group organized?

Is the group registered? If registered, when was it registered? Why did it register?

What are the group's goals? Who formulated the goals? How were the goals formulated? How are goals disseminated to members?

What is the membership? What are the requirements for membership?

Who are the leaders? How are leaders selected? What are the responsibilities of leaders? What are the responsibilities of members? How long is the leadership tenure?

How is the group organized? What structures and rules exist? Which are followed?

What activities are undertaken by the group? How are these activities decided? How are decisions made in the group? Who is involved in decision making? Who takes overall responsibility for decisions made?

How does the group plan? Who is involved in planning? How will they know if their goals and objectives are met?

How is information outside of the group accessed? Who collects the information for the group?

How is such information shared with members? Describe the information flow.

How are group decisions and information shared with the community?

Who is responsible for spreading information in the village?

How does the group maintain its activities? What resources (cash, building, tools, etc.) does it have? What are the sources of resources? Who generates resources? How are resources allocated and monitored?

What relationship does the group have with other groups in the community? with other communities? What mechanisms are followed to strengthen relationships with other groups?

Some ideas and examples how information on organization could be documented

Draw a map showing natural resources of the community including ownership and access.
Develop a Venn diagram showing the various subgroups in the community and their relationships with each other and with outside groups.

Develop a Venn diagram highlighting the power distribution within the organization.

Draw a flowchart showing the sequence of events when an activity is planned and implemented.

Make a list of rules that organizations follow.

Do a network analysis of organizations and the links between them.

Complied by Perpetuo C. Librando
Credit and savings

Note

This is not a questionnaire! Adapt, reword, and combine questions and top co to suit your objectives

General

What do people do when they want to buy something? When they need to pay for something? Do they have cash? Or do they sell something, barter, borrow?

Are there times when people critically need cash? During what part of the year? for what purpose(s)? How much cash do they usually need to meet these expenses?

How are they able to pay these expenses?

Savings

Do people have savings? If not money, is there anything else that they save for emergencies or special needs? Are they able to save within the year? how much?

Do people save on their own, or with others? Do they have a way of describing their (own individual or group) savings scheme? Who keeps the money? How much do members pay? when? how often?

If it is a group savings scheme, can anybody withdraw? who? when? and how much? is there a minimum deposit? Is there any penalty for not being able to meet the minimum savings requirement? How are people able to ensure that everyone is participating and meeting their obligations? Does the savings scheme pay interest? as earnings? What problems do people encounter in the savings scheme?

Credit

Do people sometimes borrow money? Do they sometimes borrow other things? If not money, what do they borrow? from whom? What are the arrangements for repayment? Is there any interest to be paid? in what form? for how long?

Are people usually able to meet their obligations as agreed upon? What happens (in particular with regards to the debtor's relationship with the creditor) if they cannot pay? Are there penalties or further obligations exacted by the creditor? How does the debtor fulfill these?

Do people ever borrow as part of a group? What is the arrangement or agreement between and among the members of the group? Does the group guarantee the loans of its members? Is this a common practice? What actually has been the interviewee's experience? Did it really work?
Were there problems that cropped up under this guarantee scheme? How were the problems solved?

For group-borrowed funds, do people make agreements (terms) on how to disburse such funds? What are these? Do they apply sanctions or penalties for non-compliance by any member? What are these?

Money lenders

Who are the creditors in the village? Are they professionals, relatives, neighbors, friends, etc.?

What are their characteristics—rich or poor, what is their position in the village, etc.?

What are their practices? What do they lend money for? What are the conditions? How do they ensure repayment?

Does the community play any role in credit and savings? what role?

Some examples and ideas of how information on credit and savings could be documented

Write a description of an indigenous savings scheme.
Make a list of rules of the indigenous scheme.
Draw a map showing members involved in a local savings scheme.
Draw a map indicating who owes money to which money lender.
Develop a game based on the caving scheme.
Draw a flowchart illustrating events and activities when people need money.

Compiled by Enrique G. Mercalda, Catherine Shutt and Ricardo C. Armonia
Enterprise development

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives.

History

Are people producing anything for sale or for sharing? How long have they been involved in this activity or enterprise? Where did they learn about it? from parents, grandparents, other relatives or from business associates, friends, or from print, radio, TV ads? through other means? Did they discover it by themselves? How did it come about?

Were there problems? opportunities? How were the problems overcome?

Planning and decision making

Why do people get involved in an enterprise? What are their motivations? financial considerations? Is there prestige in running an enterprise? Are there other reasons?

How do people decide on the type of enterprise to set up? Do they study other similar enterprises? how? Where do they learn how to do this?

If they do not study other enterprises, what else do they consider or criteria do they use? How and where do they learn about these considerations and criteria?

How long does it take people to plan? to make decisions? What are their strategies? Do they consult others? who? why or why not?

Would they do anything differently if they had to start again: what?

Financial management

Where do people get funds to start their enterprises? Where do they usually go when they need additional funding? From whom do they borrow? why?

Do people track costs and cost-effectiveness of their enterprises? How do they treat costs and how do they control them? If they sell their goods, how do they set their selling prices? How and where do they learn about this?

What records, if any, do people keep? Where did they learn about record-keeping?

Is the enterprise registered with the authorities? Does it pay tax?

What do people regard as a successful enterprise?
Production technology or process

Where and how do people learn about production technology and processes? Who helps them to design the production process? the equipment and tools?

From where do people get equipment and raw material?

Do people set production targets (set production schedules)? How do they do this? How do people know how much raw material they will need to reach their target output? What do they do if they want to increase production?

Marketing

How do people identify markets for their products?

What are their marketing strategies? Do they advertise? Do they "push" their products to their clients or do they find ways and means to "pull" their clients towards their products? how? why?

How do people treat competition? How do they cope with it? How d they cope with external (environmental/political) factors?

Employees

Who is involved in the enterprise? Who is (are) the owner(s)? shareholders? employees? Are they men, women, children? Family, neighbors, hired workers, local people, or migrants? What is their age, level of education, socioeconomic status, ethnicity, clans, caste?

How are the workers compensated? in cash? kind? food? housing? payment daily, weekly, fortnightly, or monthly? Is payment per hour or for piecwork (lump sum for finishing a job)? Is overtime paid? What is the level of compensation? relative to other income opportunities? relative to the owner's or manager's income? Are employees able to save from this income? how do they save? What kinds of mutual obligations do workers and owners or managers have?

What is the daily work pattern (start and finish times, breaks)? What are working conditions like (health and safety, work environment, intensity of work, variation of activities, repetitiveness, social interaction)?

How many hours do the workers work each day, week, month, year? Is the work seasonal? Does it depend on orders? What provision is there for days off, sick leave? What do workers do when they are not working for the enterprise?

How are people hired? laid off? Do they have formal contracts?

Management and organization

What is the organization of the enterprise? Who makes decisions?
Who Supervises or gives orders to whom?

Who makes decisions on purchasing, work activities, work flow, pricing, sales? What kinds of decisions are made by employees? by the manager or owner? How are these decisions made? Who is involved or consulted? What kinds of information are taken into consideration?

What kinds of disputes arise, and how are these resolved?

How do people learn how to manage an enterprise?

Some ideas and examples how information on enterprise development could be documented

Prepare a text, with drawings, describing a local enterprise.
Draw a flowchart illustrating the decisions people make when deciding on an enterprise.
Make illustrations of local forms of record-keeping.

Compiled by Enrique G. Mercaida and Ruben 5. Aledia
Communication

Note

This is not a questionnaire! Adapt, reword, and combine questions and topics to suit your objectives.

It is often necessary to discuss a specific subject (e.g., rice growing, children's health) when asking about communication.

Information sources

How do people find out about the news? a new crop? a new crop variety? other subjects?

Who is the most knowledgeable person in the village about health? growing rice? breeding cattle? village traditions? other subjects? Who is the best farmer? midwife? blacksmith? leader?

Where do people go to for information or advice if they have an ill child? a farming question? a sick animal? a dispute with their neighbor? other subjects?

Do they give this person anything in payment for their advice? in cash or in kind?

Who are the leaders in the village? Are there any organized groups in the village?

Who makes decisions on each subject?

Is there anyone who makes announcements or delivers messages for the village head? for the organization? for specific groups in the community?

Is there anyone with whom you disagree on the subject?

Is there anyone who likes to try out new things?

Who in the village travels most? How do they go from place to place? Where do they go? Whom do they visit and talk to? Why do they travel? What types of information do they bring back?

Which outsiders visit the village? What types of information do they bring with them? Do local people think this information is useful? credible? applicable locally?

Communication channels

Folk media

What do people do for entertainment?

Are there village festivals or holidays? What happens on these occasions? How are they organized? Who attends? Who is involved?

Does anybody tell stories? recite proverbs? sing gongs? dance? What are these stories/proverbs/songs/dances about? What do they mean?

Economic relations

Where do people buy what they need? Where do they sell their produce? What do they buy and sell? Who do they buy from or sell to? Who in the family (men, women, children, elderly) buys and sells?

Are there stores in the village? Who manages them? What do they sell? What information do the storekeepers provide to customers about the goods they sell?

Where do people buy seed? medicine? tools? How do they find out how to use these? How do they find out the right prices?

Do people borrow money? from whom? what for? how is this arranged?

Indigenous organizations

Are there organizations or associations of people in the village? Who belongs to these? What do they do?

Where do the organizations meet? when? Who attends? Who speaks? What is discussed? How are decisions made?

How do members find out about the organizations' decisions and activities? How do non-member find out?

Indigenous education

How do children learn how to farm? plant rice? sell produce? other skills? Who teaches them? How are they taught?

What does the mother teach a child? the father? older brothers or sisters? grandmother? grandfather? other relatives? the child's friends?

Are there apprenticeship arrangements for learning skills or professions? for which subjects? Who can become an apprentice? Who teaches? How long are apprenticeships? What are the arrangements?

Records
How do people record important information (such as land titles, farm boundaries, local laws, genealogies)? Who keeps these records? How are they used?

Other channels

Where do people in the village meet? For what reasons? Who meets in these places? What do they talk about?


Who is regarded as the best source of gossip in the village?

Messages

What subjects do people learn about through the various channels? What do they talk about at the well? in the fields? at the shop? in their homes? when visiting friends?

What subjects are they most interested in? What are they not interested in?

What have people learned in the last six months about farming? food processing? health? How did they learn this? What did they do with the information?

Receivers

Who gets what types of information? Who does not get to hear about certain types of information? why not?

What types of people are there in the village? How can they best be divided into groups (e.g., by age, sex, wealth, class, caste, ethnicity, house location, occupation, educational level)? Which individuals belong to which of these groups?

How do each of these groups get information? What types of information? How do they get it? What do they do with it?

Possible methods for obtaining information on indigenous communication

Use the technique described in the section Identifying indigenous specialists to discover who are the opinion leaders on a specific topic

Ask people to identify all the important individuals or organizations in the village. Ask them to draw circles representing each individual or organization. Get them to draw heavy lines between circles that communicate frequently about a certain subject; dotted lines between circles that communicate less frequently; no lines between circles that do not communicate about the
subject. Use this method to identify social networks on a particular subject. (See also Venn diagrams.)

Ask the villagers to draw a map of the village showing all the houses (see Mapping). Ask them to identify on the map all important sources of information (such as the village store and TV sets) and places where information is exchanged (such as the village temple or mosque). Ask them to show who talks most with whom. Ask them to show this by drawing knee or stretching string from one house on the map to another.

Ask people to write on small pieces of paper the names of all the villagers. Put all the pieces of paper in a pot and mix them thoroughly. Then ask the villagers to divide the papers into groups according to certain criteria age, sex, wealth, etc. (let them decide on what criteria are appropriate). This exercise is useful in segmenting the villagers (dividing them into more or less homogenous groups). (See also Sorting and ranking.)

Use the method to draw a stratified sample (in the section on How to draw a sample) to segment the village into homogenous groups.

Compiled by Paul Mundy
Part 6 - Resources

Abbreviations and definitions

Baseline data. Data on certain parameters (such as nutrition levels or crop production) collected at the beginning of a project. You can collect data on the same parameters later in the project and at its end. By comparing this evaluation data with the baseline, you can determine whether the parameters have changed, i.e., the situation has improved or worsened (see also Evaluation data).

Closed-ended question. A type of question that limits the response to preselected alternatives. (See section on Surveys.)

Evaluation data. Data collected during and at the end of a project that enable project personnel to verify the achievements and failures of a project (see also Baseline data).

Focus groups. A research strategy which involves intensive discussion and interviewing of small groups of people on a given focus or issue. Focus groups were originally used to study consumer opinions and behavior.

IIRR. International institute of Rural Reconstruction, Silang, Cavite, Philippines.

IK. See Indigenous knowledge.

Indigenous knowledge. The knowledge of local people in a given community. It is also sometimes called local or traditional knowledge (see also section What is IK?).

Insiders. People who live in the community.

Interview guide. A written list of topics and guide questions to be covered in a particular order during the course of a semi-structured interview. The interviewer notes responses on notepaper.

Interview schedule. A list of questions similar to a questionnaire, but the interviewer asks the questions and writes the respondent's answers on the form.

Key informant. An individual who is credible, accessible, willing to talk and has great depth of knowledge about an area. Key informants have traditionally been important information sources in anthropological research.

Key informant Panel (KIP) A group of about six to 15 key informants who meet to discuss specific situations, events and other data.

Open-ended question. A type of question that does not limit responses to preselected alternatives. (See section on Surveys.)

Outsiders. People who do not come from the community, but want to work or do research there.
PRA. Participatory rural appraisal. A systematic, semi-structured approach that uses a combination of methods to assess and understand a community's situation or a particular problem with the participation of and through the eyes of local people.

Question guide. See section Introduction to question guides.

Questionnaire. A list of questions, providing enough space for answers to be recorded. Questions can be closed-ended or open-ended. It is self-administered: respondents read the questionnaire and write the answers on the form. Normally, a separate questionnaire is used for each respondent.

RRA. Rural rapid appraisal. A systematic, flexible approach that enables outsiders to quickly learn about a community’s situation and problems through using a combination of methods and a multidisciplinary team.

Technology blending. Testing, improving and combining indigenous and western know-how and technologies (for example, modifying local stoves based on research findings).

Western knowledge. Knowledge developed by universities, research centers and private industries using a formal scientific approach. This manual uses the term "western knowledge" although it is not only developed in the West, and western is a relative term depending on where one's country is located. However, common alternative terms such as "scientific," "international" and "modern" knowledge are even less acceptable than western knowledge because they suggest (incorrectly) that indigenous knowledge is nonscientific, non-international and old-fashioned.

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Addresses

Resource centers of the global indigenous knowledge network

The global indigenous knowledge network consists of a growing number of independent resource centers that document and perform research on IK promote networking and information exchange, and design training materials on IK. The Indigenous Knowledge and Development Monitor, published by CIRAN, contains news on network activities. For more information, contact one of the global centers listed below.

Global centers

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Other institutions and organizations interested in IK

Many other government and non-government organizations are interested in and promote indigenous knowledge. It is not possible to list them all here, Below are a few organizations that serve as information sources and produce publications that contain information on IK.
CIESIN
Consortium for International Earth Science Information Network Information Resources
Department 2250 Pierce Road, University Center, MI 48710, USA Fax: 1-517-797-2622
Consumers’ Association of Penang 228 Jalan Macalister, 10400 Penang, Malaysia Fax: 604—
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ILEIA
Information Centre for Low External Input and Sustainable Agriculture PO Box 64, 3830 AB
Leusden, Netherlands Fax: 033-940791 Publishes the !LE IA Newsletter IITDG Intermediate
Technology Development Group Myson House, Railway Terrace, Rugby CV21 3HT, UK Tel:
+44--1788 560631 Fax: +44-1788 54-0270 E-mail: Itdgcru@apc.org Published Appropriate
Technology magazine.

IIED
International Institute for Environment and Development Sustainable Agriculture Programme 3
Endsleigh Street, London WC1H ODD., UK Fax: 44-71-388-2826 Published PLA Notes
(formerly PRA Notes).

Sristi
Society for Research and Initiatives for Sustainable Technologies and Institutions Prof Anil K.
Gupta Indian Institute of Management Vastrapur, Ahmedabad 380 015, India Tel: +91-272-
407241 Fax: +91272-427896 Publishes Honey Bee newsletter. Tear Fund 100 Church Road,
Teddington, Middlesex TW11 8QE, UK Tel +44-181-977 9144 Publishes Footsteps magazine.

Third World Network
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