

**COMMUNITY FORESTRY DEVELOPMENT
PROJECT
(CFDP)**

**COLLABORATIVE MANAGEMENT OF
PROTECTED AREAS**

**Practical Handbook for Wardens
of Protected Areas**

Michael B. VABI

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1. SETTING THE CONTEXT

Protected Areas (PAs) constitute important tools for the conservation of biological diversity. Many of the world's outstanding and most celebrated natural areas have been granted official conservation status through designation as national parks, wildlife reserves or other protected area category. The concept of protection, and particularly that of National Parks originated in the United States of America in the nineteenth century.

According to (Hales 1989), boundaries were drawn around "special areas" so that they could be set aside from the "ravages" of ordinary human use for visitors' inspiration and enjoyment. This has served as a model for the development of protected areas worldwide (Machlis and Tichnell, 1985). Many parks were established particularly in Africa and Asia, prior to independence, to protect the larger wildlife species that had captured immigrant Europeans and North Americans and to attract international tourism (Hales, 1989). In Cameroon, Protected Areas today, cover a total surface area of about 6, 655, 979 hectares representing 14% of the national territory. This surface area could be expanded to about 20 % if forest reserves are included.

Although national parks are perhaps the best known, there are several other types of Protected Areas. Increasingly it has become a popular wisdom that Protected Areas should be established to maintain biological diversity and natural formations. According to the IUCN (1985), Protected Areas can be put into at least eight categories as detailed in Table 1. These categories are based on various national, regional and international laws and regulations governing protected

areas. In practice, however, legal protection has rarely been translated into effective on-the-ground protection. This explains why many Protected Areas of the First Category in this case *National Parks*, are experiencing increasing serious degradation as a result of expanding agricultural frontiers, illegal hunting (poaching), fuel-wood collection, large-scale development projects and uncontrolled burning. If current trends continue, the biological diversity in many identified critical conservation sites will diminish dramatically in the next few decades.

2. RESIDENT LOCAL COMMUNITIES AND PROTECTED AREA MANAGEMENT

The conservation community has acknowledged that communities living permanently next to or inside protected areas frequently bear substantial costs, as a result of lost access while receiving little in return. Forest edged or forest dwelling populations, who tend to be poor and receive few government services as a result of their residence, often perceive protected areas as restricting their ability to earn worthwhile livelihood. It is not surprising, therefore, that the pressures of these populations and unsustainable land use practices directly outside protected area boundaries frequently lead to illegal and destructive encroachment.

Reflecting on these concerns, the 1980 World Conservation Strategy, a major document reflecting the views of numerous groups, emphasized the importance of linking protected area management with the economic activities of surrounding and forest dwelling local communities (IUCN, 1980). The need to include local people in protected area planning and management was also adopted enthusiastically by conservationists and protected area managers at the 1982 World Congress on National Parks in Bali (Indonesia). This congress called for increased support for communities next to protected areas through measures such as education, revenue sharing, participation in park decision-making processes, appropriate rural development schemes near protected areas, and – where compatible with the protected areas' objectives, access to resources (Mc Neely and Miller 1984). More recently, the complex links between poverty, development, and the environment has led to a search for ways to link

conservation with development in order to make “sustainable development” work, and for park management to be people-oriented. Recognition is also growing that successful long-term management of protected areas also depends on the cooperation and support of surrounding and forest dwelling local people, and that’ it is often neither politically feasible nor ethically justifiable to exclude the poor, who usually have limited abilities to exploit the natural resources of protected areas.

Table 1: Protected area categories and management objectives

Category	Type	Objective
I	Scientific reserve / strict nature reserve	Protect nature and maintain natural processes in an undisturbed state. Emphasize scientific study, environmental monitoring and education, and maintenance of genetic resources in a dynamic and evolutionary state.
II	National park	Protect relatively large natural and scenic areas of national or international significance for scientific, educational, and recreational use.
III	Natural monument / natural landmark	Preserve nationally significant natural features and maintain their unique characteristics.
IV	Managed nature reserve/wildlife sanctuary	Protect nationally significant species, groups of species, biotic communities, or physical features of the environment when these require specific human manipulation for their perpetuation.
V	Protected landscapes	Maintain nationally significant natural landscapes characteristic of the harmonious interaction of people and land while providing opportunities for public recreation and tourism within the normal life-style and economic activity of these areas.
VI	Resource reserve	Protect natural resources for future use and prevent or contain development that could affect resources pending the establishment of management objectives based on appropriate knowledge and planning.
VII	Natural biotic area/anthropological reserve	Allow societies to live in harmony with the environment, undisturbed by modern technology.
VIII	Multiple-use management area/ managed resource area	Sustain production of water, timber, wildlife, pasture and out door recreation. Conservation of nature oriented to supporting economic activities (although specific zones can also be designed within these areas to achieve specific conservation objectives).

Source : International Union for Conservation of Nature and Natural Resources (IUCN, 1985).

3. LEGAL BASES FOR THE COLLABORATIVE MANAGEMENT OF PROTECTED AREAS

Scaling up the power and fashion of *collaborative management* has been quite rife among governments, NGOs and aid agencies since the mid 1908s. At conceptual and policy levels, major progress has been made in gaining acceptance in the collaborative management of protected areas. Deliberate policy options have greatly facilitated the process of the collaborative management of Protected Areas as they provide the legal basis for action to Park wardens. At all levels, specific regulatory provisions have been made to provide the roots as sources of inspiration as summarised in Table 2.

Table 2: Legal Basis for the Collaborative Management of Protected Areas

Title of Legal Instrument	Relevant Section/Article	Contents of Legal Instruments
1. Rio Declaration on Environment and Development	1. Aims of the Declaration 2. Principle 22	Establishing a new and equitable global partnership through the creation of new levels of co-operation among states, key sectors of society and people ...States should recognize and duly support the identity of indigenous people, their culture and interests and enable their effective participation in the achievement of sustainable development

Title of Legal Instrument	Relevant Section/Article	Contents of Legal Instruments
2. Convention on Biological Diversity	<p>Article 8(j)</p> <p>Article 10 (c)</p> <p>Article 10 (d)</p> <p>Article 15 (5)</p>	<p>Subject to its national legislation, all parties must respect, preserve and maintain knowledge, innovations and practices embodying traditional lifestyles relevant for the conservation and sustainable use of biodiversity and promote their wider application with the approval and involvement of the holders of such knowledge</p> <p>Each contracting party shall, as far as possible and as appropriate, protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation and sustainable use requirements</p> <p>Each contracting party must as far as possible, and as appropriate, support local populations to develop and implement remedial action in degraded areas where bio diversity has been reduced.</p> <p>Access to genetic resources shall be subject to the Prior Informed Consent of the contracting party providing such resources, unless otherwise determined by that party</p>
3. Cameroon Law No. 94-01 of 20/01/94	<p>Chapter II</p> <p>Section 3</p> <p>Section 92</p> <p>Section 37 (1)</p>	<p>Non-permanent or unclassified forests shall be forests of non-permanent forest land. Non-permanent forests shall be communal forests, community forests and forests belonging to individuals</p> <p>communal forest zones may be declared as zones of synergetic interest and exploited as such</p> <p>the services in charge of forests, shall in order to promote the management of forest resources by village communities which so desire, give them assistance</p>

Title of Legal Instrument	Relevant Section/Article	Contents of Legal Instruments
<p>4. Decree No. 95/531/PM of 23/08/95 to determine conditions of implementation of Forestry Regulations</p>	Section 27 (2)	Forests which may be subject to community forest management agreement, shall be those situated on the outskirts of or close to one or more communities and in which inhabitants carry out their activities.
	Section 32 (2)	The supervision of a community forest shall be the responsibility of the community concerned.
<p>5. Decree No. 95/466/PM of 20/07/95 to lay down Conditions for the Implementation of Wildlife Regulations</p>	Section 25 (1)	Forest which could be the subject of a management convention of a community hunting ground shall be those situated on the periphery of or near one or more communities and in which the populations of these communities carry out not only agro-sylvo pastoral activities but more particularly hunting activities.
	Section 25 (3)	Any forest which is likely to become a community hunting ground, shall be assigned as a priority to the nearest neighbouring community

4. OBJECTIVES OF THIS HANDBOOK

Many Park wardens are not aware of the wide range of tools that could be used, especially participatory ones, although some are already using various methods such as surveys and community meetings. This lack of awareness seems to be due in part to the lack of active mechanisms for sharing-experiences and exchanging among Park Warden interested in the human and social aspects of conservation and natural resources management. This aside, several other wardens of Protected Areas effectively lack skills and knowledge for enlisting the support of local communities for the effective management of the conservation sites under their custody. Although there are many tools for collaborative management, they are not sufficient by themselves. A combination of a deeper understanding of the local contexts and tools of collaborative management is needed. This handbook is a brief review of some of the common tools, all of them participatory in nature, that have potentials of being used in enlisting the collaboration of local communities in the effective management of Protected Areas.

The handbook has been developed for Park Wardens who are in direct daily contact with members of local communities of conservation sites in varied socio-cultural contexts. This handbook is only an introduction to the different tools of collaborative management and should, in no way substitute actual field experience. The tools alone are merely the *bones* as the flesh must be filled in by the Park Wardens through a combination of self-development and the professional support provided by conservation-oriented organisations such as the World Wide Fund for

Nature (WWF), the International Union for the Conservation of Nature (IUCN), the Wildlife Conservation Society (WCS), Birdlife International, etc. In order to optimise their use, the tools also need to be adapted to the different socio-cultural context and legal status of each Protected Area.

5. APPROPRIATE KNOWLEDGE OF THE TOOLS OF COLLABORATIVE MANAGEMENT

There are several reasons for knowing and using a wide range of tools of collaborative management of protected areas. However, no single tool is universal enough to be successfully applied in all contexts. Choosing the most appropriate tool depends upon the goal, the situation, and the audience. Because the process of participation has become an essential ingredient of the effective conservation of biological diversity and natural resources management in broad terms, participatory tool of collaborative management have also become necessary and no longer optional.

Using a wide range of these tools can help wardens of protected areas to better understand which factors are best suited to their contexts, including the sometimes neglected socio-cultural factors. As in every social sphere, every tool has its own biases, which can be overcome by using a diversity and/or combination of tools. Together the use of different tools often in the same context should “provide different options for enlisting collaboration. In the light of this, and when possible, it is advisable to select tools that are complementary as they could easily provide crosschecks and alternative options for enlisting collaboration of locally-based conservation partner.

Knowing and using a wide range of tool for the collaborative management of protected areas can help Park Wardens and members of the local communities within which they work to avoid problems of several kinds. It must also be remembered that some tools are time consuming and

expensive, and if not used properly they may not give park wardens and even local communities the desired outcomes.

Like in the design of experiments, a flawed design or poor statistical analysis may invalidate results of a survey and lead to bad conclusion and decisions. Community meetings, if not carefully planned and facilitated, for example, may increase tensions between park authorities and community members or increase polarization within the local community itself. The use of some tools can also raise false expectations. By doing so, it may equally increase polarization and make open explorations less likely by suggesting solutions prematurely.

6. SELECTED TOOLS OF THE COLLABORATIVE MANAGEMENT OF PROTECTED AREAS

6.1. Consultation of Existing Documentation

Although the most up-to-date and relevant information about the social context of each conservation site will probably come directly from local people themselves, and be gathered using a combination of some of the tools described in this handbook, such information is often slow to come by and expensive to collect. Before embarking on the collection of such information, park wardens may try to find and make use of documented information on conservation sites. Such secondary sources can provide information about the contexts and bio-ecological features of conservation sites for those not already familiar with them or they could broaden the perspective and challenge the assumptions of those who are already familiar with the conservation sites. Secondary sources also provide important historical accounts of the social and bio-ecological contexts of the changes and trends over time and space. They could help park wardens develop questions and hypotheses to be addressed by direct information gathering and often save a lot of time and expenses.

6.2. Surveys and Questionnaires

Surveys and questionnaires can be used to gather information about the local contexts of conservation sites and other motivational factors that influence the relationships between people and protected areas. Survey questions can range from highly structured ones, with acceptable answers restricted to a few choices such as “agree” or “disagree,” to open-ended questions in which

possible answers are not suggested, such as “What is your opinion of ...?” Of should be expected, each type of question has advantages and disadvantages; question choice depends on the kind of information needed. Examples of the types of survey questions that have been used to learn about protected areas and natural resources management elsewhere in Africa are given in Box 1.

Surveys can be administered in writing or orally. With written questionnaires, the respondent can remain anonymous. When questionnaires probe sensitive issues, respondents may be more willing to give more honest answers. An example would be a questionnaire administered by a park warden that asks members of local communities whether they have ever engaged in illegal hunting expeditions or collecting fuel-wood from a national park.

Written questionnaires are not advisable in communities with low literacy rates. With oral administration, on the other hand, the interviewer knows who the respondent is. In such cases, the level of trust between interviewers and respondents is a key consideration in assessing the accuracy of survey results. Whatever the case, developing good survey questions requires field-based knowledge.

Box 1. Examples of Survey Questions

Closed or Forced Choice Questions

Is there any crop damaged by wild animals in this village? ()
yes () no () don't know

There is no need to keep areas of natural forest. () agree ()
disagree () undecided

When was the last time you ate game meat? () this year ()
last year () year before last

How do you participate in natural resources management in
your area?

- a) as a member of village natural resource committee
- c) in hunting
- b) in patrol work
- d) in management planning

Scaled Questions

Cultivation by residents of the Kimbi Game Reserve should be
allowed.

() strongly agree () agree () undecided () disagree
() strongly disagree

Semi-open ended Questions

What do you do when wild animals raid your farm?

- a) shout to scare wild animals to run away
- b) confront the wild animals with spears, bows and
arrows, sticks, etc.
- c) report to the village chief
- d) guard crops day and night until harvesting
- e) do nothing
- f) other _____

What are the benefits of living next to Waza National Park?

- | | |
|----------------------|------------|
| a) provides water | d) grazing |
| b) built a classroom | e) none |
| c) transport | f) other |

Open-ended Questions

What things are happening to the natural forest of your village that you do not like?

If Korup National Park could do one thing to make life in your village better, what should it be?

What benefits would you like to get from the park (list according to priority) :

- a) _____ b) _____ c) _____ d) _____

Surveys and questionnaires can provide information about the diversity within communities. The actual or relative anonymity of some types of surveys encourages people to express views they might not express in public. Women, for example, may give truthful answers on a survey but hide their real opinions at a meeting that includes men. When this information is made public, or used in a participatory process, it can educate community members about community diversity. Information about community diversity can help structure more representative participatory processes.

A survey used by the Tanzania National Parks (TANAPA) and African Wildlife Foundation (AWF) as a tool to better understand the communities they work with, and to open

channels of communication between park managers and local communities is described in Box 2.

Comparing the results of an initial survey with the same survey administered later can be a useful tool for evaluation.

Box 2. Tanzania National Parks/African Wildlife Foundation Knowledge, Attitudes, and Practices Survey

In the past several years, Tanzania National Parks (TANAPA) has been working with the African Wildlife Foundation (AWF) to develop ways of involving local people as partners in conservation. To open channels of communication between park managers and local communities and to better understand the communities involved, TANAPA and AWF developed a knowledge, Attitude and Practice Survey. The survey's objective was to gather basic information about socio-economic and other factors affecting natural resource management practices. The survey includes questions such as :

- What do you dislike about what's happening to the natural resources of your village / area?
- What are the benefits of having wildlife in your area?
- If people hunt in your area, what do they hunt?
- In what ways do you use wildlife traditionally?

Once the initial data were collected, meetings that involved a broad spectrum of the community were held to discuss the issues and problems the survey identified. Meeting organizers tried to avoid traditional meeting formats, such as straight lines of chairs and tables for notables, to encourage contributions from all participants. Simple "dialogue event sheets" were used to provide a record of the meeting. The survey has given TANAPA and AWF a reason to visit and revisit communities, thus building rapport and credibility.

Adapted from Edmund Barrow and Patrick Bergin, African Wildlife Foundation and Tanzania Community Conservation Project Nairobi, Kenya.

6.3. Observations

Observations are useful tool for understanding relationships between protected areas and local communities. One of the advantages of this tool is that it preserves the holistic nature of the issues being observed and its complex interaction with their environments. It provides direct evidence for processes, antecedents and consequences, rather than indirect information via self-report tool like surveys and questionnaires. Although observation sessions could be labour intensive, they use small samples, which generally require less time and fewer resources than other tools. As a result, information gathered from small observations are often used in conjunction with tools as a validation of survey data or as a way of teasing out elements of a complex set of interactions.

Participatory, or participant observation involves accompanying people as they carry out daily activities, such as hunting and trapping, gathering fuel-wood, searching for medicinal plants, cooking and cleaning, caring for children, protecting crops from animals or even actually taking part in those activities. These participatory observations can help park wardens and community members become acquainted with issues that they would not have thought to ask.

Participant observation is often blended with informal interviews, with questions being asked and answered as they arise during the course of the activity.

Observation is sometimes more effective than surveys and interviews because it can more easily avoid asking direct questions. For example, members of local communities may not often know the names of the plants they use, so one

cannot ask direct questions about those plants and their uses. Participating in plant collecting with community members may reveal that they very well recognize the plants and know their uses.

6.4. Interviewing

Interviews are one-on-one conversations or question-and-answer sessions. People with special knowledge of, or roles in, key natural resource management practices are often interviewed to tap their knowledge and perceptions. Practical tips about how to interview effectively are given in the Participatory Rural Appraisal (PRA) Concept documents developed by Vabi and Lumumba (2002). Many field manuals on participatory approaches and methods also recommend a semi-structured interviewing processes, in which the interviewer knows what topics he or she wants information about, but doesn't prepare a complete list of structured questions in advance. "Instead of formal, prepared questions, semi-structured interviewers use checklists to guide the interviewers through the topics they wish to address. With semi-structured interviewing one could make up the question as one goes along; this requires some fast thinking. Once one begins interviewing on a certain topic, one begins to probe the issue by asking related questions and trying to deepen an understanding of these. In this case, the interviewer has to be particularly alert as she or he listens to the answer and think up what to ask next. To the informant, a semi-structured interview should seem like an informal conversation, with one topic leading naturally into another. Of course, this requires a fair amount of skill on the part of the interviewer.

Posing direct questions in an interview sometimes has disadvantages, and in these cases indirect questioning techniques may work. Interviewers can use a range of conversational techniques, including reflective listening and hypothetical musings instead of asking direct questions. Instead of asking, “Why don’t you people go fishing in the Muanenguba Twin Lakes?” a trained park warden could instead wonder aloud, “I’ve been wondering how I could fish in the Muanenguba Twin Lakes if I wanted to”.

As with all methods, park wardens should remember that members of local communities are not homogeneous. One can never assume, for example, that men necessarily know what women do, or vice versa. Similarly, elders and youths or rich and poor may not understand each other’s activities. Asking members of one subgroup about their perceptions of the park related activities of other groups during interviews can reveal stereotypes that may be important to address as part of a participatory problem-solving or dispute-resolution process using other participatory tools. .

6.5. Focused Groups or Key Informant Surveys and Interviews

Focused Groups or Key Informants are carefully planned discussions organised in a permissive, non-threatening environment that is designed to provide in-depth information about how certain groups of people perceive the issues being discussed. Focused group members or key informants interact freely with each other so that they respond to emerging, at times contradictory ideas and comments and reveal many facets of the issue being discussed.

In practice, a focused group facilitator leads a small group of respondent, about six to ten, through informal discussions on selected topics. Focused group discussions should be repeated with several such groups within a conservation site until little new information emerges. The facilitator uses a prepared list of probing questions to gather and organise information, but at the same time allows participants to talk freely and spontaneously about the selected issues. All participants are encouraged to offer ideas and opinions during the interview process.

Focused group participants can be chosen on the basis knowledge of the protected area, membership in organizations, place of residence, gender, age, occupation, or economic status. Focused groups are especially useful for understanding the diversity of perceptions and opinions found in the community. Meeting with men and women in separate groups may bring out issues often obscured in joint public meetings.

Focused group discussions can clarify the community's level of awareness with regard to the status of a protected area and can provide a means for gathering baseline data on existing management practices. Discussions can also help community members to understand their own roles in park management, to recognize alternatives and to consider collectively the opportunities and constraints for changing current use and management.

Effective focused groups require skilful facilitation. The point of a focused group is to elicit sincere responses from the discussants, not correct ones.

6.6. Community Meetings

Community meetings bring together representatives of interested parties to discuss issues and problems. These meetings may bring out important dimensions of issues related to the management of Protected Areas that methods aimed at individuals, such as questionnaires, interviews, and observations, sometimes miss. Community meetings often reveal opinion leaders, people who are respected and listened to by many community members, who can play key leadership roles in park management.

Because communities are not homogeneous, practitioners must understand the community's actors and institutions when deciding who to invite to meetings. Some possibilities include political leaders, religious leaders, other kinds of opinion leaders, women or men, children, or a whole village at once. Separate meetings with each of a community's many subgroups may be useful. Meetings to consider especially contentious issues, if poorly planned or facilitated, can increase tensions and strengthen divisions in communities rather than build consensus. Meeting format and protocol can influence the quality of participation. Some experiments with non-traditional meeting format and protocol are discussed in Box 3.

Gender and status are important considerations in planning and facilitating community meetings. Involving women in community meetings is a particular challenge for park management. Even when women do show up at large public meetings, they may not speak. Similarly, having separate meetings for women does not necessarily solve these problems, since men still interrogate women about

what they said once they return home. Because women often fear that their answers will somehow get back to their husbands, they may provide false information.

6.7. Calendars and Time Lines

Calendars and Time Lines are tools for gathering information about how people's interaction with the environment varies through time, usually through an annual cycle of seasons. Seasonal calendars, for example, show the changing patterns of livelihood activities throughout the year. Information about the timing of activities can be gathered using participatory methods such as interviews and community meetings. Information about changing natural resources use over longer time periods can be represented in matrices of historical trends.

Box 3. Enlisting Participation within the framework of community-based conservation in the Bamenda Highlands and the Korup National Park

Community-based conservation in the Bamenda Highlands is founded on a genuine convergence of interest between local communities and the conservation community represented by Birdlife International. For the local communities, there is a multiplicity of interests ranging from water to forest products to socio-cultural concerns. The primary interest of the conservation community is in ensuring the survival of the many rare and endemic species found in the montane forests.

Though the activities have varied from one village community to the other, the approach of the Bamenda Highlands and Kilum-Ijim Forest Projects has consisted of five main steps 1) information dissemination and consensus building particularly through **community interviews and focused group discussions** 2) Investigation using carefully selected participatory rural appraisal tools 3) process planning and negotiation with different forest user groups 4) implementation of agreed actions with the technical support of project and local government of staff, and 5) review of actions. While conceptualised as consecutive phases, the five stages overlap and are iterative as communities develop their own ways according to their peculiar circumstances.

According to former project management, a basic level of trust is necessary before any community meetings can be held, and in some communities this trust has not yet been reached. In such cases, trust must be developed using other tools before meetings are held.

After meeting with community leaders, the Community Conservation Project holds larger community meetings. Project staff try to get away from the traditional meeting format of straight lines of chairs for the audience and tables at the front for officials or leaders by mixing up seating in the room. Facilitators of meetings prevent anyone from monopolizing the meeting. Whenever someone offers an idea, it is written down. Such changes in meeting format and protocol give rise to a wider diversity of views being expressed, with community members including women speaking up in meetings.

Similarly, Conservator of the Korup National Park uses another tool to identify park related issues and problems. Staff of the Park Service contact village chiefs of the surrounding villages and even those inside the national Park and request them to invite staff of the Park Service to village meetings, especially if the meetings would address wildlife issues. This tool is an alternative to having the Korup Park Warden call a community meeting. The tool has some advantages in terms of encouraging community leaders to take initiative themselves.

6.8. Maps and Transects

Maps and transects are ways of representing information about ecological and social systems, such as the spatial distribution of natural resources, their uses over time, and relevant opportunities and problems. Maps take an aerial perspective, while transects take a cut-away, horizontal view of a place. Both of these can be very simple and still contain a large amount of relevant information. They can be produced by local people or by park warden working with local people, using very simple materials. A patch of smooth sand or soil; a stick for drawing lines in the sand; and perhaps a few stones, sticks, or leaves to represent houses, trees, or other features are enough. Maps made on the ground can be sketched or photographed later, if a record is needed. Or a large piece of paper and makers for drawing can be used to make the map initially. Sheets of transparent acetate plastic can be used to overlay maps containing different kinds of information. Such low-technology geographic information systems can often provide as much relevant information to park wardens and local communities as their much more expensive high-technology computer-based counterparts can. Map and transects are frequently used in participatory exercises for several reasons as highlighted in Box 4.

Box 4 : Map and diagrams within the Framework of Park-People relations

Maps are frequently used in community-based initiative because they;

- *establish a consensus*
- *provoke discussions and encourage further participation;*
- *facilitate the processing and analyse of information*
- *facilitates exploration and analysis of issues over time and space;*
- *make people present to feel at ease;*
- *are objective and less conflictual;*
- *are by nature participatory;*
- *help verification and cumulative learning;*
- *clarify the presentations of abstract things;*
- *can be elaborated anywhere;*
- *neutral to sensitive issues and questions*
- *are accessible to all social groups;*
- *based on what is real and visible;*
- *are not exclusive;*
- *do not require too much explanation*
- *make people present laugh;*
- *enable the PRA team to have much information within a short space of time;*
- *facilitate communication*

6.9. Matrices and Contrast Analysis

Matrices or two-dimensional tables are simple tools for organizing information. Rows and columns in the matrix indicate different categories of information (Table 1). This kind of organization automatically provides the basis for contrast analysis and for comparison. Contrast analysis is used to find patterns in the information, develop questions and hypotheses, and understand situations better. The simplest matrices compare two categories or groups; men and women or wealthier and poorer people, for example. Past and current park resource use trends can be compared using matrices, such as “a generation ago,” “now,” and “in the future”. Creative use of matrices can help to organize a diversity of information useful in assessing different situations, identifying park management problems and understanding the factors that motivate those behaviors that are detrimental to the health of protected area.

Table 1: Matrice Ranking of Men's Income Generating Activities in Mbah Village of the Bamenda Highlands

		1	2	3	4	5	6	7	8	Tota l	Ranking
1	Coffee (Cof)	X								07	1st
2	Cocoa (Co)	Cof	X							06	2nd
3	Cocoyam (Coc)	Cof	Co	X						04	4th
4	Colocasia (Col)	Cof	Co	Co c	X					00	8th
5	Plantain (pl)	Cof	Co	PI	PI	X				05	3rd
6	Banana (Ba)	Cof	Co	Co	Ba	PI	X			03	5th
7	Pigs (Pi)	Cof	Co	Co	Pi	PI	Ba	X		02	6th
8	Goat (G)	Cof	Co	Co	G	PI	Ba	Pi	X	01	7th

6.10. Matrices of Historical Trends

Longer-term historical trends in resource use and the quality of the environment can also be summarized in matrix form. Historical trends matrices often show that local people recognize long-term trends in natural resource use patterns and in their interaction with it. They usually have ideas about the causes of such trends, even if they do not fully understand their causes. As shown in Table 2, Trend matrices are a good example of an information gathering tool that is also in part an analytical tool; they automatically organize park management and related environmental information in a way that could help park wardens think about causes and effects, and identify problems and

opportunities. Similarly, creating trend matrices using participatory techniques can be an effective way of assessing local people's awareness and knowledge of park management issues and environmental trends in general. This assessment is usually important because the assumption that people lack knowledge and awareness is often used to argue for conservation and/or environmental education activities.

Table 2: Historical Transect of Watt Forest in the Bamenda Highlands

Elements of comparison	CORRESPONDING PERIODS		
	Before Ahijo	Ahidjo	Paul Biya
Natural Trees	00000	00	0
Population	00	000	00000
Farmland (size)	00	000	00000
Coffee production (bags)	0	000	000000
Maize production (15 litre buckets)	00	00	000000
Beans (15 litre buckets)	0	000	0000000

6.11. Venn Diagrams

Venn diagrams are conceptual “maps” representing the relationships between social groups, organizations and institutions, drawn using circles and other shapes of varying sizes. Venn diagrams have their origin in mathematics, where they are used to show the overlap in membership between two or more mathematical groups or sets. Like maps and transects, calendars and matrices, Venn diagrams can be developed in groups or community meetings and with very simple materials. Venn diagrams “can be used to show which individuals and groups have an influence on park management decisions as well as the relations between village institutions and the park service. Venn diagrams developed separately by subgroups within a local community such as men and women or hunters can often provide very useful information for understanding motivations and developing options for collaborative management with community-based institutions and organisations.

6.12. Priority Ranking and Scoring

Priority ranking and scoring have confirmed their value as tools of learning from local people about their categories, criteria, choices and priorities. They are useful in discovering, weighing and prioritising issues as presented by local people during community interviews. They bring out the perceived seriousness of park management and community problems in general. Local people may need some time to agree on scores, and men and women may wish to score items differently in which case, separate scoring needs to be carried out for each social group.

Ranking and/or scoring the perceived importance of the different products collected from a protected area provide insights into their relative values. They could help in determining priority management options and solutions perceived by both local people and park wardens.

While priority rankings indicates the order of importance among different items or products (Table 3), scoring provide an indication of the perceived values of the items in relation to the others. Products collected from the park, for example, are often ranked or scored by using categories such as folder, fuel wood, household food supplement and medicinal use.

Table 3: Priority Ranking of Products from the Korup National Park in Tombe Village

Products	Revenue	Consumption	Gifts
Bush meat	∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅	∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅	∅ ∅ ∅
Bush mango	∅ ∅ ∅ ∅	∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅	∅ ∅
Bush Pepper	∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅	∅ ∅ ∅ ∅	∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅ ∅
Wild Vegetable	∅ ∅ ∅ ∅ ∅ ∅ ∅	∅ ∅ ∅ ∅	∅ ∅ ∅ ∅
Njnangsan	∅ ∅ ∅ ∅ ∅ ∅ ∅	∅ ∅ ∅ ∅	∅ ∅ ∅

6.13. Decision Trees and Flow Diagrams

Decisions and flow diagrams are tools for systematically asking questions or gathering information. Typically, a question is asked, and depending on the answer to that question; often either “yes” or “no”, a tree of questions forks or branches out to a pair of other questions. Each of these can be answered “yes” or “no”, leading to further branches and roots of the tree.

7. PARTICIPATORY PLANNING APPROACHES AND METHODOLOGIES

The methods of tools reviewed above, in various combinations, have been developed for, or combined into, what could be called participatory approaches and methods. These approaches and methods use a suite of diverse information-gathering and analytical tools. Some of these methodologies also involve the planning, implementation and evaluation of projects and programs activities. Some of these methodologies are reviewed below.

7.1. Rapid Rural Appraisal (RRA)

Rapid Rural Appraisal or RRA, was developed to fill the gap between highly structured, quantitative methods of social research and the informal, rapid, intuitive assessments of rural situations that are sometimes used by development agencies. RRA recognizes that certain amount of rigor is essential in order to have confidence in the results of a field studies and to persuade order people of their validity. But, it also believe that intuition and a certain informality and flexibility are essential to obtaining quality information from the field. Thus the RRA offers methodological guidelines intended to improve the quality of information gathered, but it also insists that there can be no 'cook-book' guide to its use. Such a crutch would dangerously inhibit a flexibility and creativity which are pillars of the method. RRA was developed in part to obtain accurate information at low cost in terms of time and money. In practice, RRA makes use of interdisciplinary teams that use a range of tools including a number of those discussed above. Semi structured

interviews is the only tool used in every RRA exercise. RRA typically avoids formal surveys and questionnaires, substituting more qualitative and flexible techniques such as semi-structured interviews.

“Triangulation” is an essential methodological concept in RRA as looking at something from only one prospective introduces serious biases into the analysis. If one can introduce two, three, or even four different points of view into an analysis of a situation one begins to get a more complete and more accurate picture of the situation one is trying to understand. The composition of the RRA team can be triangulated by selecting members of different disciplinary background, both men and women, and both insiders and outsiders-people who know the local situation well from experience, as well as people who do not and so can bring a fresh perspective. Using a diversity of methods can help overcome the biases inherent in any single method. Encompassing all the social diversity present in the situation; learning from both men and women, young and old, well off and poor, for example, is also an important kind of triangulation. “Optimal ignorance” is another key concept of RRA. This requires that users of RRA remain ignorant of some factors that are being studied. “Because the team is trying to get as much useful information as it can in short-time, it is essential that it focuses on what is most important, and leave the rest aside. The funny, almost backward phrase, ‘optimal ignorance’ is a reminder that we can’t learn and don’t need to know everything in a brief field study. The team must be willing to remain ignorant in some areas, in order to spend time on other things which are more important.

Report on a rapid appraisal carried out in within the framework of the agricultural research in Cameroon and project-based initiatives provide a number of examples of how this method and approach can be used to identify and focus on important natural resource management issues.

7.2. Participatory Rural Appraisal (PRA)

Participatory Rural Appraisal, or PRA, and rapid rural appraisal are closely related methods and approaches. According to Robert Chambers, “RRAs began as a better way for outsiders to learn. In answering the question ‘Whose knowledge counts?’ they sought to enable outsiders to learn from rural people and to make use of indigenous technical knowledge to assist outsiders’ analysis. Its mode, however, is mainly extractive. Outsiders go to rural areas and obtain data from the local people, bring it away and process it. The knowledge of rural people counted but for the outsiders’ use. They were the ones that could carry out the analysis and provide the solutions. Recognizing the weakness of leaving this responsibility to outsiders, PRA evolved. Outsiders still go to rural areas, but more and more as learners, conveners, catalysts, and facilitators” (Chambers, 1992).

Both PRA and RRA use some combination of the tools reviewed in this handbook. Many of the examples presented in this handbook come from either PRA exercises.

The goal of PRA is to “help local communities define problems, prioritise project activities, and adopt village-based resource management plans. In practice, PRA is a semi-structured process conducted in the field, usually involving a number of steps. First, a PRA team visits the site and holds planning meetings, initially with local leaders, then with other community-based opinion leaders? Such teams are typically multidisciplinary, composed of technical specialists from external institutions such as NGOs and project implementing agencies.

The team gathers information, including simple spatial data using maps and time-related data using seasonal calendars and time lines. Household interviews are usually carried out and a local institutional analysis is done using VENN diagrams. Visual tools such as maps, trends matrices, and calendars help the team organize information and present it to the community at meetings. The team uses a variety of tools to help the community define problems, prioritise them and the opportunities for solving them, evaluate local capacities for solving them and prepare a systematic action plan for the community to adopt and implement.

The use of participatory rural appraisal is becoming more widespread, and many excellent sources of information about this involving approach and method has been developed by Vabi and Lumunba (2002) within the framework of the field training events of the Community Forestry development project (CFDP) including training guidelines. While PRA has grown from research focus, it has developed beyond that and is used in planning, implementation, monitoring and evaluation of work with local communities. Like rapid rural appraisal, PRA is meant

to be a relatively rapid method of assessment. While this speed has advantages, an appraisal that is too quick and superficial may fail to understand the complexities of protected area management issues. No matter what the approach and method, a day or week of research can never produce all the information that a month, year, or decade yields. A danger is that people may take the results of rapid appraisals more seriously than they should. Another issue is that building trust and rapport and developing active community participation in protected area management take time and resources.

7.3. Participatory Research

Participatory research has many affinities with the RRA and PRA methodologies described above. Not only are many of the same tools used in these approaches, but they have similar philosophical orientations. For example, participatory research emphasizes local people's participation in, and ownership of, the research process and results have do both with the RRA and PRA. Rapid rural appraisal "encourages researchers to view their informants not just as objects of study, but as participants in the research process. They should be included as fully as possible not only in the collection of information, but also in its analysis, and certainly in providing feedback in the conclusions. RRA is research *with* people, not *on* people (Freudenberg and Gueye, 1990). Research, writes Anne Whyte (1977), is something that should be "equally shared between researchers and researched."

Participatory action research (PAR), one “school” of participatory research, is “a process of research, education, and action conducted by a community of relatively powerless people in collaboration with specialized researchers. This approach and method is widely used by the CIFOR Adaptive Collaborative Research Unit in Cameroon. Its goal is to generate new understandings that guide the community in its struggle for survival, opportunity, and empowerment” (Palmer, 1994). Participatory action research is distinguished from conventional social science research in four ways (Hall, and Jackson, 1993):

- *Knowledge is pursued as a means of social change.*
- *Community members as well as those with specialized training are researchers; together, they define, plan, and conduct the research, analyse and evaluate data; and decide what course of action to follow.*
- *Knowledge can be obtained through both scientific and indigenous methods.*
- *The research process and products are owned by the community, not outside researchers.*

Rapid rural appraisal and participatory rural appraisal have evolved in the direction of the participatory action research in the work of an NGO called MYRADA in South India. “What was required was a method which did not stopped just at the ‘appraisal’ but which went beyond it into a shared analysis and understanding of rural situations. This, in turn, should lead to development activities that are creative, productive and sustainable over a period of time” (Mascarenhas, 1992). MYRADA calls its adaptation of RRA and PRA “participatory learning methods.”

7.4. Participatory Planning

Participatory planning and decision-making methods involve a diverse group of stakeholders from the very beginning of the planning process. Participatory planning is sometimes called “open decision making.” An open sharing of information is required, with the group generating and evaluating alternatives and trying to reach a consensus about a solution. Guidelines for participatory problem solving include the following;

- *encouraging frank exchanges among all parties, especially at the beginning before positions harden*
- *encouraging parties to share information*
- *identifying opportunities for joint problem solving*
- *clarifying how decisions reached by making the decision-making process transparent*

The main advantage of this process is that it gives all participants full access to information and the opportunity to participate in dialogue about and resolution of issues. By trying to built consensus about solutions to specific problems, participatory planning approaches and methods highlights true differences of interest. The process recognizes that disputes are inevitable and potentially useful. Meanwhile, it helps to avoid the kind of negative attitudes that top-down management styles sometimes create. It often improves the quality of decisions and solutions by increasing the quality and quantity of information that goes into them. Finally, it can increase all parties' commitment to solutions, since all parties played significant roles in crafting those solutions.

Some approaches to environmental education merge into participatory decision-making and problem-solving processes. Because these processes require key actors and interested parties to share information and communicate, they naturally include an educational dimension (UNESCO-UNEP, 1985).

Participatory planning does have some drawbacks. One major disadvantage is that reaching a decision can take much longer, and reaching consensus may not even be possible. If poorly designed, participatory planning processes can do more harm than good. Public hearings or debates can polarize communities. The result can be bargaining between rigid positions instead of an exploration mutual interests and mutually beneficial solutions.

Another problem is that most methods used in participatory planning were developed for literate audiences. Administrators use flip charts or other written records to maintain a “group memory” and to help organize and communicate ideas rapidly, for instance. Methods that allow illiterate audiences to participate are more difficult and less well developed. Notwithstanding these drawback, participatory planning approaches and methods have been largely used in designing the management plans for the Korup, Benoue and Waza National Parks. They are also being used to develop the management plans for the Dja Reserve and the Bayang-Mbo game reserves.

Annex 1: The Protected Areas of Cameroon

Name of the PA	Location Province	Area (ha)	Year of Gazettement	Key Conservation Issues or Use
Waza National Park (NP)	Far North Province	170,00	1932 GR 1968 NP	Conservation, tourism, research.
Kalamaloue NP	Far North Province	4,500	1932 GR 1968 NP	Conservation, tourism.
Mozogo NP	Far North Province	1,400	1932 GR 1968 NP	Conservation, tourism.
Benoue NP	North Province	180,000	1932 GR 1968 NP	Conservation, tourism, research.
Faro NP	North Province	330,000	1948 GR 1980 NP	Protection, tourism, research.
Bouda-Ndjida NP	North Province	220,000	1932 GR 1968 NP	Conservation, tourism, research.
Korup NP	South West Province	125,900	1937 FR 1986 NP	Conservation, tourism, research.
Campo-Ma,an NP	South Province	264,064	1932 GR 2000 NP	Conservation, research.
Mbam and Djerem NP	East Centre and Adamaoua Provinces	416,512	2000 NP	Conservation, research.
9 National Parks		1,712,376		

Banyang-Mbo Sanctuary	South West Province	66,000	1996 S	Conservation, research.
Dja Game Reserve (GR)	East Province	526,000	1950 GR	Conservation, and research.
Douala Edea GR	Littoral Province	160,000	1932 GR	Conservation, research.
Santchou GR	West Province	7000	1964	Conservation.
Kimbi GR	North West Province	5,625	1964	Conservation
Mbi crater GR	North West	370	1964	Conservation

	Province			
Ossa Lake GR	Littoral Province	4000	1968	Conservation
6 Game Reserves		702,995		
Yaounde Zoo garden	Centre Province	2,07	1951	Education, tourism.
Limbe Zoological garden	South West Province	0,5	1885	Education, tourism.
Garoua Zoo garden	North Province	1,5	1966	Education, tourism.
3 Zoological Gardens		4,07		
Hunting zones (28)	North Province	2,299,608		Hunting
Hunting zones (5)	East Province	443,825		Hunting
33 Hunting Zones		2,743,433		
Total Wildlife Protected Areas		5,214,708		

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