



Stakeholder Analysis for Collective Management of Natural Resources

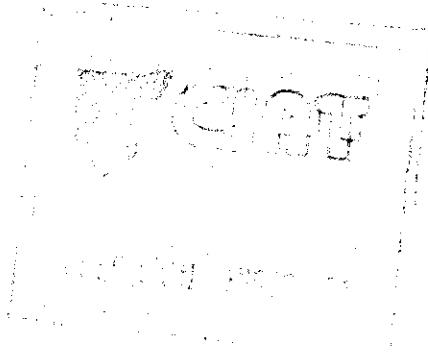


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Methodologies for Decision Making in Natural Resource Management



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Stakeholder Analysis for Collective Management of Natural Resources

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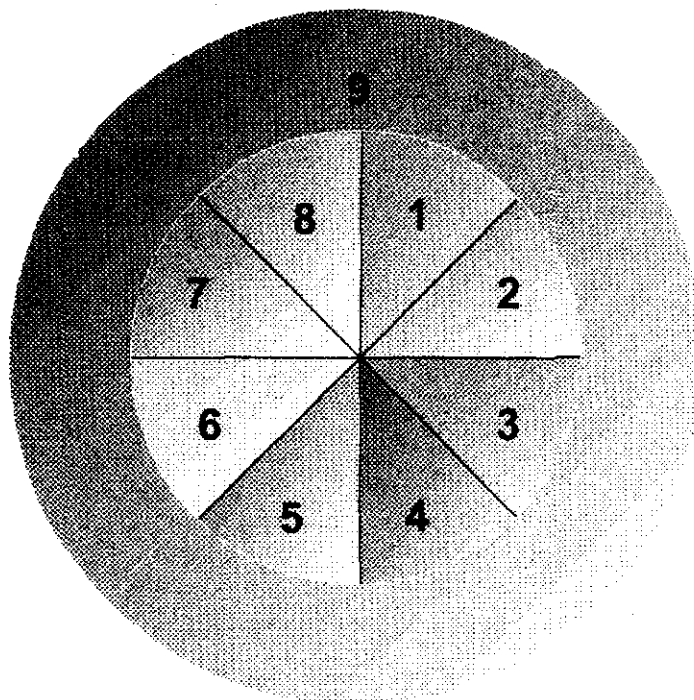
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Included, 28 originals for transparencies in paper.

Participative method 2. Community work 3. Collective action 4. Concurring methodology. 5. Natural resource management.

Methodological Instruments for Making Decisions in Natural Resource Management



1. Participatory method for identifying and classifying local indicators of soil quality at the micro-watershed level

2. Photo-topographical analysis (PTA) of land use trends in hillside areas

3. Participatory mapping, analysis, and monitoring of natural resources in a micro-watershed

4. Methodology for analyzing the stakeholders involved in collective land management at the micro-watershed level

5. Identifying levels of well-being in order to construct local profiles of rural poverty

6. Atlas of Yorito and Sulaco, Department of Yoro, Honduras

7. Identifying and assessing market opportunities for small rural producers

8. Use of simulation models for evaluation

9. Development of local organizational processes for collective management of natural resources

The Figure represents the set of methodological instruments in the series. In the centre are seen eight instruments that can be grouped in the following way: in green, Participative Method for Identifying and Classifying Local Indicators of Soil Quality at the Small Watershed Level; Analysis of Land Use Tendencies; Mapping, Analysis and Participative Monitoring of Natural Resources in a Small Watershed, are the instruments that permit the identification, analysis and prioritisation of biophysical components, that is, the natural resources at the level of farm, small watershed and subwatershed.

In blue, the instrument for Methodological Analysis of Interest Groups for Collective Management of Natural Resources in Small Watersheds and the one that refers to Identification of Lifestyle Levels for the Construction of Local Profiles of Rural Poverty, are tools that permit the identification of relations between different natural resource users. The identification of lifestyle levels permits the classification of socioeconomic components at the level of villages, towns and regions.

In yellow, Atlas of Yorito and Sulaco, Yoro (Honduras), is the instrument that typifies the integration, analysis and presentation, through the use of maps, of data generated by the instruments represented in green and blue.

In orange, Identification and Evaluation of Marketing Opportunities for Small Rural Producers and Utilisation of Simulation Models for Ex-ante Evaluation, are the instruments that facilitate the design of alternative panoramas for planning production at the farm and small watershed level.

Enclosing these eight instruments and in purple, Development of Organisational Processes at the Local Level for Collective Management of Natural Resources, is the tool that permits: (a) the definition of the collective use of the other instruments, and (b) the popularisation of the results obtained by their use. It is the instrument useful for community organisation in order to improve decision-making about the collective management of the natural resources at the watershed level.

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Acknowledgements

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We also thank the following persons: José Ignacio Sanz, Edmundo Barrios, Georgina Orozco, Alberto Meléndez, Carlos Trujillo, Joaquín Cayapí, Rodrigo Vivas Rosas, Ana Milena de la Cruz, Eider Camilo Fernández, (Governor of the La Laguna Indian Reservation) Roberto Chepe, Jorge Trujillo, Freddy Escobar, for different contributions made throughout the process that led to the solidification of this methodology.

Introduction

This Guide has two objectives. The first is to present a methodology stimulate and adopt collective action (CA) in Natural Resources Management(NRM). The second is to allow readers, researchers, and trainers to develop and multiply the methodology in other training events or similar workshops.

This guide is addressed to technicians and researchers that work with farmers and other users of natural resources focusing NRM beyond the farm, woodlot or water source, to deal with the larger context of the watershed.

Knowledge of semi-structured interviews and group dynamics are considered prerequisites for the use of this guide. Therefore, when these techniques are lacking, a previous training must be carried out to enable participants in the workshop to complete the tasks that refer to their use.

The central premise of this method is that natural resource management is nearly always set within the context of multiple interests that may be in conflict. Therefore, it is fundamental that any initiative towards improving natural resource management be based on the understanding of interests of all the users involved in their management.

The method presented in this Guide has been developed with the aim of identifying these divergent interests and facilitating a process through which the different stakeholders can negotiate their interests in an open manner, and achieve agreements and concrete proposals about how to improve natural resource management. It consists of a process that begins with meetings, interviews and analysis during which the technician or researcher plays the role of a facilitator. Natural to this process is getting NR users to know each other to be able to come to consensus around the need for and the potential returns from a collective, agreed upon NR management.

This Guide describes the stakeholder analysis process up to the point at which the perceived problems and conflicts related to natural resource management are identified. The process will need to include the negotiation of these interests and the formulation and implementation of concrete proposals for improving the management of said resources.

When a process of analysis and discussion between the users of natural resources is undertaken, there is an increase in the expectations among the participants that some improvement is going to be seen. Facilitators or leading institutions in this process should be aware of this, and avoid creating false expectations to avoid frustration of well-meant expectations. This implies a great responsibility in the facilitators (persons and institutions) that use the methodology to hold the process of problem analysis and negotiation until they are prepared to follow through to the end and obtain concrete proposals.

Users of the Guides

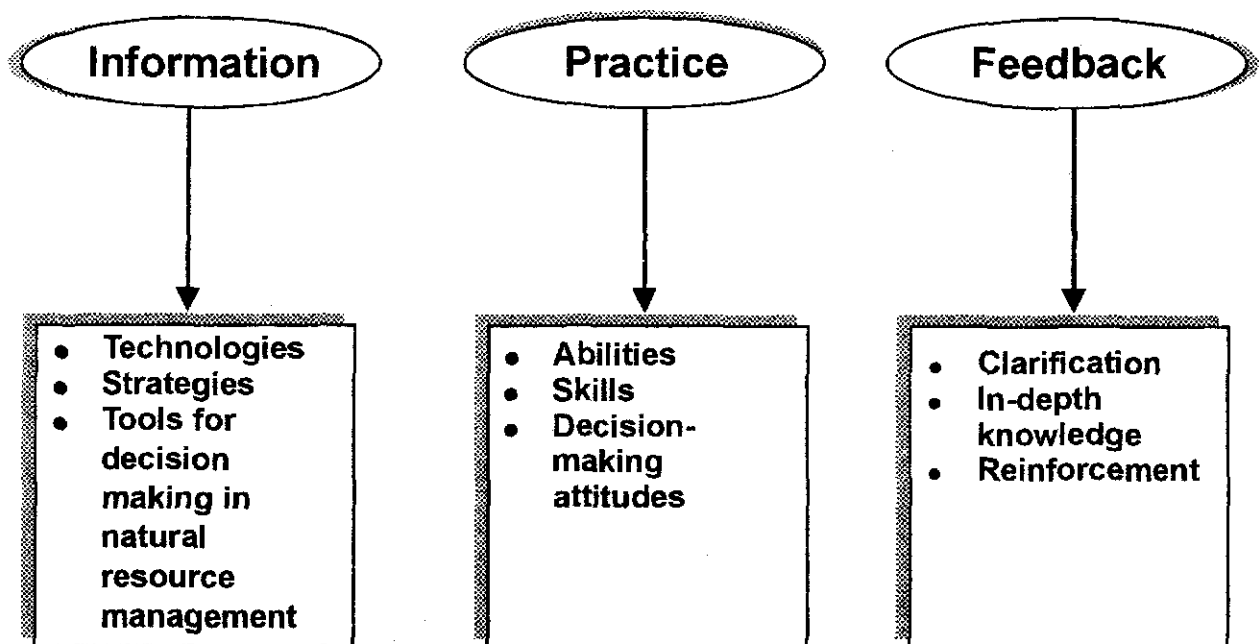
The series of Guides dealing with Methodological Instruments for Decision Making in Natural Resource Management addresses to two types of users.

The first, made up of professionals and technical personnel that work for organisms and institutions in the private and public sectors, dedicated to research, development and training in natural resource management. This level of users can take advantage of the guides to support planning, execution, follow up, and evaluation of their initiatives in their areas of action. It is expected that this group, once trained in the use of the methodologies will exercise a role of multiplier for hundreds of professionals, technicians, volunteers, and producers in promoting, analysing and adapting these methodologies towards decision making in natural resource management at the local, regional and national levels.

The second group of users is made up of those who are the legitimate inheritors of the proposals for natural resource management, developed through research and presented in the guides: the inhabitants of the watersheds in tropical America. These people, through training, consulting and support by a variety of non-governmental organisations and state agencies, will be able to make the methods and strategies presented herein their own, in order to actively participate in the management and conservation of natural resources.

These materials are especially dedicated to teachers in the faculties and schools of agricultural and environmental sciences and those in schools of natural resources. They are the ones that form the professionals who will accompany the agricultural communities, in the immediate future, in the difficult task of maintaining or recuperating the natural resources placed in their custody for generations to come.

Learning Model



The series Training Guides about *Methodological Instruments for Decision-Making in Natural Resource Management*, follows an educational model based on learning by doing. This model proposes trainers, a training path in which the input information, (left square) resulting from field research, serves as raw material for developing abilities, skills, and attitudes (center square) required by the ultimate users in making the proper decisions related to natural resource management.

The users of these guides will observe that the methodological components differ from other materials for dissemination of technologies. Each one of the sections into which the guides are divided contains design elements that allow the trainer to exercise his job as a learning facilitator.

The Guides are oriented by a set of objectives that enable facilitators and participants to direct the learning process. This is accomplished through exercises from the field or other practical work, in which the processes of analysis and decision making are practised, using walks, simulations, roleplays, and applying different instruments for information collection and analysis.

Other components include the feedback sessions, (right square) in which the training participants, together with the trainers, have the opportunity to review the completed exercises and consider in more detail those aspects that should be reinforced. The feedback information constitutes the last portion of each session in the guide and is the preferred space for the trainer and the participants to accomplish conceptual and methodological synthesis of each aspect.

In summary, the model is made up of three elements: (1) the technical and strategic information, that is the product of research and constitutes the technological content necessary for making decisions; (2) the exercises, presented in the form of experiences to be performed in the training site and field activities, directed towards the development of abilities, skills and attitudes for decision making; and (3) the feedback information that is a kind of formative evaluation to ensure that the participants master the underlying theoretical principles and their proper application.

Exercises are the central axis of the training and stimulate the reality lived by those who use the decision making instruments presented in each guide. Through the exercises the participants in the training apply the instruments, have a chance to face the difficulties that arise from their application at the local level, and observe the advantages and opportunities they offer in the different decision making environments in the local or regional context of each country.

The exercises included in the guides were extracted from the local research experiences of the authors in small watersheds in Honduras, Nicaragua and Colombia. However, the trainers from other countries and regions will be able to extract excellent examples and cases from their own research projects to redesign the exercises and adapt them to the local context. Each trainer has in hand guides that are flexible instruments that can be adapted to the needs of different audiences in different settings.

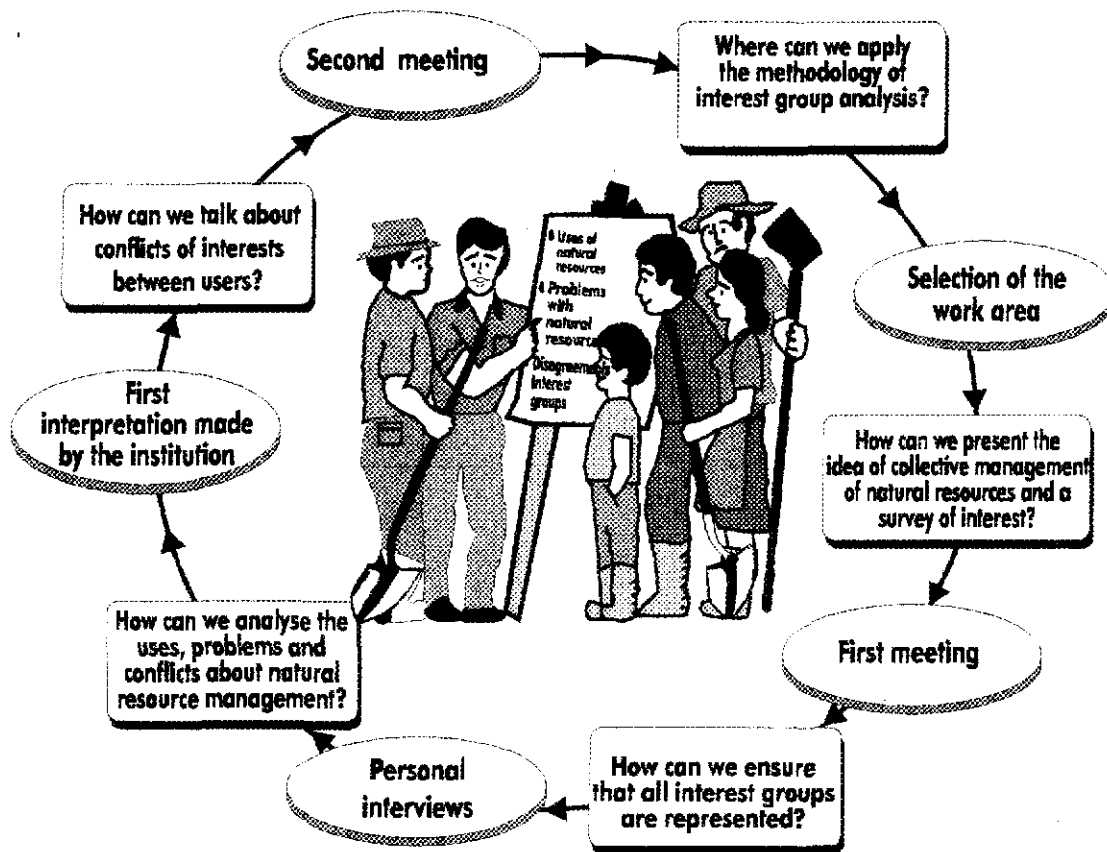
Uses and adaptations

It is important that the users of these guides (trainers, facilitators and end users) understand the functional role offered by their didactic structure. It is the didactic format that makes a difference in training people to use the decision support instruments. En users are the ones who decide to introduce these instruments in the development process at the local level.

The methodological model emphasizes the use of flowcharts and diagrams to help the trainers in the presentation of the different sections. A series of teaching aids are included: the opening questions, which allow the establishment of a dialogue and promote the motivation of the audience before entering into theoretical detail; originals for transparencies that can be adapted for different needs, introducing adjustments in their presentation; the appendices cited in the text will help study in depth those aspects briefly treated in each section; the recommended exercises which can be adapted or substituted by others about problems relevant to the local audience; the feedback sessions, in which it is also possible to include local, regional or national data to make them more relevant to the audience and to fix knowledge. Finally, didactic appendices are included (post-test, evaluation of the trainer's performance, evaluation of the event, evaluation of the material, etc.) that help to complement the training activities.

Finally, we wish to leave a central idea regarding the training model : If practical exercises are the most important aspect in the learning process, the training should include enough time so that those who experience them have an opportunity to develop the abilities, skills and attitudes that reflect the training objectives. Only in this manner is it possible to expect the training to have the impact on those who make decisions about natural resource management.

General Structure of the Guide



The figure shows the dynamics of the methodology for stakeholder analysis. Five steps are described that need be completed to understand the problems and conflicts about natural resource use and to identify the stakeholder groups and their interrelationships. These are the steps:

1. Selection of the work area.
2. Approach to community and survey of interests - First meeting.
 - Clarification of expectations and interests of the farmers.
3. Personal interviews.
 - Identification of the use of natural resources (NR) management problems and the stakeholder groups.
4. Towards a preliminary interpretation.
 - Analysis of the use of NR and problems in their management, identifying the conflicts and stakeholder groups.
5. Collective discussion of the use, problems, and stakeholder groups Second meeting.
 - Participative analysis of the problems and conflicts in natural resource management.

In order to follow the logic of the Figure, these five steps or actions imply the answers to essential questions that may arise when the purpose and objectives of the methodology for stakeholder analysis are presented. To apply the methodology to a real situation, with the aim of facilitating the process of collective NR management, the first question will be:

Where is the application of this methodology possible?

To achieve the best results from collective action that represents all stakeholder groups, it is important to improve personal contact. This can be achieved following the considerations for selecting the work area that appear below:

- Contiguous natural areas
- Between 25 and 150 hectares
- Between 20 and 40 families
- Additionally, other criteria of selection related to specific local conditions.

After identifying the work area, the next question will be:

How can we present the idea of collective management of NR to the farmers and how can we identify their interests in order to solve the problems and conflicts in a collective manner?

It is necessary to organise a meeting with the farmers. In the guide this is called approach and survey of interests - first meeting, with the following points:

- Presentation of the participants.
- Clarification of the expectations and objectives.
- Collective analysis of a fictitious drawing.
- Survey of the present problems of NR management that exist in the watershed.
- Clarification about the contributions of the leading institution.
- Survey of user interest in participating in the project.
- Proposals for future actions (second meeting and personal interviews).
- Acknowledgements and closure.

If an interest exists among the farmers in continuing the collaboration among themselves and with the facilitators, the next question will be:

How do we understand the use, problems and conflicts of NR management and how do we ensure that stakeholders are identified, with the aim of involving them in the process of decision making?

The answer will be to undertake personal interviews and to make an interpretation, based on the analysis of the data obtained in the personal interviews.

The logical process to do the interview will be:

- An interview with a user randomly chosen (local leader, well known family)
- Analysis of the central ideas, perceptions, and concerns regarding NR management in the watershed with the aim of making a preliminary interpretation of the central ideas.
- An interview with users suggested by the first family interviewed that have different perceptions. Presentation of the interpretation based on the interview with the first family.
- Analysis of the central ideas, perceptions and concerns regarding NRM second interpretation.
- An interview with the users that have different points of view suggested by the second user. Presentation of the interpretation based on the first interviews.
- End of the interview process, if the same families are repeatedly named and there is no more variation.

Keeping in mind the analysis of the information collected during the personal interviews, the interpretation of this information should respond to the following questions

- What are the uses given to natural resources?
- What are the problems perceived regarding the use of natural resources?
- What are the conflicts or disagreements present in the watershed?
- What are the stakeholder groups and what are the factors that define these groups?

The personal interviews have the objective of identifying hidden information and their interpretation is designed to organise and illustrate the version used by the facilitators about the problems and conflicts related to NRM. But the question is still the same:

How do we present these results to the farmers, how do we make the conflicts known without compromising the persons interviewed and how do we facilitate the analysis and discussion among the farmers?

We suggest that a second meeting with farmers to identify the stakeholder groups. In this meeting, we follow these steps:

- Clarification of expectations.
 - Presentation of the interpretation made by the institution.
 - Discussion and modification of the interpretation, in plenary meeting.
 - Discussion and modification of the interpretation, in groups.
- In plenary meeting, unification of the interpretations modified earlier in the interest groups.
- Proposal for future actions.
 - Final survey about interest in the project by the watershed users.
 - Commitments and planning for future actions.

The foregoing clarifications present the dynamics of the methodology for analysis of stakeholder groups. In this guide, in addition to presenting the steps for the analysis, we argue in favor of collective action, and the identification and participation of all of stakeholder groups. Finally, the manual is designed with exercises and illustrations that can be utilised to present the analysis of the stakeholders to other facilitators.

Self-Test

Instructions

Below, you are asked to answer a few questions. This is not a test, rather an exercise that will allow you to know your perceptions and knowledge about the topics and problems related to natural resource management, collective action and stakeholder analysis.

Questions

1. What can be done to solve problems related to natural resource management, such as water sources, erosion control and insect plagues, and others that farmers are not able to solve individually?

2. Why do some attempts at collective action fail?

3. How can we discuss calmly about conflicts of interest between farmers?

4. How can we ensure that all stakeholder groups are represented?

5. How can we achieve a basis for negotiation for the collective management of NR?

Self-Test Feedback Information

Instructions

Now you have examined your perception and knowledge about collective action, conflicting interests, and solutions to problems. Now compare your answers with our suggestions regarding each question. The guide will respond these questions in depth.

Answers

For question 1

The problems about natural resource management require the combined action of the farmers, because this affects other farmers. This is what is called collective management of natural resources.

For question 2

There can be various answers, for example:

- Agreement takes time; time that the farmer prefers to invest in something he considers more productive or that will give more immediate results.
- The farmer is not sure that if he does something, his neighbour will do the same.
- The differences, and even the conflicts, between neighbours make it hard to communicate.
- It is not known which problems are common to many or all of them.
- They do not know or appreciate the advantages or returns of collective action. Thus, each one tries to solve his own problems.

Additionally, it is necessary to emphasise that the attempts to organise farmers often fail, given that not all stakeholders are included. Thus, some interests are not represented and the people who have not been included will not participate in the action, even though the idea is that all are involved in the search for solutions.

For question 3

The recommendation is to present to all of the farmers with an interpretation of the problems of natural resource management, based on a collective analysis and on personal interviews.

For question 4

First, it is important to identify the stakeholders in the region. The consulting institution should work within an integrated natural area, not more than 25 to 125 hectares that hold 20 to 40 families. Second, the interviews should be made applying a sampling method for maximum variation

For question 5

The method of presenting an interpretation of the personal interviews is a good basis for a collective analysis and for specifying common action.

Objectives

The objective of the methodology for Stakeholder Analysis is to stimulate collective action of natural resources and identify those groups that have contradictory opinions about their use.

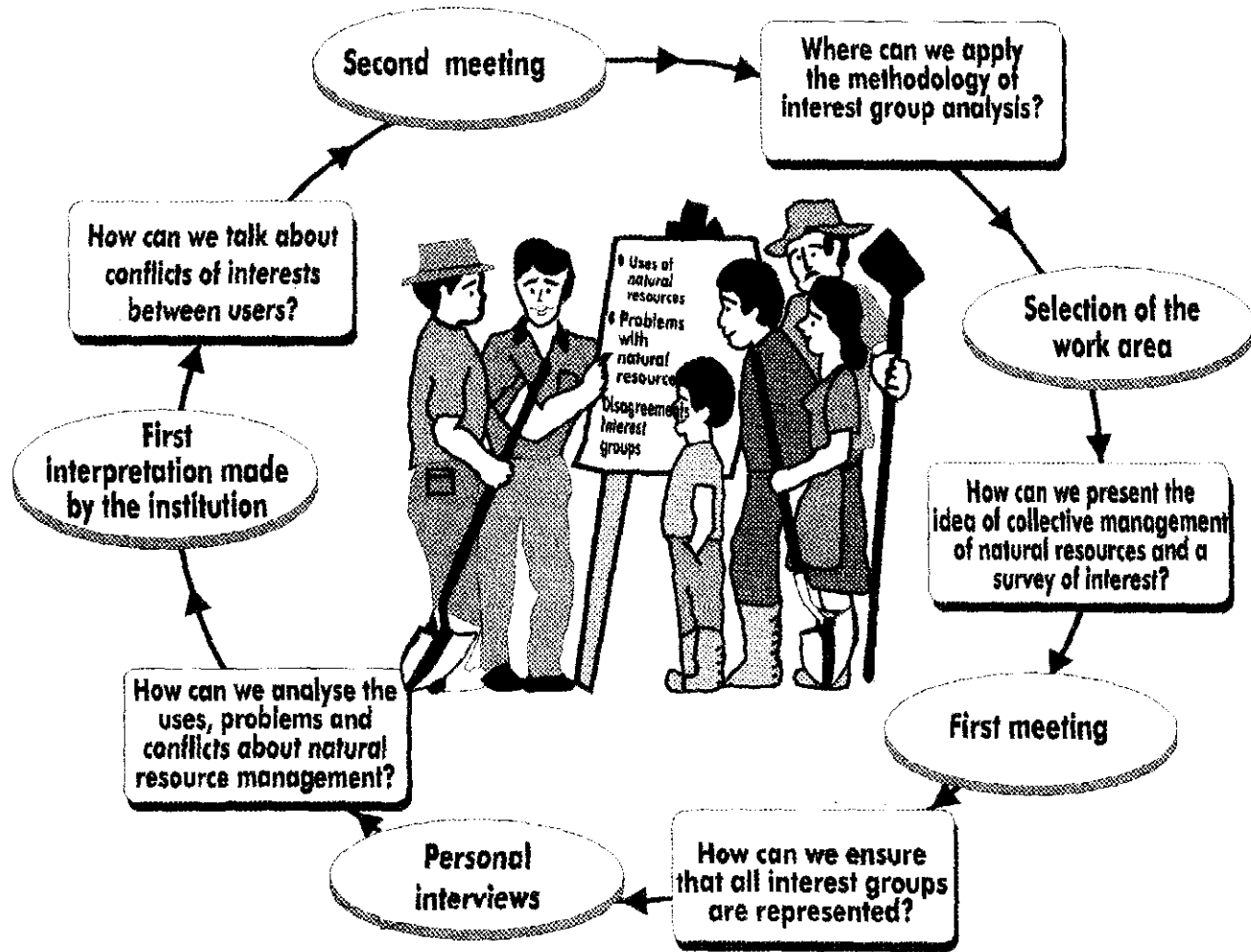
The objectives of this Guide are:

- ✓ To improve the understanding about collective management of natural resources.
- ✓ To improve the analytical capability regarding the use of natural resources and the management of related problems.
- ✓ To develop the capability to make personal interviews based on contrast sampling or maximum variation sampling.
- ✓ To develop the ability for involving the farmers in participatory discussions, and in the analysis of natural resource management.
- ✓ To strengthen to capability to generate solutions to the problems related to natural resource management.

Originals for Transparencies



GENERAL STRUCTURE OF THE GUIDE



GENERAL OBJECTIVE

**Stimulate collective action and identify
the groups that may have differing
opinions about natural resource
management**

SPECIFIC OBJECTIVES

- ✓ Improve understanding about collective management of natural resources
- ✓ Improve the capability for analysis about the use and problems in natural resource management
- ✓ Develop the capability to make personal interviews based on the method of maximum variation
- ✓ Develop the ability to involve farmers in the participatory discussion, and in the analysis of natural resource management
- ✓ Strengthen the capability to generate solutions to the problems related to natural resource management

OPENING QUESTIONS

- What can be done to solve problems related to natural resource management, such as water sources, erosion control and insect plagues, and others that farmers are not able to solve individually?
- Why do some attempts at collective action fail?
- How can we discuss calmly about conflicts of interest between farmers?
- How can we assure that all stakeholder groups are represented?
- How can we achieve a basis for negotiation for the collective management of NR?

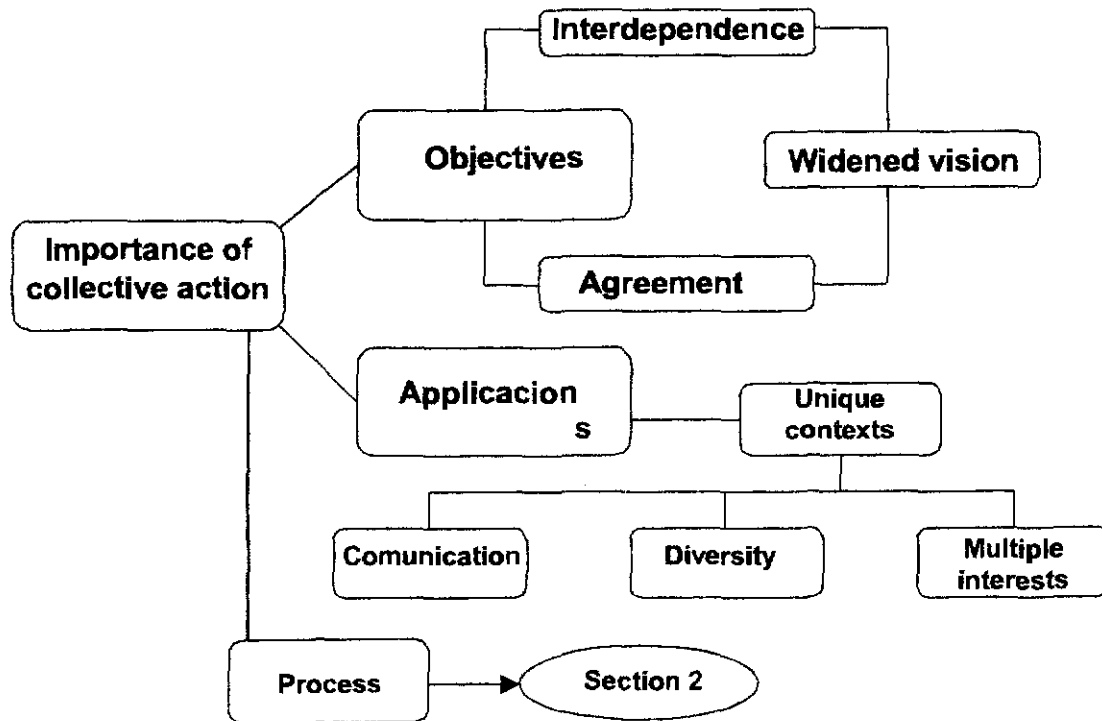
Section 1



Section 1. Why Do We Want to Promote Collective Action?

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Structure of the Section



Objectives

After studying this section, the participants should be able to:

- ✓ Recognise the importance of collective action in natural resource use.
- ✓ Identify the main objectives of collective action.
- ✓ Describe the collective action facilitation process.

Orientation Questions

1. How can we define 'collective action'?
2. Why should we promote collective action in natural resource management?
3. Cite examples of improved management of natural resources using collective action.
4. What is a "contiguous natural area" ?
5. How can we stimulate an appreciation of the importance of natural resource management through collective action?

1. Why Promote Collective Action?

After studying this topic, the participant will be able to define 'collective action' and explain how it can be used to attack problems related to natural resource management.

1.1 Objectives of Collective Action

Problems related to natural resource management in agriculture generally extend beyond a plot or a farm. Events that taking place in one sector of the watershed are influenced by the management practices in every other sector. Problems of water quantity and quality, soil erosion, crop disease and insects are all examples of this interdependence in space and time. Some form of collective action among landusers is required to co-ordinate the different management schemes in the shared space and time.

In the agricultural systems and hillsides in Latin America many watersheds are managed by small farmers who are landowners. These areas, together with other natural resources and the day labour work on other farms, make up the economic basis of subsistence.

Decisions about how to manage the land, water and other resources tend to be made individually and depend on particular decisions related to family subsistence, rather than depending on a vision of the entire landscape and of the other users in the same system. This implies that users of a watershed lose the perspective of the land resource including the flow of water, the movement of organic materials in the soil, and the diversity of the landscape, which could be managed in a shared manner.

The objective of collective action is to search for ways to promote actions for day-to-day resource management based on agreement between the landscape users. In this manner, it is possible to approach natural resource management problems that cannot be solved efficiently by individuals working alone.

1.2 Collective Action Applications in Natural Resource Management

Collective action in the management of a watershed is developed within the context of diversity. In hillside zones of the Andes, for example, we find large quantities of resources, both private and of free public access. Each resource is associated with a series of complex and generally conflicting interests, perpetuated by those stakeholders that hold them unlawfully, both within and outside of the watershed.

Example of variability in a small watershed

Los Zanjones Watershed

- 20 families
- 44 hectares
- 4 ethnic groups
- 2 religious groups
- Commercial farmers
- Subsistence farmers
- Land tenants
- Small landowners

Due to the biophysical interdependence that exists between land resources, their successful management depends on the identification and understanding of the different stakeholders and the use they make of them.

Example of variability between two small watersheds

Factors / diversity	Los Zanjones Watershed	La Recuperación Watershed
Hectares	44	200
Elevation*	1600	1675 – 2100
Crops	Coffee, plantain, cassava	Cassava, beans
Problems	"Chizas" and ants	Lack of firewood and wood for construction
Causes of problems	Lack of rotacion Spatial organization of crops in the landscape Soil fertility Temporal management of crops	Private, indiscriminant exploitation of the forest
Number of families	15	30
Ethnic groups	Mestizos, whites and indians	Indians

- above sea level

1.3 From Farm to Landscape

To ascend in scale from crops to natural resources and, at the same time, from fields to landscapes implies that to characterize land use by the same dimensions traditionally used in agricultural research is not enough. Diverse methodologies are useful to work with farmers who make decisions in a participative way, but at the end of the investigation the recommendations, adoptions or adaptations of the technologies are implemented in an individual manner, solving isolated problems that do not necessarily involve the community to which these farmers belong.

Several aspects come to play in researching agricultural systems:

- the use of nonagricultural land,
- the position of a particular field,
- a crop or a practice within the landscape,
- the degree of farmer's involvement in the use of land,
- the religion to which he or she belongs,
- the ethnic group.

From a methodological point of view, the problem is that the specific factors that define the existence of different stakeholders in a watershed vary from site to site, depending on each individual case in the management of the landscape. This makes difficult the identification of stakeholders based on a predetermined list of possible factors.

1.4 Selection of the Work Area

Due to the biophysical nature of the problems related to natural resource management, it is of utmost importance to work in neighboring areas and with all their users.

1.4.1 Trust and direct communication

To determine the proper size of the work area it is important to analyse again the factors that normally impede collective action. These include the time needed for the farmers to *communicate* with each other, the lack of trust, and the lack of knowledge about the conditions and the problems faced by other neighbours. An important element for building mutual confidence between the users, and to evaluate if everyone is fulfilling the community agreements, is to facilitate for them the opportunity to meet personally and get to know each other.

For this strategy to be practical, it is convenient that the area not be too large -- implying a lot of time in transportation -- and also that the groups of users be relatively small, say between 20 and 40 families.

Example

In this case it was decided to work at the level of watersheds since many natural resource management problems, such as those related to water and soils, are integrated at this level. With the support of a geographic information system, all of the watersheds between 25 and 150 hectares were identified in the zone researchers wanted to work (Figure 1.1). With this information, in addition to other criteria, they were able to probe the working opportunities in the different watersheds and reach a first decision about where to work. Obviously, the criteria that guided the survey about which watershed (s) to work depended on the objectives of the institution willing to carry out the work. For example, to work in the most critical zone for supplying drinking water in the most degraded area, or where there is conflict over natural resources management. In all cases, it is important that the criteria for decision making are clear.



Figure 1.1 Small watersheds between 25 150 ha

1.4.2 Valuing the need for collective action

Once the work area and its users have been identified, one of the first tasks in the process of promoting collective action is to cultivate the idea that through collective action viable solutions can be found to some of the problems in natural resources management in the watershed.

One concrete way of increasing the appreciation of the importance of collective action is through a drawing of an imaginary landscape like the one shown in Figure 1.2. The drawing shows a series of activities that different people are carrying out within the landscape. One person is fishing, but apparently without much luck, another person is happy, fumigating his tomato crop; meanwhile, black water is flowing from the outhouse directly to the river. Across the way, a man is resting as he burns his lot, while a lady neighbor appears to be very worried about what may happen to her corn crop.

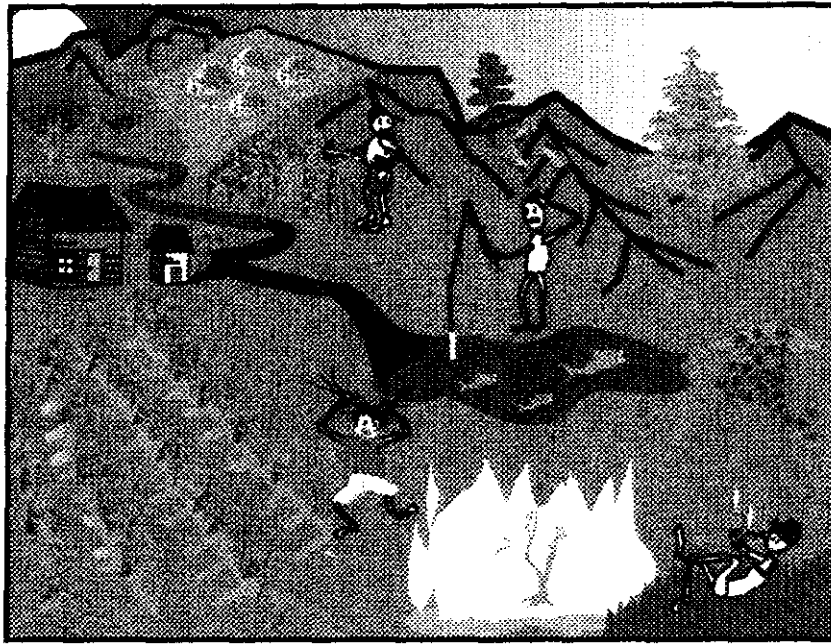


Figure 1.2. Possible situations in a watershed.

This drawing lends itself to collective analysis of the situations that can occur in an area, and about how different people are linked with it. This study is the starting point towards the analysis of the real situation in the watershed. It is proposed that the analysis of the drawing of the fictitious landscape and the that of the real situation constitute the central topic of the first meeting with neighbours in the watershed.

1.4.3 Where to meet?

Before extending invitations to the meeting it is necessary to make rapid survey about possible meeting sites. It is almost inevitable that a particular place be favorable for one sector of the watershed and less favorable for other sectors. Additionally, the site may be associated with an ethnic group, an aspect that makes it difficult or uneasy for other groups willing to participate in the meetings. It is therefore recommended to seek neutral sites and alternate between them avoiding to favour the same sector of the watershed.

1.5 First Meeting to Survey Interests

Objective

- ✓ The objective of this meeting is to present the collective action initiative to the watershed users and emphasise the importance of collective action in natural resource management. A first response is sought from the group of users about their interest to participate in the project.

At the time of the first meeting it is most likely that all of the participants will not have a clear understanding of words such as 'natural resources' and 'collective action'. Therefore, some of them might request more information about these concepts. However, according to experience, it may be premature to make this clarification in the first meeting. An effort to do so might be biased in favour of those participants who are more extrovert and who are more educated in these topic. For this reason, it is premature to try to reach a clarification about problems related to natural resource management, because this may inhibit opinions of some participants regarding problems and possible solutions presented by the most vocal participants. The idea in this first meeting is to make it easy for all to have an opportunity to participate in the process of problem definition and planning possible solutions.

In summary, the first meeting is not to analyse problems, but rather to present the initiative, to explore the interest it awakens for collective action, and to motivate participants so that they ponder over natural resource management problems individually, without imposing fixed concepts and perceptions.

The total time recommended for the first meeting should not exceed 2 hours.

Steps

1.5.1 Introducing the participants

To begin with, it is important to create a relaxed atmosphere, thereby breaking down the protocols, the fears and the distance between the participants and between them and the facilitators. This can be achieved by referring to each other by their first names --not by title-- placing a small name tag on each person's shirt/blouse and involving them in a game or in a group dynamics exercise. Researchers and technicians also introduce themselves, presenting their background and institutional affiliation, and making reference to previous work experiences in the zone. Immediately thereafter, due to the fact that all present live in the same small watershed, it is important that each user tells where his farm or land is located within it. The facilitator can invite them all to draw a map of the watershed using different kinds of materials such as sticks and stones. This may be first thing participants do at the meeting. As other community members arrive they can become integrated into the group around the map. In this way two purposes are served:

1. take advantage of the time (until all arrive), and
2. involve all attendants in the topic to be dealt with during the meeting.

Required time: Time varies depending on the number of participants. For groups of 20 people, introducing themselves may require from 15 to 20 minutes. The mapping of the watershed is optional and may take up to 25 minutes.

1.5.2 Clarifying expectations and introducing the topic

Leading questions:

- Who invited you? How did you find out about this meeting?
- What motivated you to attend this meeting?
- Do you know the what the purpose of this meeting is?
- What are your expectations for this meeting?

Given that the participants may have different expectations regarding the objective of the meeting, it is important to clarify what is expected from them, and what is expected of the facilitators (their possible attendance in the future, for example). The opinions of those participants knowledgeable about the topic are solicited with the idea of reinforcing the objective. Also, by means of the same responses the facilitators can clarify those topics that will not be dealt with in this meeting.

Required time: 10 minutes

1.5.3 Collective analysis of a fictitious landscape

Participants are asked to observe a drawing of a fictitious landscape (overhead transparency or drawing), hopefully painted in colour (Figure 1.2) and are asked questions in order to stimulate conversation about the topic. To obtain better results from the drawing, it should contain the greatest possible number of conflicting situations, problems and interdependencies. Other alternatives for presentation include facilitating copies of the drawing to groups of 3 to 4 participants to elicit contrasting opinions. It is important that the participants state them according to their original perceptions. If this is difficult, the facilitator may utilize the following questions:

- What do you observe in this drawing?
- What is this man doing?
- How does the woman look to you?
- Why is the woman worried?
- What is happening in this place?
- How do you see the relationships between the different people in the drawing?
- What would happen if they talked to each other?

Required time: 30 minutes

1.5.4 Reflection about the existence of similar problems in the watershed

In this step, the farmers are asked to comment whether there are problems in their watershed similar to those observed in the drawing. This is to say, problems about natural resource management that can not be solved individually, but require some sort of agreement, coordination, or collective action among users. They are asked to brainstorm to allow each farmer to mention those problems they face in real life in regards to natural resource management.

Ideas coming from the group are written on a flip chart. In this way, a first interpretation is built about those problems. It is important to point out that it is the audience and not the facilitators who are making the suggestions. The ideas should be clearly written and made visible to all, using the same words expressed by the participants, urging the participation of everyone, especially the more passive ones. Facilitators should not try to achieve a consensus, rather they should collect the different opinions and points of view. It is important to specify that collective problems are those that will be analysed for they involve more than one person—. Other problems and solutions will be taken into consideration during the following meetings. The first meeting is only a survey of interests and a first opportunity to estimate collective problems.

Required time: 20 minutes.

1.5.5 The role and contributions of the facilitating institution

In this step it is necessary to clarify the expectations farmers have, taking into consideration the survey made. It is necessary to state that the organization responsible to lead the collective action initiative, can carry out the technical solutions to problems identified, or facilitate the contact with other institutions that may provide these solutions playing the role of intermediary. The responsible organization can also facilitate access to information that may serve to find solutions, and facilitate the organization and negotiation between watershed users. It is important to explain that the agreement on collective action among users makes an essential part of the solution to many problems related to natural resource management. For example, the control of ants: this may be technically feasible, but if a farmer controls and his neighbor does not, the ants from the neighbouring farm will cross over to the farm where the farmer has controlled. In this example, although the control of ants on one farm is technically efficient, it may not be effective due to lack of previous agreement among neighbours.

Required time: 10 minutes.

1.5.6 Survey of watershed users about their interest to participate in the project

The aim here is to make a preliminary survey about the interest that the users may have to participate in the project. Participants are invited to express their opinions about the project. At this time a final decision is not made, rather the participants are encouraged to think about it with their families and neighbours after returning home. It should be made clear that the facilitators will accept the responsibility of motivating the participation of those neighbours who are not inclined to do so. It is not necessary to clearly define a particular problem, only to emphasise the collective action. A proposal is made to have another meeting to decide on participation.

Required time: 5 minutes.

1.5.7 Proposal for future actions

In addition to plan for another meeting to ventilate opinions about the project in particular, permission is requested so that facilitators may have interviews with some of the watershed users concerning their opinions on natural resource management. This is done to further strengthen the analysis that has just been carried out and to listen to differing opinions, as is always the case in a particular zone. It is proposed that these interviews be made between the first and second meetings. The project personnel promises to present the results of these interviews in the next meeting. A reminder is made about the place for the next meeting, with the idea of alternating the places preferred by the different participants.

Required time: 3 minutes.

1.5.8 Acknowledgements and closure

At the end of the meeting it is important to thank participants for dedicating the time to attend, especially, to those who had to travel from far locations. It is also recommended to provide an additional opportunity for participants to formulate their final perceptions and expectations for the following meetings.

Exercise 1.1 Why Use Collective Action when Managing Natural Resources?

Objective

- ✓ At the end of this exercise, participants will be able to identify reasons that justify the collective action when managing natural resources.

Guidelines for the Instructor

This exercise can be applied in two ways (a) y (b).

(a) A short way, answering the True / False questionnaire, followed by a discussion by the entire group (Required time: 15 minutes), and

(b) a more complete way, involving participation in groups (Required time: 30 minutes). At the end of the section for individual questions and answers, the participants meet in groups and compare the answers to each question.

- If the answers coincide, participants should write down under each topic, why it is true or false.

- If the answers of the different members do not coincide, then they should discuss the reasons for their disagreement. If the discrepancies continue, they should be carried over to the larger plenary meeting where the answers are to be discussed. If there is a consensus, once again the reasons for each item to be true or false should be written down.

Necessary resources

- Work sheet
- Flip chart
- Marking pens

Suggested time: 30 minutes

Exercise 1.1 Why Use Collective Action When Managing Natural Resources? Work Sheet

Instructions for Participants

Read the following sentences and mark an **X**, under true or false, according to your opinion. Explain you answer on the lines under each sentence.

Statement	True	False
1. Collective action seeks to coordinate the different land users with regard to common problems, such as water shortage.	___	___

2. Farmers who live in a watershed know the problems of all their neighbours, since they have the similar access to natural resources.	___	___

3. Collective action is not required in a small watershed to deal with problems such as "slash and burn". These problems can be solved individually, by each farmer.	___	___

4. Different groups of watershed users can coexist without all of them participating in meetings called by institutions that work there.	___	___

5. To solve erosion problems it is best to train small land owners, because they are the ones who cause the most problems.

6. Farmers usually decide to apply chemicals to a crop according to their habits and consult beforehand with their neighbours who use the water from the stream.

Exercise 1.1 Why Use Collective Action When Managing Natural Resources? Feedback

Statement 1

True. In the same watershed resources can be used in different ways, depending on the situation in the landscape, the social level of people, their beliefs and so on. This is how other farmers can be affected by their neighbours without noticing.

Statement 2

False. Some farmers, for example, have an aqueduct, while others get water from other sources and, in many cases, do not know which resources are held by their neighbours.

Statement 3

False. The problems related to resource management cross farm boundaries and require agreement between farmers concerning decisions about how, when and where a natural resource needs to be collectively managed.

Statement 4

True. They may coexist, nevertheless, an effort for participation needs to be fostered.

Statement 5

False. Not only small farmers but grand land owners and cattle growers, may also cause erosion.

Statement 6

False. Many people are not aware they are affecting others with their actions. Farmers are not so sure that their actions will have a collective response to back them up.

Exercise 1.2 Natural Resource Management Topics that Should be Solved through Collective Management

Objective

- ✓ After completing this exercise, participants will be able to identify topics related to collective natural resource management.

Guidelines for the Instructor

1. Ask participants to organize themselves in couples.
2. Give each couple a copy of instructions for the exercise.
3. Ask the participants to be prepared to share the results of their work with the whole group.

Necessary resources

- Work Sheet
- Marking pens
- Flip chart

Required time: 45 minutes

Exercise 1.2 Possible Natural Resource Management Topics that Should be Solved through Collective Action

Instructions for Participants

1. Below you will find portions of dialogues from six interviews with small watershed users.
2. Read carefully each of the segments of the interviews (E1, E2.... E6).
3. After each interview, write the topics (1 or 2 words) that you consider to be related to collective action.
4. Compare your answers with your colleagues in the group.

E = interviewee

F = facilitator

T= topics

Interviews (E):

E1= "... The problem is that a man comes here from outside, a contractor for cutting the pine trees, and although the government of the Indian community has told him that they have to leave 20 metres around springs, the sun comes in and I am the most affected because the water is getting scarce in the summer.

Topics related to collective natural resource management. No. 1:

- a. _____
- b. _____
- c. _____

E2= "... The people from the city that have summer farms in the upper part of the watershed are not concerned and probably do not know what happens here in the lower part where we receive all the contaminated water when they spray their gardens".

F: Do you also have problems with the cutting of the forest? Does the water dry up in the springs?

E2 : Yes, but since we have to cut the trees to sell, we have no choice; what else can we do?

Topics for Interview No. 2:

- a. _____
- b. _____
- c. _____

E3 : "... Beans don't grow well around here. The people next to us rented a field to plant beans and corn, but now we have too many flies because of the chicken manure they use to fertilise the beans. The flies have become a plague and we don't know how to get rid of them. We can not spray because we don't have the money to buy the poisons. In the summer our water is scarce, but we also have the aquaduct".

Topics for Interview No. 3:

- a. _____
- b. _____
- c. _____

E4 : "... We have problems here with the flies that are out of control and we can't tolerate them. We spray because if we don't our crops won't grow. Also some people cut the trees. Don Maximino doesn't have a septic tank. That is not very expensive. I don't know why he hasn't made one; someone should tell him that that is the reason why there are no more fish in the stream now".

Topics for Interview No. 4:

- a. _____
- b. _____
- c. _____
- D. _____

E5 : "...Everybody around here is affected by the ants because they eat cassava, beans and fruit trees. The poisons to control them is very expensive. A single farm can have up to 20 ant hills.

Topics for Interview No. 5:

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

E6 : "... Someone burned a small field of mine, but no one knows who did it. We are new here and have no enemies. In the summer many people burn. When we have a lot of work, we have to burn because we cannot pay workers ... but some young people are idle and light fires just to see them burn ... the flies are not a problem, but the ants are we do have a septic tank... Other people spray a lot, so the river gets contaminated because of that ... I don't know if the contractor that cuts the trees is still here because the Indians told him not to do it".

Topics for Interview No. 6:

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Exercise 1.2 Possible Natural Resource Management Topics that should be Solved through Collective Action -- Feedback

For interview 1

The possible topic is: Cutting of the forest.

For interview 2

The possible topics are: Cutting the forests and spraying insects.

For interview 3

The possible topics are: Spraying insects and flies and cutting the forests.

For interview 4

The possible topics are: Cutting the forests, insect spraying, flies and contamination of the water by sewage.

For interview 5

The possible topics are: Cutting the forests, insect spraying, flies, contamination of the water by sewage, and ants.

For interview 6

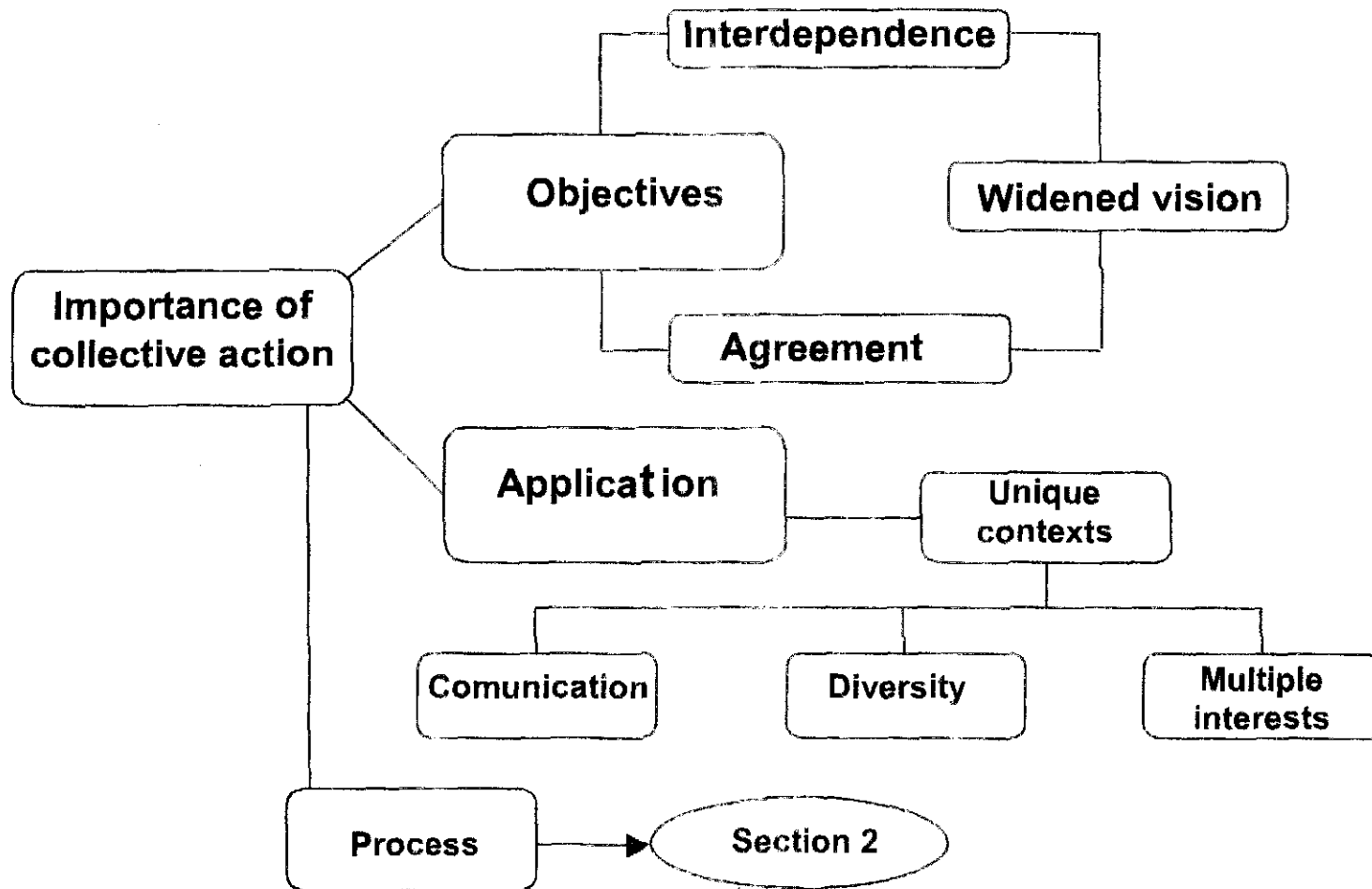
The possible topics are: Cutting of forests, insect spraying, flies, contamination of the river by sewage, ants, and fires.

Bibliography

Egon, G. Guba; Yvonna, S. Lincoln. Fourth generation evaluation. 1989. Sage publications. United States of America. 294 p.

Originals for Transparencies

STRUCTURE OF THE SECTION



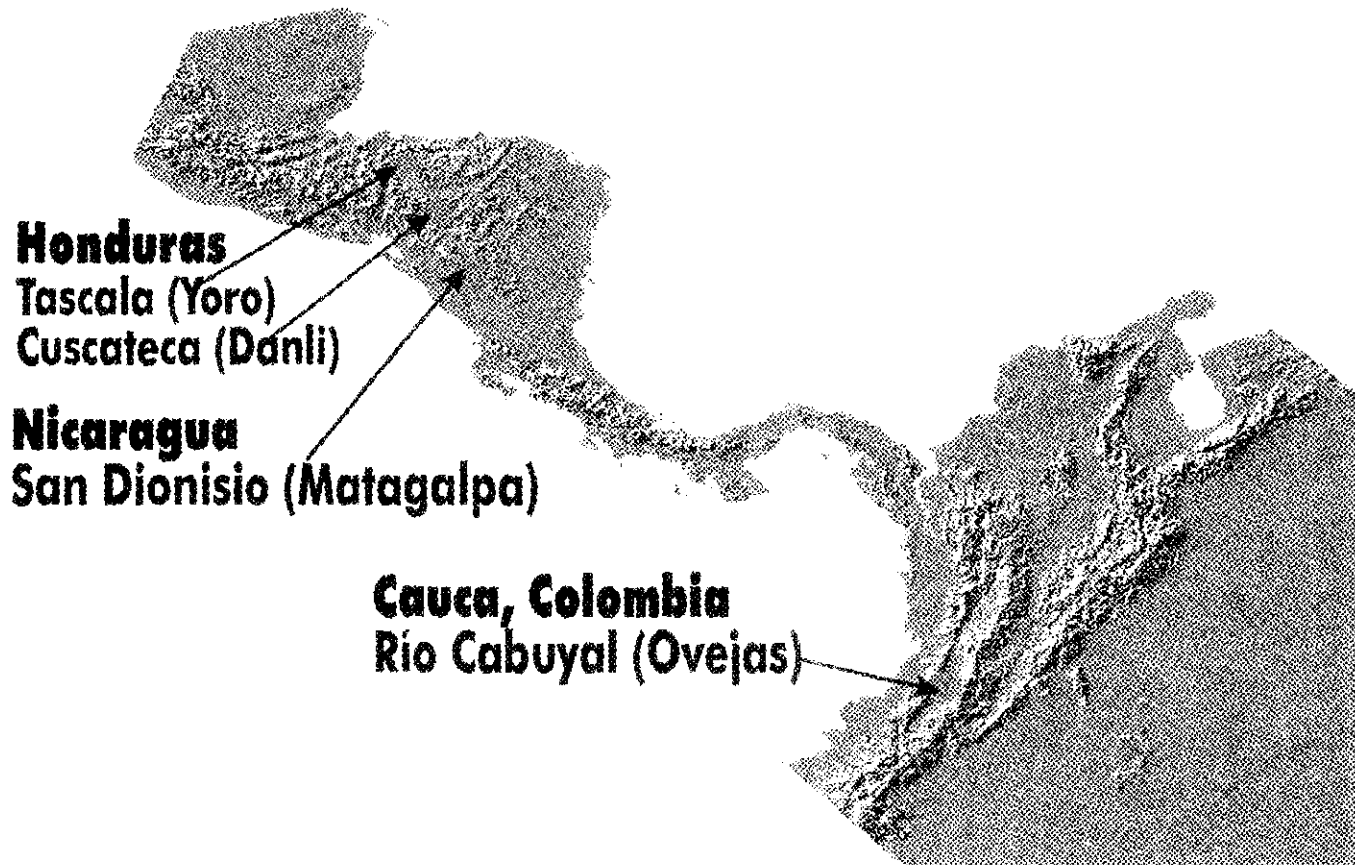
OBJECTIVES OF THIS SECTION

- ✓ Recognise the importance of collective action in natural resource use
- ✓ Identify the main objectives of collective action
- ✓ Describe the collective action facilitation process

OPENNING QUESTIONS

1. How can we define 'collective action'?
2. Why should we promote collective action in natural resource management?
3. Cite examples of improved management of natural resources using collective action.
4. What is a “contiguous natural area” ?
5. How can we stimulate an appreciation of the importance of natural resource management through collective action?

STUDY SITES IN HONDURAS, NICARAGUA AND COLOMBIA

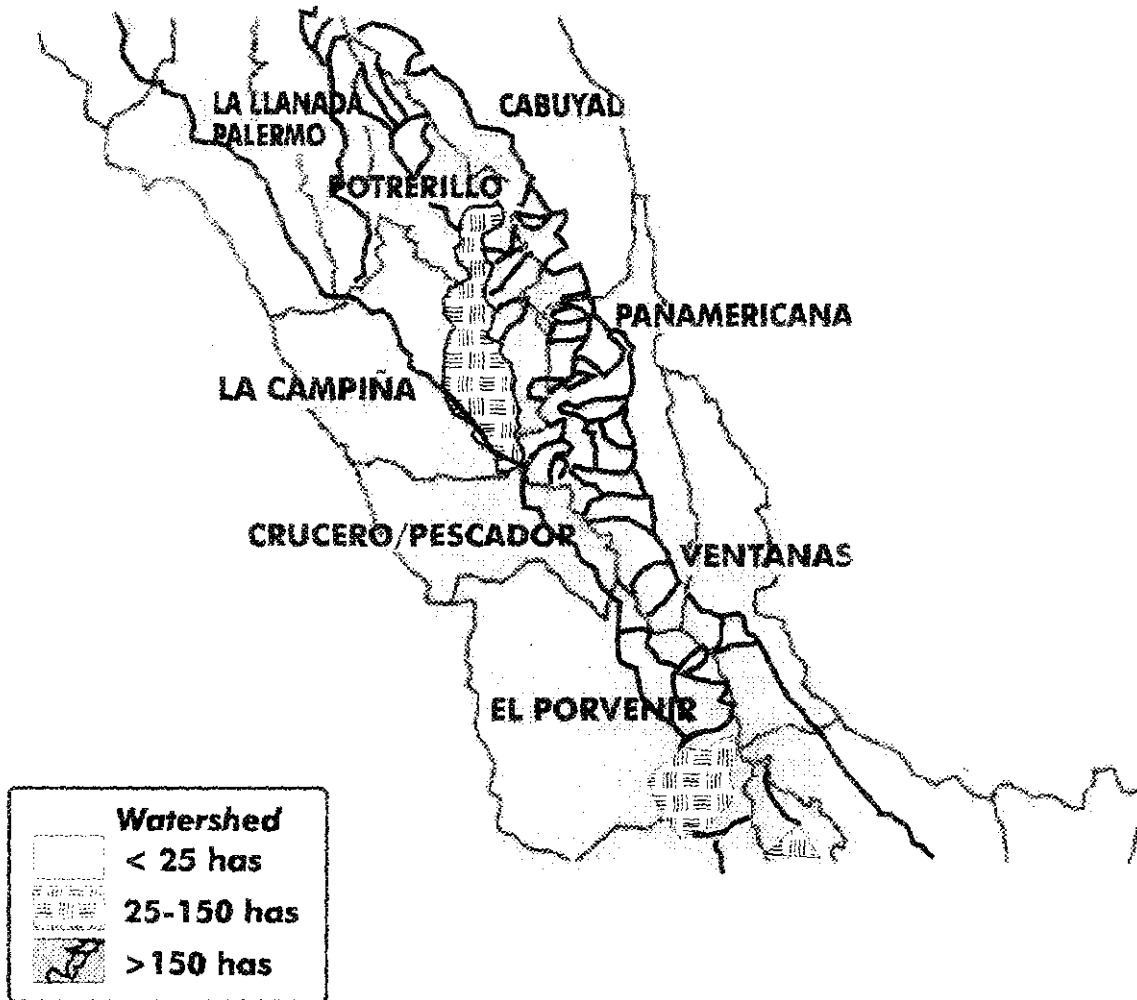


INTERDEPENDENCE IN THE CONTROL OF ANTS



SELECTION OF THE WORK AREA

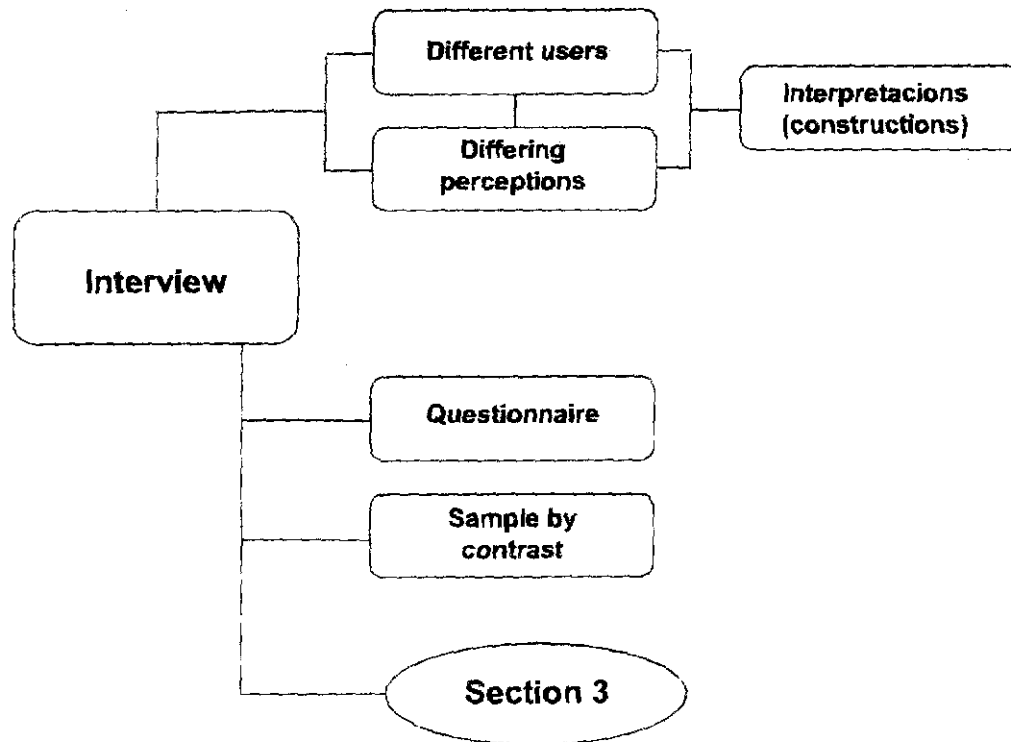
- Contiguous natural areas
- Between 25 - 150 ha
- Between 20 - 40 families
- Clarify other selection criteria



POSSIBLE SITUATION IN A WATERSHED



Structure of this Section



Objective

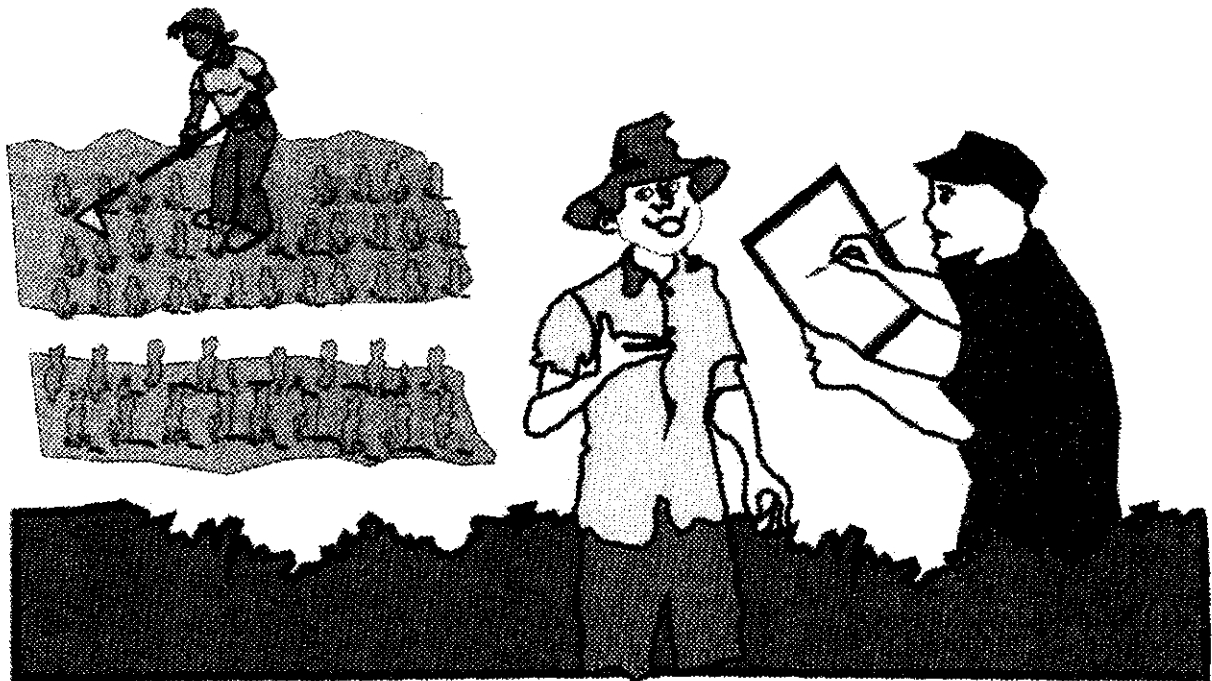
- ✓ After studying the concepts in this section, participants will be able to use the personal interview technique to elaborate an interpretation related to natural resources management in a small watershed.

Opening Questions

1. What could be one advantage and one disadvantage of personal interviews to explore the opinions of natural resource users?
2. What could be one advantage and one disadvantage of group interviews?
3. What do you think of personal interviews as a way to identify contrasting perceptions and concepts, and stakeholders?
4. How would you define the term "stakeholder"?

Section 2

Method for Identifying Contrasting Perceptions: The Personal Interview



2.1 Why do Personal Interviews?

In order to successfully manage natural resources in a watershed, it is important to identify and understand the different kinds of users, and stakeholders present in the watershed. In their book *Evaluation of the Fourth Generation*, Guba and Lincoln (1989) propose that the identification and analysis of stakeholders should be done as a constructivist open investigation. In the context of landscape management this is a process by which the users state their opinions, perspectives, fears and anxieties; that is, their interpretations related to the landscape and to the resources there in.

How can we obtain interpretations based on the personal problems of each user?

Personal interviews are recommended to explore what different stakeholders think about a given situation. Generally in large meetings with farmers, the whole community is invited, but the same people attend and, in the end, the burning problems can not surface the social barriers and group pressures. There is a fear of social punishment or public repression for having expressed or carried out actions that run against the established order. In many occasions, those who think counter the majority or against powerful individuals, or pressure groups, are not bold enough to participate or express their opinions in meetings. Also, there are shy farmers or those who culturally are not permitted to speak in public, such as women. All of the opinions and conflicts perceived by them would not be taken up in a large meeting.

Experience has shown that in collective meetings or assemblies, opinions are oriented to show that all of the users suffer the same problems, are homogeneous and are in agreement with all of the decisions. However, reality is different and disagreements are detected later over the use of resources from other stakeholders not represented in the meetings. For example, slash and burn near river beds or the uncontrolled use of chemicals are hidden in large meetings. Also, treating the conflicts of interest in a large meeting implies getting apart from the neighbours present, something that is not socially acceptable. In the Table 2.1 some of the characteristics of groups and personal interviews are compared.

2.2 Identification of Contrasting Perceptions

In order to facilitate personal interviews, we will use a format with six questions, (Annex 6.2). The first two questions explore personal use of resources and the perceived related problems. The next two, explore the way each of the interviewees sees his resources to be affected by others as a result of the interdependence with neighbours. In a fifth question, we try to motivate the interviewee to think about the possibility of collective action. The last question makes sure that all of the stakeholders are identified.

Table 2.1 Characteristics of personal and group interviews.

Personal interview	Group meeting
Simple method.	Underlying conflicts are not brought to light.
Less demanding with regard to techniques for facilitation, discussion and managing groups.	The more shy do not voice their opinions.
Data are easier to collect and manage.	Some sectors are afraid to stand up to the opposition.
The information shared tends to be more reliable.	Those who have taken differing positions against the establishment are afraid to be singled out.
Not subject to group pressure.	It is not socially acceptable to debate problems in public between neighbours and risk making enemies.
The reliability of the information can be easily verified.	

2.2.1 Who do we interview? Sample by contrast or by maximum variation

Each person interviewed is asked to name another watershed user who would be willing to present a personal different perception to that of the interviewee. By interviewing this person, the sample becomes what is called "contrast sampling or maximum variation sampling". The process of interviewing and asking for nominations of new interviewees is repeated until the information becomes redundant or gives origin to two or more unrelated or unpaired interpretations.

After each interview, the central topics, concepts, ideas, values, fears and proposals presented by the person interviewed are analysed by the interviewer and placed as the initial formulation of an interpretation. After the following interviewee voluntarily formulates his own perception, the topics suggested by the proceeding interviewee are introduced as interview material and the new interviewee can comment about these topics. The continual comparison and the analysis of contrasting and divergent points of view is one of the essential characteristics of the constructivist investigation and is a key factor when the aim is to identify the existence of conflict of interests.

For example, in La Recuperación, a small watershed of the Cabuyal River (see the example of variation between to neighbouring watersheds, No. 1.2), it was detected that the conflicts present in the area were related to the use of forest resources, the distribution of land caused by the variety of elevations and agroecological conditions in the area and the distribution of drinking water, including the sabotage of water pipes. The majority of those interviewed related these problems to the lack of effective organisation among the resource users.

2.3 How can we Clarify the Meaning of the Term “Natural Resources”?

Sometimes, the meaning of the term “natural resources” is not very clear to farmers. It may be that they perceive the term “resources” in its economic meaning, or perhaps they think that it only refers to trees (forest) or to water, leaving out resources such as soil, vegetation and fauna. In order to overcome this problem, it is advisable to begin the interview talking a bit about what natural resources are. It may be convenient to look for a place with a good view overlooking the watershed so that the talk is focused on what can be seen and about what natural resources are. Another way would be to use a drawing in order to illustrate a landscape (Figure 2.1).

It is convenient to mention those resources that are not perceived at a first glance by the eye, for example:

- What do you think about the birds, and their effect on the crops?
- What are those insects and what do they relate to?
- Climatic phenomena (wind, rain, drought)



Figure 2.1 Natural resources in a small watershed.

2.4 Toward a First Interpretation of Natural Resource Use and Conflict Management

When the interview process is finished, it is time for the interviewers to sit down and formulate a brief interpretation about the uses, the conflicts and the different stakeholders related to natural resource use, based on the perceptions that have resulted from the personal interviews. This version should keep the same framework as the interviews.

First

We try to establish what are the uses given to natural resources in the area.

Second

We describe natural resource use problems that are perceived in the area and the conflicts or disagreements present.

Third

We establish the way in which watershed users can be grouped according to the use they make of natural resources, the problems they perceive and their role or position in the conflicts or disagreements. In other words, we try to establish the different stakeholder groups that exist with respect to natural resource management in the area.

Sometimes stakeholder groups, coincide with other factors that characterise the natural resource users in the area such as, ethnic origin, sex, or area where they are located, high, middle or lower part of the watershed. Very often, there is no such coincidence of interests and characteristics, or at least this is not easy to perceive. Nevertheless, what is important is that the stakeholder groups are defined by the perceptions expressed in the personal interviews about natural resource use and related problems.

It is important to clarify that the fact that one group of users does not mention a problem, for example water contamination, does not mean that this group is not related to this problem. On the contrary, it may be the case that this group of users is the one that is actually causing the problem, not for themselves, but for other users of watershed resources. One of the challenges in the analysis of stakeholder groups is to clarify, not only who has problems but also who is causing them due to poor use of natural resources and, in this way, make evident the interdependence among users in an area. It is expected that from this analysis the need for collective action arises.

Exercise: 2.1 Interpretations from Personal Interviews

Objective

After completion of this exercise, participants will be able to elaborate an interpretation of the local situation, based on personal interviews.

Guidelines for the Instructor

1. Ask the participants to form couples.
2. Give each couple a copy of the exercise.
3. Ask participants to be prepared at the end of the exercise to share their results with the rest of the group.

Necessary resources

- Work sheet

Required time: 45 minutes

Exercise: 2.1 Interpretations from Personal Interviews Work Sheet

Instructions for Participants

Below you will find portions of seven personal interviews. They present the answers of seven users about the use of water.

Read each portion of the interview. Imagine that you are listening to a farmer. Each paragraph is marked by a number preceded by the letter F (farmer). Elaborate the interpretation (contrasting concepts/divergent topic/new contribution/conflict) and write it in the space provided for interpretations (I).

Save your interpretations for analysis with the group.

- F = Farmer/user
- E = Interviewer / technician
- I = Interpretation of the interviewer based on the personal interview

E1: How do you and your family use natural resources in this watershed?

F1: The water is our own, we have a pipe for each family. Our pipe comes down some 30 metres and brings water from our neighbours the Quilindos. But since we don't have the (economic) resources to build a collecting tank, we have made a reservoir in the ground.

E : How do you use the water from the streams? For washing? For irrigation?

F1: When the water gets to us, yes, we use it. Or when the plastic pipe breaks. Sometimes we also use it to wash the few clothes that we have.

E : Are there any fish in the stream?

F1: The people who have agave fibre crops kill the fish. Also, the neighbours who live down below here, but they are outside the watershed. The neighbour above washes clothes in the house. The water we use is clean; it comes from the spring.

E : When there are problems, do you drink water from the stream?

F1: Yes, but the neighbours above wash their clothes and the water comes to us dirty. The ones who wash the agave fibre, farther over there, do not affect us. People complain that sometimes the water doesn't come

There is no agreement; everybody has his own opinion. For example, a fellow named Juan goes to the meetings, then later he returns and tells us something different. When he translates from Spanish to his own language, he does it according to his own convenience.

I1: _____

F2: We have a hose, but sometimes it breaks; we should have a steel pipe. The water is used for cooking and washing. It comes from the spring at Santa Barbara. People have dumped agave fibre into the water in this stream (la Colorada) and we don't understand why nothing has happened to the new neighbours who have lakes with fish. They found wads burlap in the lakes. No one does anything because there is no agreement and we don't meet to discuss this problem. They just have their hoses that burst. Before, there was a problem of throwing rocks at the hoses, but not recently. Some 8 years ago, the water was coming with ground glass.

I2: _____

F3: For me, the lack of water is worse in summer; before I had problems with the hoses bursting and I fixed them with inner tubes, but now I have my own independent water. In the summertime, my water gets scarce because people are cutting the trees near the spring. The contractor who cuts the trees doesn't leave 10 metres without cutting around the spring. The local council said that they had some money to help up, but only if we joined with another community. But we have not been able to agree.

I3: _____

F4: I have to do everything by myself. We have water problems, we don't get enough water. At the spring there is water, but since we lack a hose, there is no water in our house. Pedro likes to disconnect the hose from the water tank and then it doesn't come. This also affects the neighbour below. The hose breaks and they splice in another piece to reconnect it. Since I live in the upper part and the water comes from down below, it doesn't make it up to me. In summer it gets scarce. We don't have a water tank.

We don't go to the meetings because the Council can never agree.

I4: _____

F5: Before, people drank contaminated water because they took it from down below. Now I take clean water from my own well. Sometimes I go to clean the well so that the water flows and the water pressure separates the hoses. I don't like the aqueduct because other people disconnect the hoses and there are lots of problems, but when they invite me to work I do participate. There have been problems about splicing the hoses. It has been necessary to have meetings and even reprimands. For this, some people have even tried to hit me; I don't want to use the water from the water systems to avoid having problems. It is the same community that throws dirt into the tanks. Two years ago, they also accused me of stealing, but I was found innocent. The problem is that these Indians are lazy. They are not like the Guambianos that really work. I am a Paez, but I don't like to associate with these people.

I5: _____

F6: They are reforesting with "nacedero", pine, and "carboncillo" in order to bring back the water. They though about raising fish in the lake because the water is clean. They bring the water by hose. The problem is to make a tank. Before they planned to make a family water system but now they want to make a tank for the whole community (some 50 families). A problem has been generated by people like Sofia. They don't accept to build the tank because they already have their own wells, but in the near future the water system project will be a necessity. For example, for washing coffee. I have been living in Cali and working in factories; I like to work with the institutions, to do what the new technologies recommend.

I6: _____

F7: The community needs help with the pipe to make the water system. The main pipe had 2 km of branches and was broken. I don't have water shortage problems. I have a house in the high part of another watershed; I have no water problems in summer, or contamination. Some other neighbours do not have the money to buy the hoses. I would prefer to work individually, I don't want a group credit because some people don't follow through with the work. Before, someone was throwing ground glass in the water but after talking to some boys from the area that was solved. People haven't been able to agree about the water system because some people say that the stream where they plan to take the water is too small. Others say to take it from the Cabuyal river, but that would raise the costs. Those people are in agreement with the Council but made a water supply project and the others ignored them even though they participate in all the meetings.

17:

Exercise: 2.1 Interpretations from Personal Interviews -Feedback

Below a series of possible answers is presented for each of the interpretations asked from the participants. It is important to note that there is no one correct answer. These are some of the various possibilities.

- 11: Some people have their own water and others do not. One has a water-collecting tank and others dig wells. There is a problem with the hoses that burst. Those in the upper part pollute the water of those below by washing in it. Those who wash the agave fibre kill the fish with the contaminated water. In summertime, very little water comes and doesn't make it to those down below. There is criticism of the Council for favouritism and a lack of agreement between themselves. There are some leaders who manipulate the community.
- 12: The hoses that bring the water often fail, they break. Those who grow agave for fibre, wash it in the water and kill the fish. No one has met to deal with this problem. There was a problem with glass and it was solved in several meetings.
- 13: In the summertime, the water gets scarce because some people have wells nearby for their needs and do not need the hoses. Other users cut the trees, which reduces the water flow in summer. They have difficulty in getting together and reaching agreements.
- 14: The women who are alone have more difficulty in solving their water problems. The problem of the hoses and the access to the water sources depends on the topography. Not everyone has a tank. Some have accused other users of sabotaging the water system pipes.
- 15: This man accuses another of disconnecting the hoses, but according to what he says he was accused of the same thing in the past. It appears that he does not consider himself a part of the community and has conflict with them. He also contributes the idea that the water that they take lower down is already contaminated.
- 16: This is a leader who has had outside contacts with institutions, and experiences in other departments. He likes to innovate. On the other hand, other users say that he manipulates the community.
- 17: This user is not interested in association. He tends to be more selfish. Once again we see that those up above have solved their water problems in contrast to those down below.

He contradicts the other opinions about the Council for Community Action. Problems about organisation are in evidence as are criticisms toward local institutions. The hoses are in bad shape and for this reason burst so frequently. Those in the upper part understand the problem of washing the agave fibre that kills the fish in tanks. But, once again, the people do not meet in order to find solutions, despite the fact that previously they had success in dealing with the problem of glass thrown in the water by those up above.

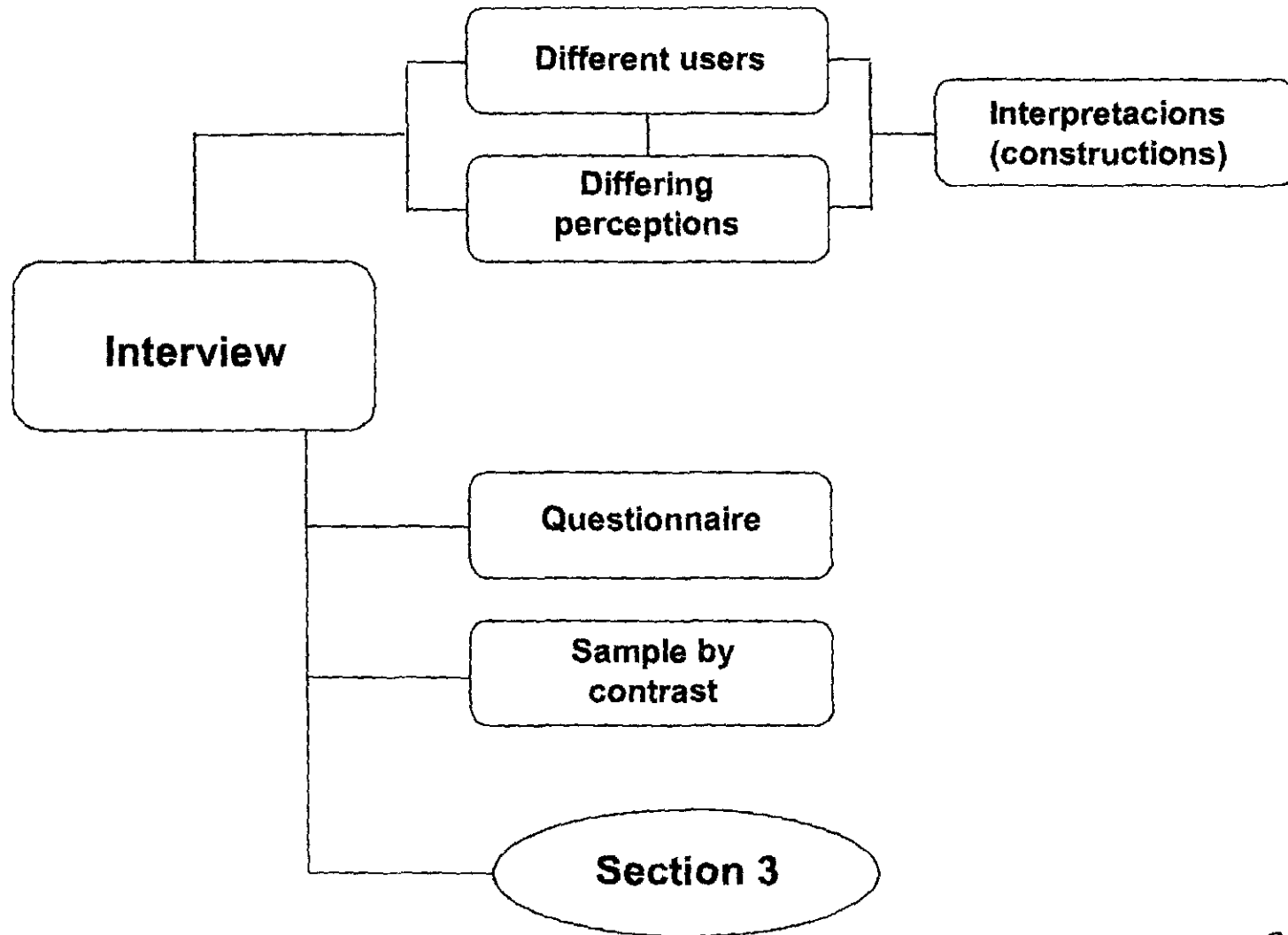
There are some sectors or interest groups in favour and others against the aqueduct.

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Originals for Transparencies

STRUCTURE OF THIS SECTION



OBJECTIVE OF THIS SECTION

- ✓ After studying the concepts in this section, participants will be able to use the personal interview technique to elaborate an interpretation related to natural resources management in a small watershed.

OPENNING QUESTIONS

1. What could be one advantage and one disadvantage of personal interviews to explore the opinions of natural resource users?
2. What could be one advantage and one disadvantage of group interviews?
3. What do you think of personal interviews as a way to identify contrasting perceptions and concepts, and stakeholders?
4. How would you define the term "stakeholder"?

SAMPLING FOR MAXIMUM CONTRAST AND FOR VARIATION STAKEHOLDER IDENTIFICATION

Questions

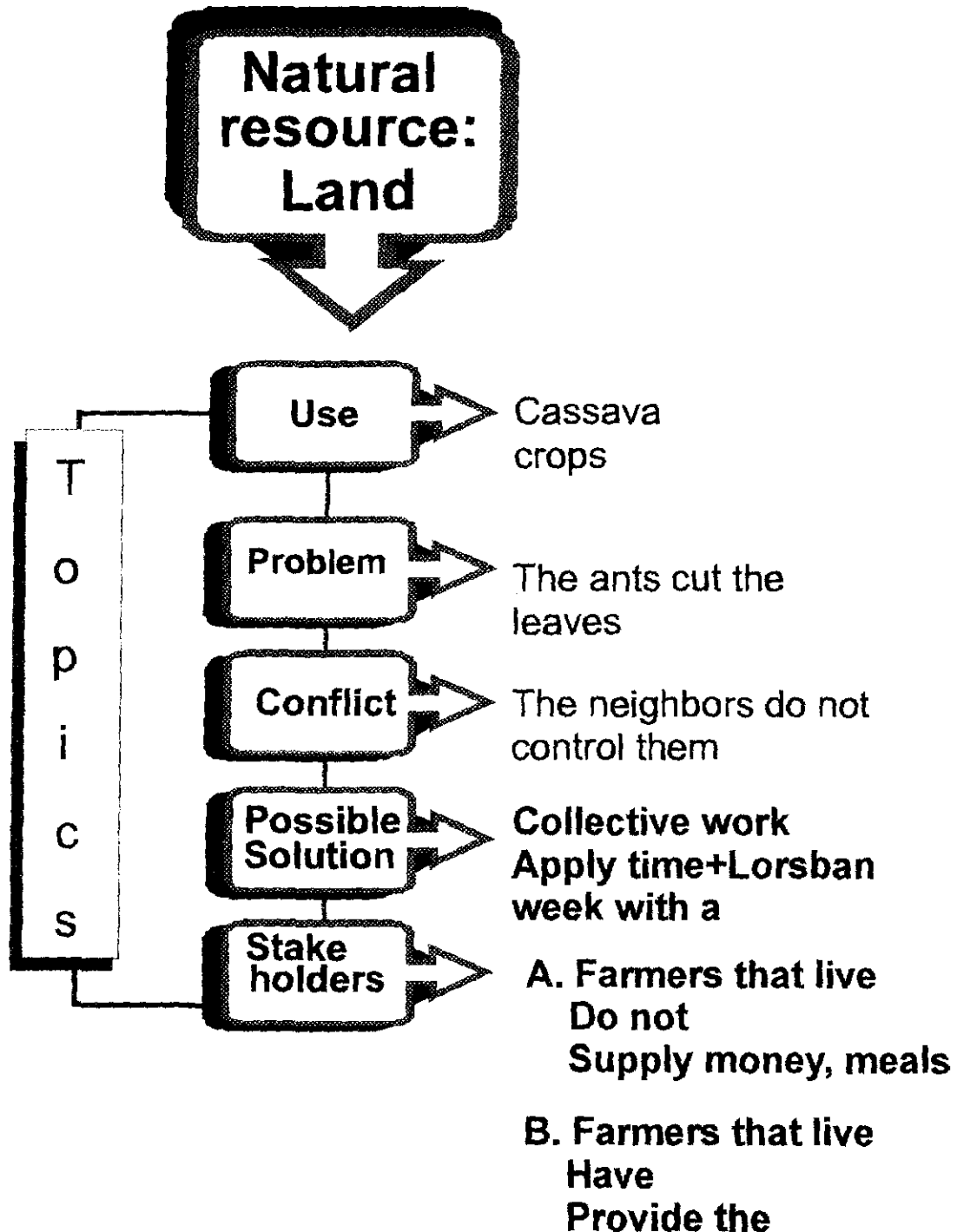
- 1** How do you use natural resources on this farm?
- 2** What problems do you perceive regarding natural resources?
- 3** What disagreements do you have in this region?
- 4** How does the use that other people make of natural resources in this zone affects you?
- 5** What is needed to solve these problems?

Objectives

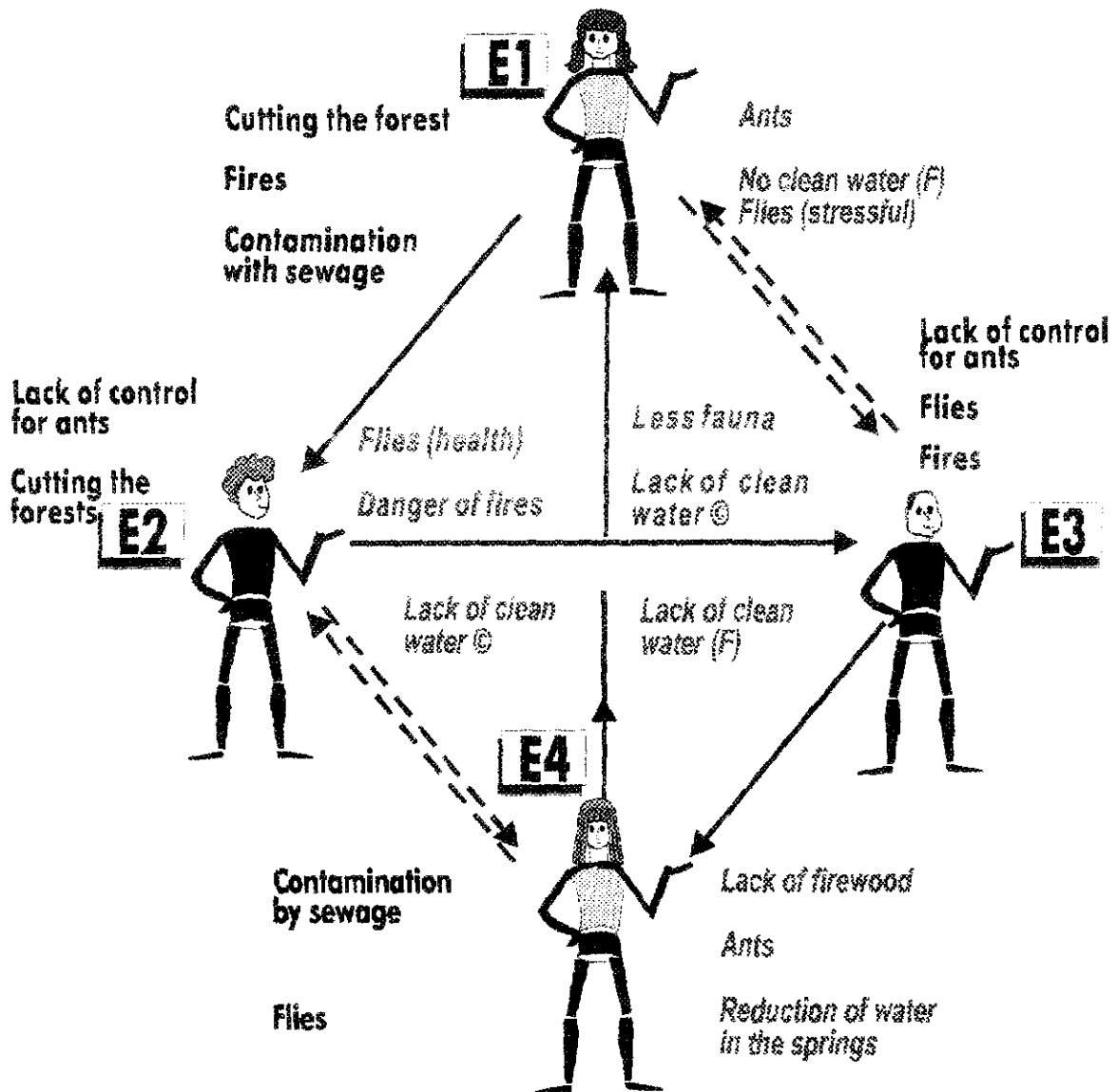
- 1+2:** To obtain an idea of the opinions and concerns of the users regarding natural resource use.
- 3+4:** Explore what are the effects of natural resource use by others in the small watershed.
- 5:** Stimulate the person interviewed to think about collective action.

PERSONAL INTERVIEW

Example of an interpretation

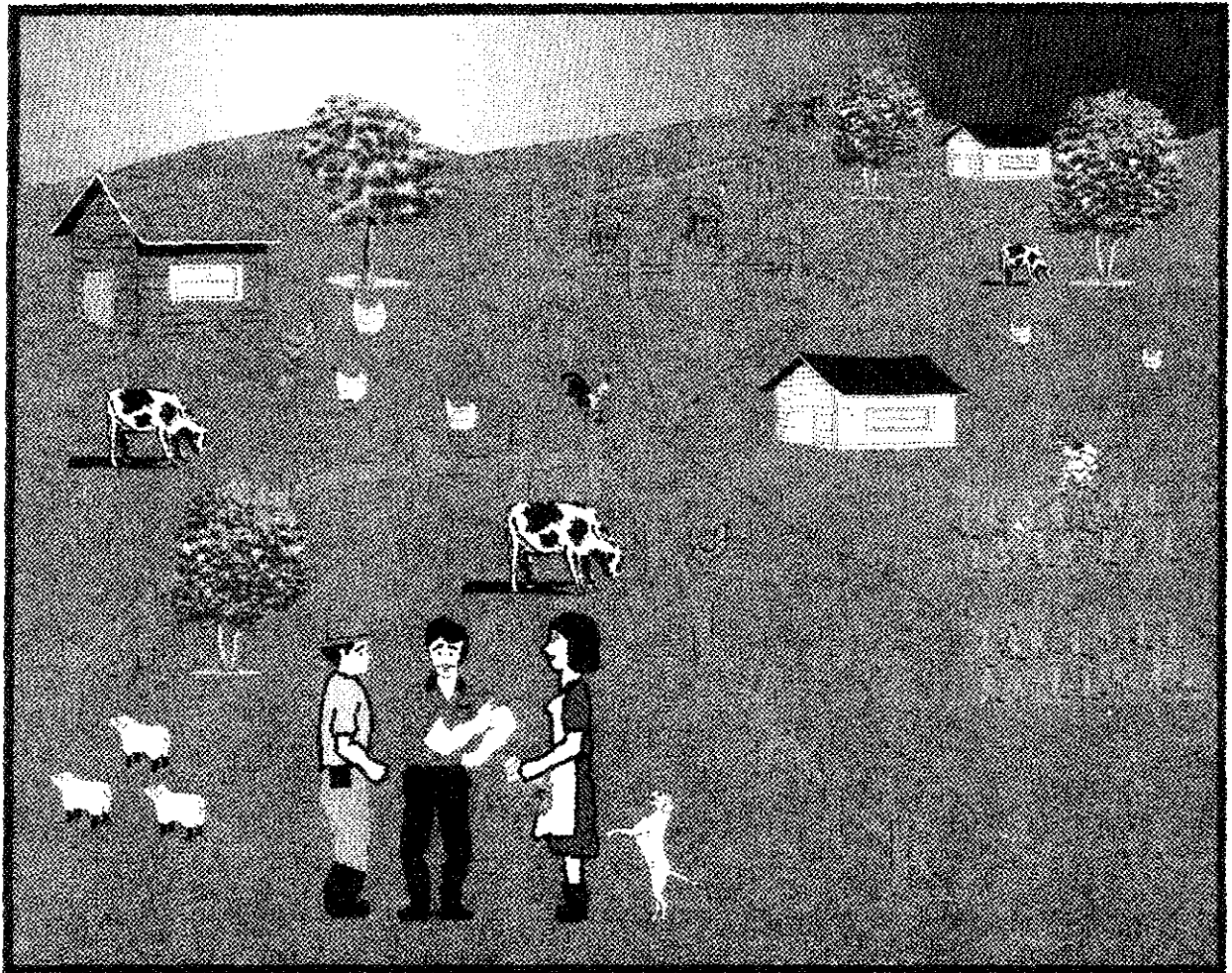


SAMPLING FOR MAXIMUM VARIATION AND CONTRAST



Section 3

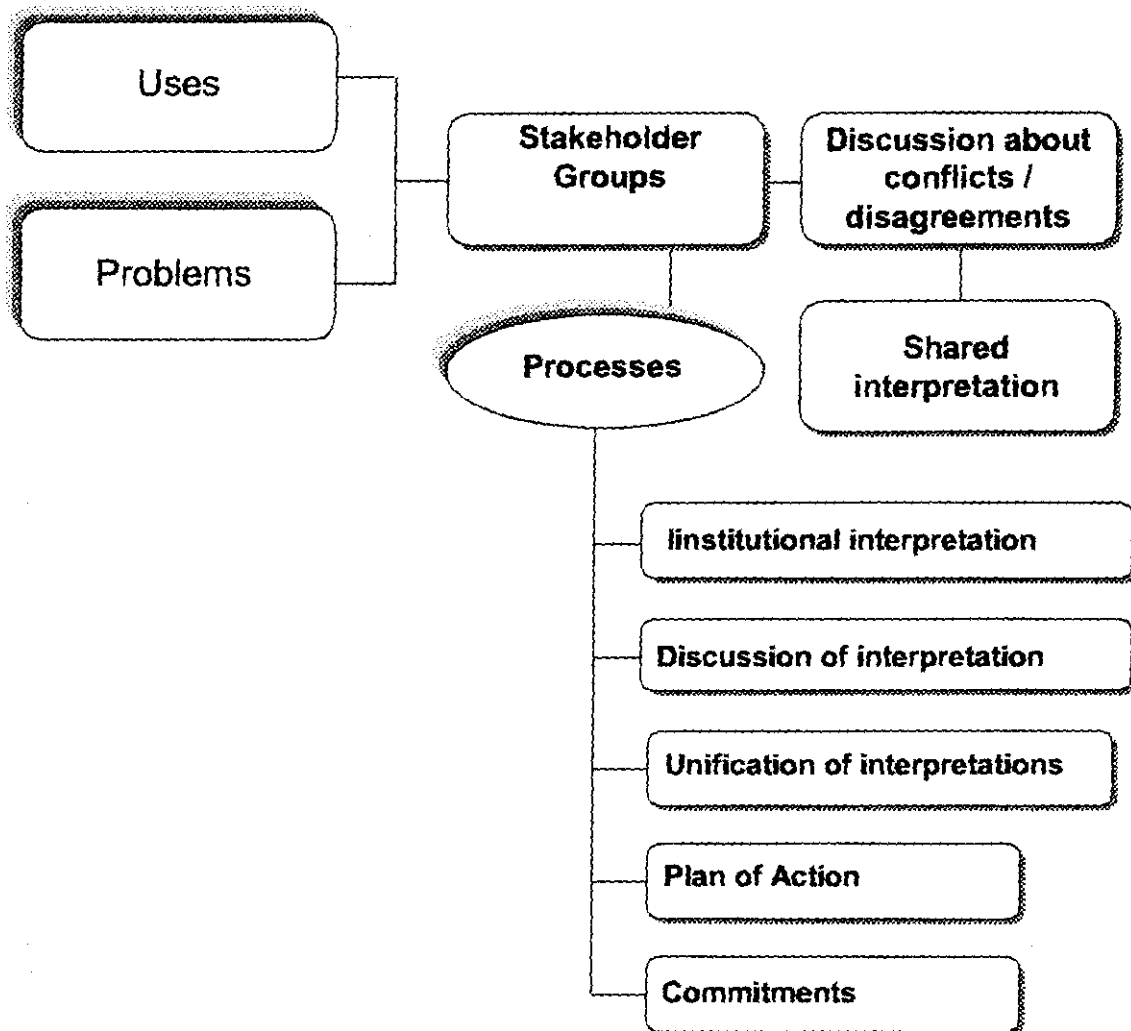
Identification and Discussion of Conflicts of Interest



Section 3. Identification and Discussion of Conflicts of Interest

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Structure of this Section



Objectives

At the end of this section the participants will be able to:

- ✓ Identify and evaluate the differing and opposing interests that determine natural resource management.
- ✓ Demonstrate the ability to bring conflicts about natural resources into the open, without jeopardizing the interviewees.
- ✓ Demonstrate the ability to open a dialogue about an adequate use of natural resources.

Opening Questions

1. How can we present the problems and conflicts in a small watershed?
2. How can we analyse the problems and conflicts related to natural resources in different stakeholder groups?
3. Why is it necessary to continue the process we have begun?

3.1 Opening the Discussion about Conflicts between Users of the Small Watershed

This section refers to the way the interpretation or construction made by the institution in a meeting with the participation of all watershed users is presented. This will be done during the second meeting.

As was mentioned previously, it is difficult to freely discuss in a large meeting any conflicts among neighbours. In many cases, this is simply not socially acceptable. For this reason, it is important not to commit the interviewees when the interpretation is formulated and presented. It is necessary to respect the fact that people in an interview may say things that they would not say in a large meeting.

On the other hand, the same social rules that prevent watershed users from speaking explicitly about existing conflicts do not apply to the institution that comes in from the outside. Therefore, one important role of the facilitating institution is to bring to light in front of all the users the conflicts that exist about natural resources, with the aim of opening dialogue and negotiation about proper use. The interpretation formulated by the institution is useful in this context.

3.2 Toward an Interpretation or Shared Construction about Natural Resource Use in the Watershed and the Related Conflicts

The interpretation made by the institution should not be presented in the second meeting as a final interpretation. On the contrary, during the presentation, the institution should emphasise that it has to do with an interpretation made by persons that do not live in the watershed, it may include misconceptions and mistakes. As in the first step, after having presented the interpretation or viewpoint of the institution, the participants are invited to make observations and comments about said interpretation, first in the plenary meeting and later in smaller groups, with the aim of modifying it.

As a part of the interpretation, the institution proposes a definition of what stakeholder groups are present, in its own perception. This proposal also is included for discussion among the participants in the second meeting. According to the results of this discussion, the users are divided into subgroups, already defined as interest groups. The challenge for these interest groups is to revise once again and to modify the interpretation presented by the institution. With the interpretations of the interest groups it is possible to arrive at a final version or interpretation, or the shared version or interpretation.

3.3 Discussion about Natural Resource Use, Problems and Stakeholders - Second Meeting

In this portion we explain how it is possible to arrive at a shared interpretation about natural resource utilisation and the problems that arise from natural resource use.

Objective of the meeting

The objective of this meeting is to present and modify the institutional interpretation about natural resource use in the watershed and the conflicts related to this use. This aims at creating a final or shared interpretation among all users. This shared interpretation serves the purpose of building the bases on which a plan of action can be developed to improve natural resources management as agreed upon by stakeholders. The following are the steps for the second meeting.

3.3.1 Clarification of expectations

The facilitator greets participants and clarifies the objective, both of the project in general and of the meeting in particular. If inhibitions to participate or fear to express opinions is perceived among the participants, a group dynamics exercise is recommended.

Required time: 20 minutes.

3.3.2 Presentation of the institutional interpretation about natural resource use and related conflicts

The facilitator presents the interpretation that has been based on personal interviews. This is done without compromising the interviewees, preferably without mentioning who was interviewed. It is convenient to use a graphic manner to present the institution's interpretation. If participants know how to read and write, part of the interpretation can also be presented in large titles followed by explanations. The graphic presentation should be as representative of the selected zone as possible. This is done by means of a drawing that shows the problems and conflicts related with natural resource use in each site, the location of the users affected and the causes of conflict. The written interpretation can be divided according to the different natural resources in the area or according to different stakeholder groups, and how these relate to each other because of the shared use of natural resources. The presentation of the institutional interpretation should provide an answer to the this question:

- In what ways are natural resources used and what are the problems related to such use?

In the presentation of its vision regarding the use and conflicts about natural resources, the institution places emphasis on the fact that they are dealing with an interpretation made by them and, therefore, it may contain mistakes and misinterpretations.

Required time: 15 minutes

3.3.3 Discussion and modification of the institutional interpretation Plenary session.

The facilitator invites the participants to make their observations and comments about the institutional interpretation with the purpose of modifying it. Any comment, positive or negative, is welcome. Due to the fact that this is done in plenary meeting it is possible that participation does not involve all people present. For this reason, the process should continue in the next step.

Required time: 15 minutes

3.3.4 Discussion and modification of institutional interpretation by stakeholder groups.

According to the results of the discussion in plenary session about the institutional interpretation and references made to stakeholder groups, the participants are asked to divide into groups that assemble the different stakeholders present.

The challenge for these subgroups is to discuss and modify once again those aspects of the interpretation that relate to them as stakeholders. The purpose is that the interpretation made by the institution corresponds, as much as possible, to their own interpretation.

The following questions serve to stir up the discussion in subgroups.

1. What is the nature of the problems described in the interpretation?
2. What are the causes of these problems?
3. What has been done to solve these problems?
4. What can be done now to solve these problems?

Required time: 45 minutes

3.3.5 Unification of the interpretations from stakeholders.

Once each stakeholder group has modified the institutional interpretation, a shared interpretation of all stakeholders is presented. All participants are invited to make comments about the modifications in search for a shared interpretation by all stakeholders.

In case difficulties to come to a shared interpretation are perceived a proposal is presented for negotiations to continue among stakeholders. A new meeting should be convened at another date to work on the shared interpretation.

Required time: 15 minutes

3.3.6 Proposal for future actions

The facilitator from the leading institutions thanks the participants for having completed a difficult task. Comments are made on the importance of listening and trying to understand the problems, perceptions and concerns that sometimes are opposite to one's own. Having arrived at a shared interpretation of natural resource management problems in their watershed is a first step to attempt joint efforts for an improve use of their resources. Once this mutual understanding has been reached, the challenge now is to develop an action plan to improve natural resource management, this time not in an individual basis, but in a coordinated manner. The facilitator also clarifies the ways in which his institution is willing to help out in this process.

Required time: 10 minutes

3.3.7 Final survey about the interest of the small watershed users in the project

In the first meeting a survey was made about the possible interest of the watershed users to participate in the project. Now is the time to run a new survey, in which participants state if they are interested in continuing with the project the institution has proposed to improve natural resources management through consensual, collective action. If participants say they are not ready to undertake this project, skip to point 3.3.9.

Required time: 10 minutes.

3.3.8 Commitments and next steps

In this part, the next steps to continue into another phase are defined. It is necessary to develop and implement an action plan related to the problems that have been identified. At times, it is necessary to make an inventory of the resources of the watershed and their use, or to evaluate the status of the resources. Sometimes new information from outside is required about possible solutions. Obviously, what to include in the following steps depends on the specific situation of each site.

Sometimes, when meetings are too long and the audience feels tired, it is recommended that a small group be elected representing all stakeholders to elaborate a work agenda for the next meeting.

Required time: 5 minutes.

3.3.9 Acknowledgements and closure

At the end of the meeting it is important to thank all, for taking the time to attend, especially to those who had to travel farther. It is also good to open a space so that the participants express their final perceptions and their expectations for future meetings.

Required time: 5 minutes.

3.4 A Basis for Action Proposals

The shared interpretation is the basis for the formulation of consensual action proposals that intend to improve natural resource management. It takes into account not only the perceptions and priorities of the local "elite" or the dominant groups, rather the perceptions and priorities of all watershed users.

Involvement of all stakeholder groups is a *'sine qua non'* requirement for consensual natural resource management. Ensuring participation requires facilitation to watershed users and to facilitators themselves. This is the beginning of a long process to improve the management of said resources. Now, negotiation begins among watershed users to formulate and implement concrete proposals to improve natural resource management.

Negotiation processes can be cumbersome and complicated. To really measure up to the problems perceived by stakeholders, it is not enough to work on proposals about which there is full consensus among the users. On the contrary, many times it is necessary to stimulate a negotiation about more controversial issues. The aim of this negotiation should be the search for commitment between conflicting interests and the associated mechanisms of compensation.

The role of facilitators is to keep negotiation going. They need to be creative so that users feel they have gained something out of their participation in the process. Gains may be in terms of changes in natural resource management, or in terms of the recognition they receive from their neighbours for having participated in the process, for their personal abilities, or for their willingness to make personal sacrifices to serve others in the community.

Facilitation and consensual processes have been little understood. There are no proven methodological proposals about their successful application. Recording concrete experiences, working together, and providing feedback across organisations that work on local capacity development may help build knowledge in regards to the identification of new methodological proposals.

Exercise 3.1 Analysis and Interpretation of Stakeholder Groups Role Playing

Objective

- ✓ To practice the analysis of opinions by different stakeholder groups, in relation to natural resource management

Guidelines for the Instructor

This exercise can be carried out by different work groups, in different contexts and countries, where training on this topic is being done. For example, the exercise can be oriented so as to apply to the steps in the analysis of different interests and opinions about the management of a small watershed, with persons or groups that share the same problems. In some cultures words such as 'natural resources' are not understood and it is necessary to begin the interview with a survey to clarify this term.

The methodology to be utilised consists of the playing of roles and is based on a case study. Examples used in this exercise were taken from real life, but can be replaced by examples more familiar to the specific context where the workshop is being held.

In the following chart there is a distribution of the different steps, methods, procedures and time to allocate to each step.

Suggested total time: 2 hours

Summary of Steps in the Exercise

Step	Format	Instrument	Procedure	Time
1. Identify groups. <ul style="list-style-type: none"> • Four representatives of the interest groups and four interviewers. • Read the case study and the manuscript. 		<ul style="list-style-type: none"> • Case study • Manuscript for the representatives of the interest groups. 	<ul style="list-style-type: none"> • Organise the participants in groups • Hand out the case study and the manuscripts. 	15 minutes
2. Identify diverse opinions.	<ul style="list-style-type: none"> • Interviews 	<ul style="list-style-type: none"> • Questionnaire about opinions 	<ul style="list-style-type: none"> • Each team of interviewers questions two representatives of stakeholder groups. 	30 minutes
3. Formulate the interpretation of NRM problems and involved stakeholders.	<ul style="list-style-type: none"> • Written document following the format 	<ul style="list-style-type: none"> • Guide for interpretations 	<ul style="list-style-type: none"> • Team of interviewees and interviewers do the interpretation 	30 minutes
4. Presentation of the interpretations.	<ul style="list-style-type: none"> • Plenary meeting 	<ul style="list-style-type: none"> • Discussion 	<ul style="list-style-type: none"> • Compare the different interpretations 	30 minutes
5. Feedback on interpretations.	<ul style="list-style-type: none"> • Plenary meeting 	<ul style="list-style-type: none"> • Discussion 	<ul style="list-style-type: none"> • Synthesis of advantages and disadvantages of the instrument. 	15 minutes

Exercise 3.1 Analysis and Interpretation of Stakeholder Groups Role Playing

Step 1: Identify the Groups

Guidelines for the Instructor

1. Select four members from the group (two males and two females) who will represent four stakeholder groups in the area. Stakeholder groups are defined by their relation to the use of resources (each stakeholder relates more closely to one natural resource) and the management of related problems. Select actors according to their previous experiences and their ability to act in an articulate and creative manner. Hand out the case study and the agenda to the four representatives of stakeholder groups one day before the exercise and dedicate enough time to discuss the roles with them.
2. Hand out the case study to all the participants.
3. Allow enough time so they can familiarize themselves with the case (15 minutes).
4. Distribute tables and chairs for the actors according to Figure 1 (or according to the physical limitations of the room). Divide the rest of the participants into four groups of interviewers by counting from 1 to 4.
5. Tell participants they will do an interview to the person in each table. Each interview should not last more than 15 minutes. The instructor will keep time and signal the time to begin.
6. Hand out the interview guide to the groups of interviewers.

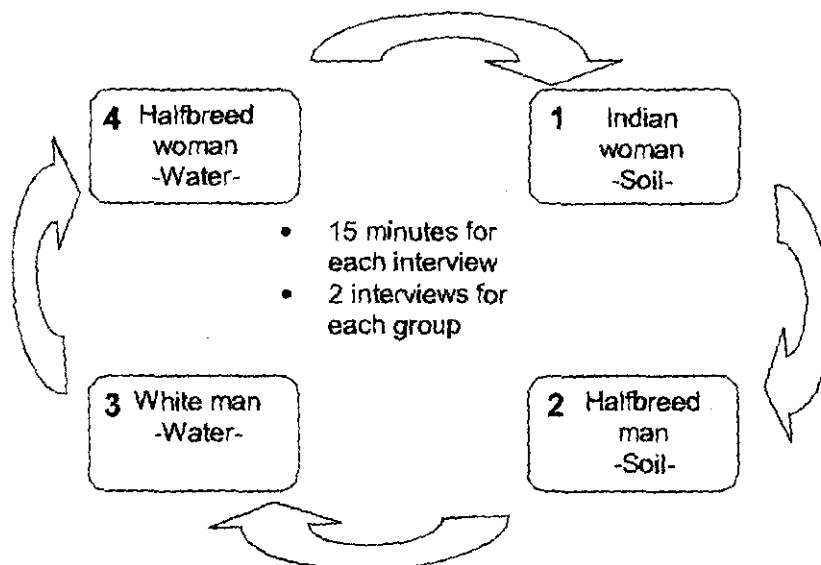


Figure 1. Organisation of the participants in the room.

Necessary resources

- Copies of the case study for all participants.
- Copies of the case study and of the manuscripts for representatives of stakeholder groups.
- Copies of the interview guides for the interviewers.

Suggested time: 30 minutes.

Exercise 3.1 Analysis and Interpretation of Stakeholder Groups Role Playing - Case study

Two cases of conflicts over natural resource management.

Introduction

This case deals with a small watershed in Latin America. The watershed 'Simuland' has 140 hectares and is home to 40 families with an average of five people per family. The watershed is heavily populated in the middle and lower zones, but is less populated in the upper part. The watershed holds different stakeholder groups in terms of culture, land ownership, gender and natural resource use. Analysis focuses on the latter aspect, although it relates to the others.

Regarding ethnic cultures, one group is made up of Indians, another of "mestizos" (people of mixed blood, white and Indian), and another group of whites. Most of the Indians and the whites have their own land, while some of the mestizos must rent land that belongs to the whites. All of the Indians and most of the mestizos depend on agriculture as their only income, while the poorest and those without land must work on someone else's farm as a source of income for survival.

The white people live in the upper part of the watershed, the mestizos in the middle and the Indians in the lowest part of the watershed.

During the analysis, two main conflicts over natural resource management were identified, in addition to two lesser conflicts. The two main ones deal with quality and shortage of water, erosion and soil degradation.

Exercise 3.1 Analysis and Interpretation of Stakeholder Groups Role Playing Work Sheet No. 1

Instructions for representatives of stakeholder groups

Person in favour of soil conservation practices

You have been selected to represent one of the stakeholder groups in a small watershed called 'Simuland'. Below you will find the description of the role that you will have to represent. This description is based on the needs of the roleplay. However, we invite you to develop your role in a creative way, obviously without changing completely the character of the person represented. We appreciate your collaboration.

You represent an Indian woman that shares interests with the rest of the Indian population. You have worked hard all of your life to apply soil conservation techniques to protect the land. You and your family have benefited from the technical and economic assistance obtained from the local Indian bureau. But this is not enough to stop the flow of water and soil from the upper part of the watershed. Things are getting worse due to pressure from population growth. The land is being washed away and the water is contaminated. You think that the mestizo women and children should be forced to work, and to use conservation measures, or that all of the inhabitants of the watershed should join to receive economic and technical support from the municipal government. You do not understand why it is so hard to organise the people in the watershed. Nor you understand why your people have to tolerate the problems caused by other people.

Regarding water, you are in favour of building an aqueduct, because the children get sick by drinking water from the lower river. It is contaminated. You share interests with the rest of the population in the lower and middle parts of the watershed, except for those who have direct access to the water above.

Exercise 3.1 Analysis and Interpretation of Stakeholder Groups Role Playing Work Sheet No. 2

Instructions for representatives of stakeholder groups

Person in favour of soil conservation practices

You have been selected to represent one of the stakeholder groups in the small watershed 'Simuland'. Below you will find the description of the role that you will have to represent. This description is based on the roleplay needs. However, we invite you to develop your role in a creative way, obviously without changing completely the character of the person. We appreciate your collaboration.

You represent a mestizo man and share interests with most of the families of your race. You perceive soil erosion as a problem because it destroys the fertility of the land. Long ago this problem was less severe, because everyone left the land fallow to rest. You believe that the increased erosion is due to the invasion of the Indian people and the increase in population, which puts more pressure on natural resources.

You are in favour of soil conservation practices and know that hand labour, technical and economic assistance are important elements for solving this problem. But you will not allow women and children to work on the field. Women should cook and keep the house, and children should have the opportunity to go to school. Additionally, for no reason whatsoever you wish to organise together with the Indian population, not even to receive technical and economic help from the municipal government. The Indians invaded a piece of your land some 15 years ago. You were not using the land at that time, but you still consider it yours and nowadays you need virgin land to compensate for the loss in fertility.

Regarding water, you agree that an aqueduct should be built, because water is scarce in summer.

Exercise 3.1 Analysis and Interpretation of Stakeholder Groups Role Playing Work Sheet No. 3

Instructions for representatives of the interest groups

Person in favour of an aqueduct

You have been selected to represent one of the stakeholder groups in the small watershed 'Simuland'. Below you will find the description of the role that you will have to represent. This description is based on the roleplay needs. However, we invite you to develop your role in a creative way, obviously without changing completely the character of the person represented. We appreciate your collaboration.

You are a mestizo woman, and the main problem where you live is the lack of clean water in the summer. In this regard, you share interests with most of the mestizos and Indians. Your children get sick from drinking the water from the lower portion of the river and you suffer back pains because you have to carry water from the river to your house. You participated in the meeting where the municipal government offered to help build an aqueduct, which would carry water from the spring above to down below the watershed. You think that this was a good idea, but don't think that it will ever be accomplished, because the owner of the spring does not want to share it and besides is very good friends with the Mayor. He will give money to the Mayor for his re-election campaign.

You think that the organisation of all the people in the watershed, both mestizos and Indians, would help to solve the problem. You know that your husband is opposed to the idea, because the Indians invaded part of his land many years ago. Even so, you think that if there is organisation there will be pressure on the politicians, because elections will be held within a year. Also, you think that it is time to forget old conflicts, and mention in passing that your best friends are Indian women.

You think that soil erosion is a problem and that conservation practices should be adopted, but do not know how this can be achieved.

Exercise 3.1 Analysis and Interpretation of Stakeholder Groups Role Playing Work Sheet No. 4

Instructions for representatives of stakeholder groups

Person opposed to the aqueduct

You have been selected to represent one of the stakeholder groups in a small watershed called 'Simuland'. Below you will find the description of the role that you will have to represent. This description is based on the roleplay needs. However, we invite you to develop your role in a creative way, obviously without changing completely the character of the person represented. We appreciate your collaboration.

You represent a white man. You have no natural resource management problems, because you have enough land and water. In this aspect, you are different from most of the population in the watershed and only share a few interests with them. But this does not bother you, because you are wealthy and have powerful friends in the mayor's office.

You participated in the meeting where some technicians from the municipal government proposed the construction of an aqueduct to solve the problem of water shortage. You opposed the proposal and strongly defended your position. Your argument was that there is not enough water for everyone by any means and that the real problem is that they are cutting the trees near the spring. But you well know that some of the large farmers use most of the water from the spring to irrigate the land and feed their cattle.

With respect to erosion, you have no problems and do not understand why the people do not organise in order to obtain economic and technical help from the municipal government. It demonstrates how disorganised they are. In general, you believe that people remain poor because they are bound to old traditions and do not have vision. It is their own fault.

Exercise 3.1 Analysis and Interpretation of Interest Groups

Step 2 : Analysis of Opinions

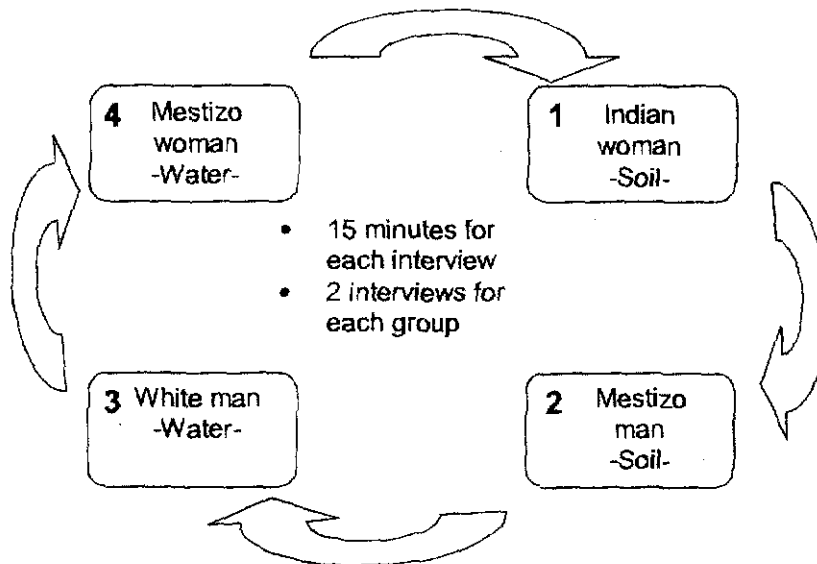
Objective

- ✓ Apply the steps of a process for the analysis of opinions from different groups, in relation to natural resource management

Instructions for interviewers

1. Read the case study.
2. Organise four groups and select a person to tabulate the responses.
3. Use the interview guide to interview two of the participants, who represent a stakeholder group.

Use 15 minutes for each interview.



Exercise 3.1 Analysis and Interpretation of Stakeholders Role Playing Work Sheet No. 5

PERSONAL INTERVIEW

Name of the interviewee: _____

Interviewers: _____ Team: _____

QUESTIONS

1. What are the problems that you and your family have regarding natural resources?

2. Can you mention some examples of disagreements about natural resource use that you have in this zone?

3. Are you affected by the use that other people give to the natural resources (water, forest, soil) in this zone?

4. In your opinion, what is needed to solve these problems?

5. Can you give the name of a neighbour who has an opinion different from yours?

6. Why do you think he would have a different opinion from yours?

Exercise 3.1 Analysis and Interpretation of Interest Groups Role Playing Work Sheet No. 6

Step 3: Form to elaborate interpretations

Subgroup: _____

Introduction

The synthesised interpretation is elaborated using the perceptions that have come out of the personal interviews. In formulating and presenting it any mention of the names of the people involved (interviewees) should be avoided. The interpretation should bring to light, in the presence of all participants, the disagreements that exist with respect to natural resource use. The aim is to open a dialog and prepare for negotiation to improve the situation or agree on a solution to the problem.

Instructions for the Participant

After interviewing two people that represent different interest groups, each team of interviewers should prepare an interpretation. To do this:

1. The representatives of stakeholders group with their respective interviewers.
2. The interpretations are written on the attached form.
3. A speaker is selected who presents the elaborated interpretation to the rest of the group. If possible, try to design the interpretation in a graphic manner. Make a drawing instead of writing.

QUESTIONS

1. What are the problems caused by the use of natural resources?

2. What solutions have been suggested to confront these problems?

3. What are the conflicts or disagreements that these people face in the watershed?

4. What interest groups can be identified? What characteristics define these groups?

Exercise 3.2 Analysis and Interpretation of Stakeholder Opinions Case Study ⁽¹⁾

Objective

Apply the steps of a process for the analysis of opinions from different groups, in relation to a topic of common interest

Introduction

Step 1

This exercise has been designed to be carried out by different work groups in different contexts and countries, where training is done. For example, the exercise can be carried out to apply the steps of a process for the analysis of different interests and opinions about the management of a small watershed, with people or groups that share the same problems.

The methodology used in the exercise is that of a case study. The examples have been taken from real life, but we encourage you to replace these with examples related to the specific context where the workshop is held.

Guidelines for the Instructor

1. Divide the participants in subgroups of 3 to 6 people trying to get a good mix of sex, age and educational level.
2. Pass out the case study and the questions that are to be answered.
3. Encourage participants to share their opinions. The differing opinions should appear in the final analysis.
4. Collect the forms with the tallies.

Resources Needed

- Copies of the case study
- Copies of the questions to be answered
- Estimated time for this step: 30 minutes

Total time suggested: 2 hours 30 minutes

⁽¹⁾ This exercise is recommended as an alternative to the preceding one (Exercise 3.1). The instructor decides about its use depending on local circumstances.

Summary of Steps in the Exercise

Steps	Format	Instrument	Procedure	Time
1. Share the opinions of the participants about different ways to resolve conflicts in natural resource management.		<ul style="list-style-type: none"> • Case study and questions to be answered. 	<ul style="list-style-type: none"> • Organize participants in groups of 3 to 6. • Answers and discussion about a topic of common interest. • Tabulation of the results from the questions. 	30 minutes
2. Analysis of results	<ul style="list-style-type: none"> • Analysis made by the facilitators 	<ul style="list-style-type: none"> • Answers 	<ul style="list-style-type: none"> • Analysis of the tabulated answers. Selection of interviewers and interviewees. 	15 minutes
3. Identification of differing opinions	<ul style="list-style-type: none"> • Interviews 	<ul style="list-style-type: none"> • Questionnaire about opinions 	<ul style="list-style-type: none"> • Each team of about 5 interviewers questions two people. 	30 minutes
4. Formulation of the synthesized interpretation	<ul style="list-style-type: none"> • Written elaboration following the format 	<ul style="list-style-type: none"> • Guide for making interpretations 	<ul style="list-style-type: none"> • Team of interviewers and interviewees does the interpretation. 	30 minutes
5. Presentation of interpretations	<ul style="list-style-type: none"> • Plenary meeting 	<ul style="list-style-type: none"> • Discussion 	<ul style="list-style-type: none"> • Comparison of different interpretations. 	30 minutes
6. Feedback information	<ul style="list-style-type: none"> • Plenary meeting 	<ul style="list-style-type: none"> • Discussion 	<ul style="list-style-type: none"> • Synthesis about the advantages and disadvantages of the instrument. 	15 minutes

Exercise 3.2 Analysis and Interpretation of Interest Group Opinions Case study

Two cases of conflicts over natural resource management.

Introduction

This case deals with a small watershed in Latin America. The watershed 'Simuland' has 140 hectares and is home to 40 families with an average of five people per family. The watershed is heavily populated in the middle and lower zones, but is less populated in the upper part. The watershed holds different stakeholder groups in terms of culture, land ownership, gender and natural resource use. Analysis focuses on the latter aspect, although it relates to the others.

Regarding ethnic cultures, one group is made up of Indians, another of "mestizos" (people of mixed blood, white and Indian), and another group of whites. Most of the Indians and the whites have their own land, while some of the mestizos must rent land that belongs to the whites. All of the Indians and most of the mestizos depend on agriculture as their only income, while the poorest and those without land must work on someone else's farm as a source of income for survival.

The white people live in the upper part of the watershed, the mestizos in the middle and the Indians in the lowest part of the watershed.

During the analysis, two main conflicts over natural resource management were identified, in addition to two lesser conflicts. The two main ones deal with quality and shortage of water, erosion and soil degradation.

Water access

The population has access to water provided by two rivers. The first comes from a spring in the upper part and is clean, while the second flows through the lower part and is contaminated. This lower river has its origin in another area, more densely populated, outside this watershed.

Everyone prefers the water that comes from the upper part of the watershed, because that from the lower river is hazardous to health. The main problem has to do with the fact that the good water from the watershed's river is in short supply, especially in the summer. The spring is located on the property owned by a white, but he allows his neighbours and the people nearby to collect as much water as they wish. These people, living in the upper part have sufficient water for their houses and for their animals, but it is in short supply for the people in the middle and lower areas. In summer, these people have to drink the water from the contaminated river. They suggest the construction of an aqueduct in order to distribute the clean water from the watershed river in a fair manner. They have presented their plan to the municipality and are willing to support the project, both technically and financially.

The people in the upper part claim that they need the water for their houses, crops and animals. On the other hand, they do not have access to the river in the lower portion and if the aqueduct is build, they will not have enough water for their crops and animals. As a result, their production will be reduced and they will not have enough money to employ the landless people who come from the lower part of the watershed.

The area around the spring has forests that protect the water. However, the small farmers who live in the middle part and use all of their land for crops go to the forest and cut the trees for firewood. Therefore, each year there is less water in the river and the problems due to lack of pure water are becoming more intense.

Soil conservation

The soil in this area is light and fragile; there is a lot of rain during the winter, which increases erosion. To control erosion, the Indian population in the lower portion of the watershed has applied some conservation techniques, such as live barriers and terraces. The technical and economic support to do this has been directed by the Indian bureau. Work related to soil conservation and to most of the crops is done by women and children, while weeding and harvest are the responsibility of men.

On the other hand, the mestizos in the middle portion of the watershed do not practice soil conservation techniques. When it rains, the water and the soil it carries accelerate erosion, not only for this middle part but also for the Indian farmers lower down. Additionally, this water runoff contaminates the watershed river.

The mestizo men do all of the fieldwork, while women take care of the home and children according to their culture. Children over 8 years of age go the local school. The mestizo men do not have enough money to practice soil conservation measures, and day-labour work is scarce. This is especially true for the poorest farmers, who must seek work on the farms of the more wealthy people in the upper part of the watershed. The municipal government is willing to offer technical and economic assistance to these farmers, if they will organise. But the mestizos do not want to organise with the Indians, because of their different culture and religion, and because the Indian population has been on the land for 15 years. Additionally, the mestizos do not want to organise themselves internally, due to conflicts over water access.

If the land were left fallow to rest it would be possible to solve the problem, but the mestizo farmers have only small plots of land, because most of the land is owned by the richest farmers in the upper part of the watershed.

Exercise 3.2 Analysis and Interpretation of Stakeholders Opinions - Case study

Objective

Apply the steps of a process for the analysis of opinions from different groups, in relation to a topic of common interest

Instructions for the Participant

Step 1

In Step 1 participants express and analyse their opinions about the way to resolve conflicts related to natural resource management in a small watershed.

Two conflicts related to natural resources will be selected. The participants will be grouped according to age, sex and educational level. The opinions expressed should be included in the format provided. The opinions that arise about the two cases in which there are conflicts about natural resources should be put forward.

1. Form groups of three to six members.
2. Have them read the case study and select one person to record opinions.
3. Discuss and respond to the three questions on the following page.
4. The differing opinions within the groups should be expressed on the form with the names of the persons who disagree.
5. Give the tallied answer sheet to the facilitator.

Exercise 3.2 Analysis and Interpretation of Interest Group Opinions

Case study

Worksheet No. 1

Names of group members: _____

What are the problems related to: (1.1) the shortage of water and (1.2) soil conservation these people face?

1.1 _____

1.2 _____

What stakeholder groups can you identify and how do they affect each other as a result of the use they make of natural resources?

Select one of the solutions below and present its advantages and disadvantages (consider all of the different opinions of the group).

Possible solutions to the problem of water access:

Build an aqueduct. This way everyone will have clean water.

Advantages: _____

Disadvantages: _____

Names of the group members who prefer this solution: _____

Offer a colonization program to the people from the lower part of the watershed in order to halt the increase in population density and the pressure on water sources. There is free land and credit programs for farmers.

Advantages: _____

Disadvantages: _____

Names of the group members who prefer this solution: _____

3. Protecting the forest will not solve the problem of water access, but it will protect the existing water sources.

Advantages: _____

Disadvantages: _____

Names of the group members who prefer this solution: _____

Possible problems about soil conservation:

1. To solve the problem of lack of labour, the mestizo women and children are asked to do field work.

Advantages: _____

Disadvantages: _____

Names of the group members who prefer this solution: _____

2. The land is to be distributed more fairly to allow small farmers to leave some land fallow and reduce erosion.

Advantages: _____

Disadvantages: _____

Names of the group members who prefer this solution: _____

3. The municipal government is asked to offer technical and economic assistance for soil conservation, without demanding that there is a farmers' organisation to receive it.

Advantages: _____

Disadvantages: _____

Names of the group members who prefer this solution: _____

Exercise 3.2 Analysis and Interpretation of Stakeholder group Opinions Case study

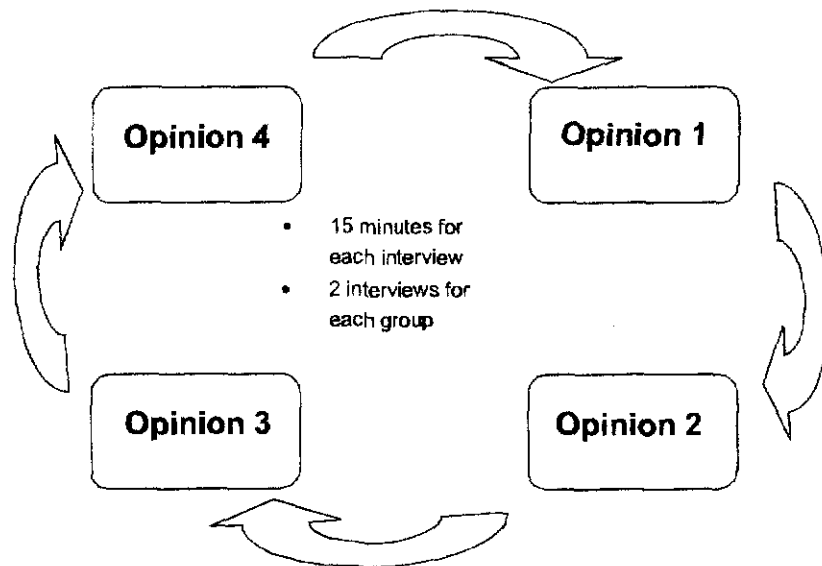
Objective

Create a situation for maximum variation of interests and opinions

Guidelines for the instructor

Step 2

1. Analyse the answers obtained from the discussion groups.
2. Select 4-5 participants with very different opinions about how to resolve the problems of water access and soil conservation. These participants will represent the different stakeholder groups in the following personal interviews.
3. Inform the participants who represent each stakeholder group, and place them in a square according to the following drawing (adjusting to the physical limitations of the room). Tell the participants that they represent stakeholder groups and that they should defend their opinions and argue in favour of these when interviewed.



4. Randomly divide the rest of the participants in 4 or 5 groups (according to the number of stakeholder groups selected above). Explain to them that their job will be to interview two interest groups, before making an interpretation of opinions, advantages, and disadvantages. Inform the participants that each interview should not take more than 15 minutes. Also inform them that they should not attempt to argue with the stakeholder groups; rather just accept their opinions.

Necessary time: 15 minutes

Exercise 3.2 Analysis and Interpretation of Stakeholder Group Opinions

Case study

Worksheet No. 2

Step 3: Personal interview

Instructions for the Participant

Interview two representatives of the stakeholder groups.

Time required: 15 minutes per interview.

Name of the interviewee: _____

Interviewer: _____ Team: _____

Questions:

1

a. What solution do you prefer for the water access problem?

b. What would be the consequences of this solution?

c. Why do you prefer this solution to other possibilities? (advantages and disadvantages)

2

a. What solution do you prefer for soil conservation?

b. What would be the consequences to adopt this solution?

c. Why do you prefer this solution to the others? (advantages and disadvantages)

d. Can you name a participant in this workshop who has an opinion different from yours?

e. Why do you think he has a different opinion from yours?

Exercise 3.2 Analysis and Interpretation of Interest Group Opinions

Case study

Worksheet No. 3

Step 4: Form to elaborate interpretations

Subgroup: _____

Introduction

The synthesised interpretation is elaborated using the perceptions that have come out of the personal interviews. In formulating and presenting it any mention of the names of the people involved (interviewees) should be avoided. The interpretation should bring to light, in the presence of all participants, the disagreements that exist with respect to the subject. The aim is to open a dialogue and negotiation about an improved situation of natural resource management, or about a solution to the problem.

Instructions for the Participant

After interviewing two people that represent different stakeholder groups, each team of interviewers should make an interpretation. To do this:

1. The representatives of the stakeholder groups form groups with their interviewer.
2. The interpretations are written on the attached form.
3. A speaker is selected who presents the elaborated interpretation to the rest of the group.

QUESTIONNAIRE

1. What are the solutions preferred by the participants?

2. What consequences could these solutions have?

3. What are the advantages and disadvantages of these solutions?

4. What differences exist between interpretations?

Exercises 3.1 and 3.2 Analysis and Interpretation of Stakeholder Groups - Feedback

Guidelines for Instructors

Keep in mind the following concepts during the discussion of the analysis done by the groups:

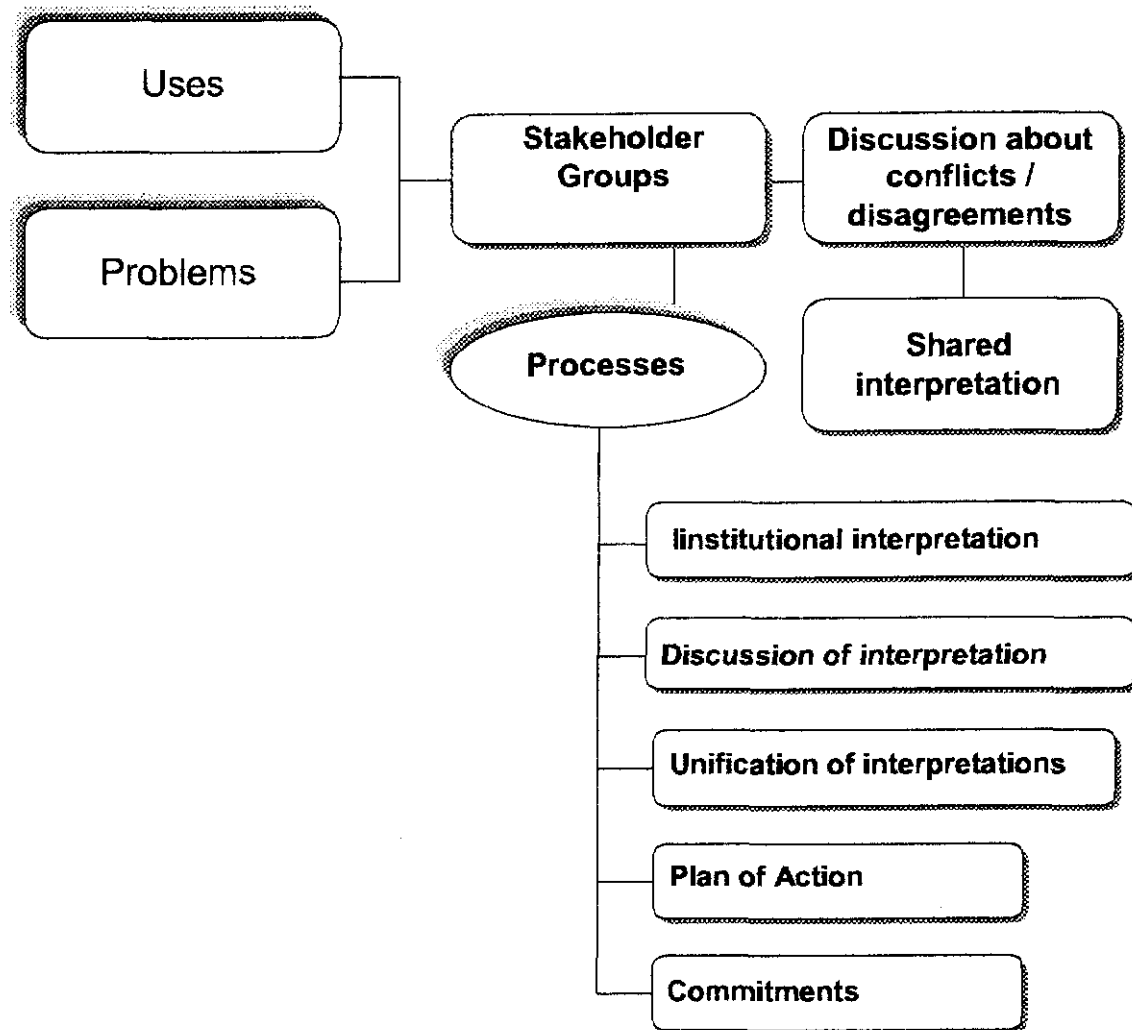
- This is a simulation exercise, a model of a real situation. Participants do not know each other. In order to really work through collective action it is fundamental that they know each other and that they have a common interest. For example, in a small watershed the users can be related by family, by the land; can share the same habitat, common interests and social activities; what each one does affects the others. They also have common ancestors and history that are sources of identification for them.
- It is difficult to find different interests and objectives given factors such as fear, not knowing each other, and distrust. In a watershed, for example, due to cultural reasons some farmers tend to be individualistic and interact only with their close family members, and within ethnic groups. It may be that the tradition of conflict resolution does not exist in some communities, nor the organisation to do so. Other people may not know how to read and write, or how to speak to large audiences.
- It may be that there are no real conflicts, merely differences of opinion. For example, two neighbours may use organic fertiliser in different ways; one thinks that it should be covered, but the other doesn't care. They think differently, but there is no conflict, but the second one will suffer the consequences of not covering fertilizer.
- In solving problems there may be a real conflict. The same happens in the field if, for example, a farmer does not wish to participate in the control of ants. Everyone has the problem, and it affects them all. When a solution is desired for this problem, the one who does not participate in the control enters in conflict with the rest because his attitude affects them all.
- The importance of giving importance to all points of view.
- The need to dialogue to solve common problems.
- To Appreciate differing and opposing interests.
- It is difficult to understand a new context quickly.

Bibliography

Egon, G. Guba; Yvonna, S. Lincoln. Fourth generation evaluation. 1989. Sage publications. United States of America.

Originals for Transparencies

STRUCTURE OF THIS SECTION



OBJECTIVES OF THIS SECTION

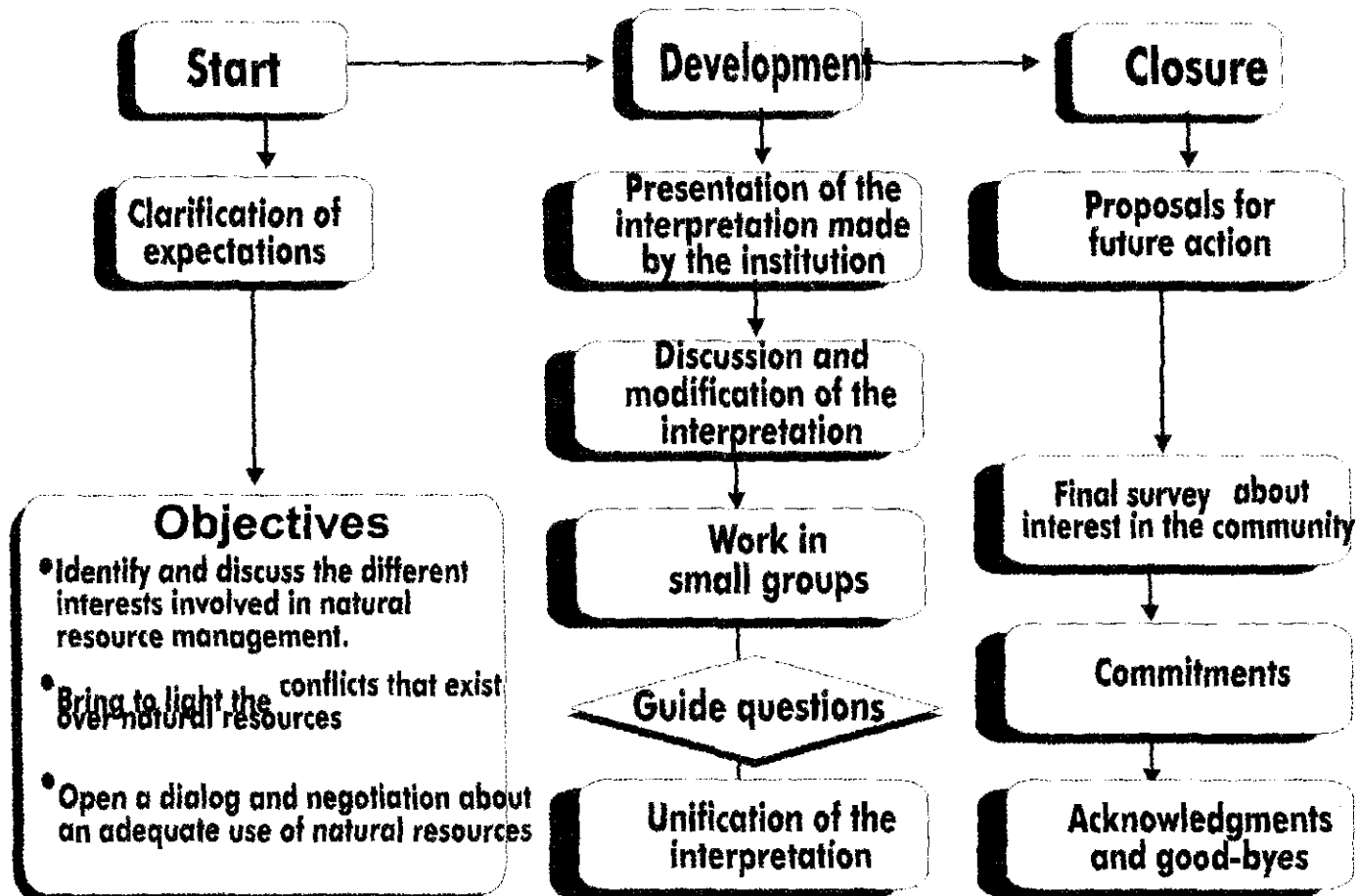
- ✓ Identify and evaluate the differing and opposing interests that determine natural resource management.
- ✓ Demonstrate the ability to bring conflicts about natural resources into the open, without jeopardizing the interviewees.
- ✓ Demonstrate the ability to open a dialogue about an adequate use of natural resources.

OPENNING QUESTIONS

1. How can we present the problems and conflicts in a small watershed?
2. How can we analyse the problems and conflicts related to natural resources in different stakeholder groups?
3. Why is it necessary to continue the process we have begun?

FLOW CHART FOR SECOND MEETING STEPS

Discussion about Natural Resource Use Problems and Groups



IDENTIFICATION AND NEGOTIATION OF CONFLICTS OF INTEREST INHERENT IN COLLECTIVE ACTION

How can we express conflicts of interest between farmers over natural resources in order to arrive at a collective consensus?

What does the problem involve?

What are the causes

What has been done solve the problem?

What can be done now?



ANALYSIS AND IDENTIFICATION OF DIFFERING OPINIONS AND INTERESTS

Key concepts:

- Shared knowledge; a common interest.
- The importance of providing a space for person to person relations
- Spatial and temporal interdependency
- Trying to reach differing interests and objectives can be made difficult due to cultural factors such as group pressure, personal and social acceptance
- There may be no conflict, just different opinions in solving problems, conflicts may be generated

ANALYSIS AND IDENTIFICATION OF DIFFERING OPINIONS AND INTERESTS

- The importance of having all points of view, in a context of diversity
- The need to dialog to solve common problems
- Value differing and opposing interests
- Promote agreed upon actions