Chapter 9. LEARNING BY DOING IN CO-MANAGEMENT INSTITUTIONS

*In a context…
[of continuous and pervasive change adaptive management is the only sensible approach.*

Social actors involved in the co-management of natural resources typically act as innovators, trying out in practice novel technical and institutional solutions to problems, which often demand a re-adjustment of their habitual ways of working. This adds to the always present need to deal with the complex, uncertain, and rapidly changing characteristics of environment and society. It is well known that the environment is currently responding to a variety of influences— from climate change to overexploitation and pollution— which alter its natural features, rhythms and cycles. Equally pervasively, socio-cultural and economic change has been sweeping across the planet. Today, even remote rural livelihoods are under-going dynamic change, and all human communities increasingly express differen-tiated and evolving needs. In this context, *adaptive management*[1] is the only sen-sible approach. Adaptive management emphasises on-going learning through iter-ative processes and fitting solutions to specific contexts. It is based on systematic experimentation and careful analysis of feedback to policies and management interventions. Possibly more than any other regime, a co-management regime ought to follow its tenets, and the more the co-management actors will invest in joint learning processes, the more their collaboration will be relevant and effec-tive. "Learning by doing" is thus an integral part of each stage of the co-manage-

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[1] Holling, 1978; Gunderson *et al.*, 1995; Taylor, 1998; Gunderson and Holling, 2002.

ment process, but it is truly the heart of the matter in the third phase— the one of implementation of the agreements.

Three broad themes run through the considerations, examples and lessons presented in this Chapter:

- Institutional and organisational learning for adaptive co-management benefits from being rooted in indigenous and local knowledge, skills and institutions, and from using local indicators to track and respond to environmental and social changes.[2]

- Co-management organisations ought to challenge themselves: they have to become learning-oriented at their core. Learning-oriented organisations encourage experimentation, questioning and the abandonment of stereotypes; develop skills in recording, applying and disseminating lessons; build relationships based on mutual respect; and foster a non-threatening environment where people learn from one another.

- Facilitating and encouraging individual and collective learning for co-management requires action at various levels, including not only the local but also the national and international institutional contexts. There is where the hard limitations on the spread, scaling up and mainstreaming of the co-management process very often lie.[3]

Co-management organisations ought to challenge themselves: they have to become learning-oriented at their core.

...an agreement is often as strong, or as weak, as the process that generated and sustained it.

9.1   Making the agreement functional

As mentioned in Part II of this volume, there is no "right process" to develop a "right co-management agreement" and yet an agreement is often as strong, or as weak, as the process that generated and sustained it. Several lessons, in particular, have been learned about the steps and activities that are key to making a co-management agreement functional. Some of these activities and relevant lessons are outlined below.

Providing fair support for the parties to join the agreement

The provision of resources for effective and equitable participation in negotiations and implementing agreements is an important requirement for the agreements to be functional. The support provided to the participation of the Maori people in decisions and implementation of natural resource management is an inspiring example of how governments can "level the playing field" by facilitating more equitable access to expertise, financial resources and spaces where dialogue and negotiation are possible (see Box 9.1). Similar types of assistance to support the fulfilment of co-management agreements have proven essential for the success of other large scale initiatives such as the Landcare and Rivercare programmes in Australia (see Box 9.2).

...resources for equitable participation in negotiations and implementing agreements [are] important.

| Box 9.1 | "Levelling the playing field" for the Maori to participate…. |
| | (adapted from Crengle, 1997) |

The Resource Management Law Reform (RMLR) undertaken by New Zealand has been remarkable for

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[2]   See, for instance, the resilience network web site: http://www.resalliance.org/
[3]   This theme is mostly explored in part IV of this volume.

the provision of a range of alternate mechanisms for Maori participation. This process has been effective through being responsive to Maori cultural preferences, particularly with respect to using oral communication and time frames appropriate for decision making by consensus. Mechanisms included:

- an intensive set of *hui* (meetings) held in the *marae* (customary community meeting places);

- covering of the personal and travel costs of participants for the *hui*;

- an open-door policy, sensitive to tribal time frames, enabling submissions to be accepted and incorporated in the review *at any time*;

- provision of a free phone service for recording of oral submissions;

- comprehensive funding and human resource assistance to tribal organisations for the preparation of written submissions.

Formal structural arrangements for advocating Maori interests have been crucially important for successfully integrating those interests in all aspects of the reform. The government established a core group of four people responsible for coordinating the RMLR process and facilitating two way communication between Maori and the review team.

The RMLR consultation on natural resource management issues has been the largest and most comprehensive process for Maori participation in the formulation of policy and law ever carried out by the New Zealand government. It elicited an exceptional response from the Maori, which further emphasised the interrelationship between the integrity of natural resources and the social, cultural, economic, physical and spiritual well being of Maori communities. It also raised to an unprecedented level the Maori's expectations for the integration of their priorities in resource management agreements, and strengthened their commitment to implement the agreements and to make them work.

Box 9.2   Financial support from the government helps implement co-management agreements in Australia
(adapted from Campbell, 1994b, including case studies by Siepen, 1994)

In Australia, co-management programmes foresee government assistance for community-based management such as the Landcare, Rivercare and Coastcare programmes. The Natural Resources Management (Financial Assistance) Act 1992 (Cwlth), administered by the Australian Department of Primary Industries and Energy, provides for inter-governmental agreements regarding natural resource management, with the primary aim of achieving "efficient, sustainable and equitable management of natural resources, consistent with the principles of ecologically sustainable development". Its other objectives are:

- to promote community, industry and governmental partnership in the management of natural resources;

- to assist in establishing institutional arrangements to develop and implement policies, programmes and practices that will encourage sustainable use of natural resources;

- to assist in enhancing the long term productivity of natural resources;

- to assist in developing approaches to help resolve conflicts over access to natural resources.

The Act deals with agreements with states regarding the provision of financial assistance for natural resource management projects, as well as agreements with other persons, including associations, authorities or other organisations, whether incorporated or not. The Act also establishes a Natural Resources Management Fund and a National Landcare Advisory Committee.

In 1997, the Australian Federal Parliament created a Reserve Fund for the Natural Heritage Trust of Australia. Its main source of financial resources (A$ 1.1 billion) was the partial privatisation of one of Australia's major telephone companies. The Reserve Fund is intended to "conserve, repair and replenish Australia's natural capital infrastructure" by supporting initiatives on the environment, sustainable agriculture and natural resource management. Some of these initiatives are part of the Landcare, Rivercare and Coastcare programmes.

Recognising and building upon local resources, technologies and natural resource management systems

Many successful co-management settings rely on local resources and informal innovation systems. Local technologies are improved to intensify the use of natural resources. In this way sustainable and relatively inexpensive solutions can be found by communities engaged in identifying their needs, designing and testing new technologies and/ or adapting existing technologies to the local conditions. The potential for intensification of internal resource use without reliance on external inputs is enormous. In India (see Box 9.26) the co-managed Public Distribution System allowed women farmers to achieve greater self reliance and reduced dependency on outside supplies of food, pesticides, fertilisers and seeds by enriching and diversifying their farming systems with locally available resources. Similarly, when co-management bodies encourage local communities to engage in the planning, implementation and maintenance phases of projects designed to meet health, housing, sanitation, water needs and revenue generating activities, the results are often more sustainable and effective than those imposed by outside professionals and external agencies.

…a great diversity of local knowledge, skills and institutions can be effectively employed….

Local natural resource management systems are naturally tuned to the needs of local people and often possess a substantial capacity to adapt to dynamic social and ecological circumstances. While many of these systems have been more or less forcibly replaced by others (*e.g.,* market–oriented production under private or state property, conservation managed by state agencies), there remains a great diversity of local knowledge, skills and institutions that can still be effectively employed. Local management systems are closely linked with local livelihoods, and often rooted in cultural practices and religion and spiritual beliefs. Sacred groves, for example, are clusters of forest vegetation preserved for religious purposes. They may honour a deity, provide a sanctuary for the burial ground of venerable peoples, or protect from contamination a place where rituals can be performed; some derive their sacred character from the springs of water they protect, from the medicinal and ritual properties of their plants, or from the wild animals they support.[4] Such sacred groves are common throughout southern and south eastern Asia, Africa, the Pacific islands and Latin America.[5] If sacred groves are extremely rich in biodiversity, they are generally limited in size. By contrast, the pastoral landscapes of mobile indigenous peoples offer examples of traditional management systems of large dimensions and complexity.

Co-management is an effective way to build upon what people already have, know and do to secure their identity, culture, livelihoods and the diversity of natural resources on which they depend.

Co-management is an effective way to build upon what people already have, know and do to secure their identity, culture, livelihoods and the diversity of natural resources on which they depend.[6] Neglecting this may engender human and environmental disasters of large proportions (see Box 9.3).

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[4]   Chandrakanth and Romm, 1991.
[5]   Shengji, 1991; Ntiamo-Baidu *et al.,* 1992; Gadgil, 1998; Pathak, 2003; Nelson and Gami, 2003; Oviedo, 2003.
[6]   Pimbert and Pretty, 1998; Borrini-Feyerabend *et al.,* 2004 (in press).

Box 9.3   **The making of unsustainable livelihoods: eroding the community-conserved landscape of the Oromo-Borana (Ethiopia)**
(adapted from Tache, 2000a; Tache, 2000b; Bassi, 2002)

The whole ethnic territory of the Borana, in Ethiopia, can be considered a community (ethnic) conserved area. The territory has been managed for centuries through rules that assured the sustainable use of renewable natural resource. Some specific provisions embedded in culture assured bio-diversity conservation *per se* and the sound management of natural resources was promoted through norms of inclusion/ exclusion designed for all pastoral activities and known as *seera marraa bisanii*—"the law of grass and water". The Borana "law of grass" shares the basic principles of most East African pastoral groups. It differentiates between dry season pastures (with permanent water points) and wet season pastures (with good grass, but only accessible during rains), imposing the maximisation of use of wet-season pasture whenever possible (during rains), to minimise pressure on the most intensely utilised rangelands served by permanent water points. The "law of water" is instead peculiar to the Borana and their environment, which is characterised by the presence of numerous well complexes (the *tulaa* wells being the most famous among them). This law is extremely articulated, regulating in various ways the social and economic investment necessary to develop traditional wells and water points, access and maintenance. Through the normal cycle of well excavation and collapse, over-exploited dry season areas are abandoned and new ones are developed.

The juniper forests found in Borana lands have a special role, which is common to many East African forests used by pastoralists. Being too humid, they are not suitable for permanent pastoral settlement. Some open patches, however, contain excellent pasture and the forest also provides permanent springs. For centuries such forests have never been permanently inhabited but reserved as dry-season pasture. They had a crucial function as last refuge for grazing in case of drought, reserve for medical and ritual plants and overall symbolic and ecological meaning. They were not subject to special management provisions besides the very strict prohibition to start fires inside them, but were an integral and essential part of the survival system of the Borana.

The environmentally sound management of natural resources in Borana land assured the conservation of a unique biodiversity patrimony (including 43 species of wild mammals, 283 species of birds and many unique plants and habitats) until the 1970s, despite the establishment of some small towns close to the main forests already at the beginning of the 20th Century. From the 1970s onwards, however, the Borana environment was confronted with major changes in land use. The government limited movement within the ethnic territory and promoted agriculture, facts that deeply affected the Borana natural resource management system. The situation dramatically collapsed after the change of government in 1991. Political representation of the Borana within the local government became utterly marginal and policies that could only be described as "actively destructive" of their livelihoods were implemented. The United Nations High Commissioner for Refugees (UNHCR) facilitated the resettlement of people in Boranaland who were not actually from the area (the great majority of them being neither Borana nor Oromo speaking), multiplying the number of permanent settlements in the region. The resettled villages were assisted through international aid and agriculture was promoted as their livelihood strategy. Among the newcomers were also some non-Oromo pastoral groups that managed to manipulate international aid and gained political support. They obtained large tracts of Eastern Borana territory, which were annexed to "their" region, including critical pastoral areas of the Borana. More land resources were lost by the Borana in the process of "economic liberalisation". Large ranches were acquired by international investors and extensive portions of land around the towns, located in their critical dry-season pastures, were assigned to town dwellers for small-holding cultivation. The majority of the town dwellers are neither Borana nor Oromo. A high inflow of migrant Muslim Oromo was also allowed, and those undertook extensive farming, especially in the Liiban area.

The local government has been acting as if common property land is no-man's land, to be assigned to whoever is claiming it. Indeed customary common property and community conserved areas are not currently recognised in Ethiopia. This process of land alienation has been affecting the most productive lands and the crucial ecosystem patches. The Borana have been squeezed into the driest pockets, bound to become overgrazed. Scarce rain during the last decade produced devastating effects and acute livestock destitution. The only possible survival strategy for the Borana has been to engage in farming in the remaining least suitable places, hoping for a harvest next year. Thus, the amount of land put under cultivation and alienated to the pastoral mode of production dramatically increased, as a sort of chain reaction. The patches of biodiversity in forests got exploited for a variety of commercial purposes, with no regard to sustainability. But, as everyone should have known, the traditional land of the Borana is not suitable for agriculture due to both low and irregular rainfall. Since 1998, the Borana and millions of other pastoralists and agro-pastoralists survive in Ethiopia on the brink of starvation, often entirely dependent on food donations from abroad. Neglect and active tampering with traditional resource management systems created a pattern of unsustainable livelihoods for an entire people and are effectively destroying most of the unique biodiversity harboured in the area.

Many successful co-management institutions are rooted in, and built upon, existing customary and local organisations and rules. Local organisations are crucial for the conservation and sustainable use of natural resources. As Michael Cernea has put it "…resource degradation in the developing countries, while incorrectly attributed to "common property systems", actually originates in the dissolution of local level institutional arrangements whose very purpose was to give rise to resource use patterns that were sustainable."[7]. Local groups have a comparatively easier time enforcing rules and providing social incentives and penalties for the effective conservation and use of natural resources. Successful initiatives run by local and/ or traditional institutions include watershed protection and reforestation, wildlife management schemes, processing plants for natural products derived from the wild, and many forms of community conserved areas.[8]

Many successful co-management organisations are built on customary and local organisations and rules.

Box 9.4   **Restoring the traditional tribal organisation— the first step towards managing a Community Conserved Area**
(adapted and updated from Farvar, 2003; see also Field example 1.3 in Chapter 1)

The Kuhi— one of about 20 Sub-tribes of the Shish Bayli Tribe of the Qashqai nomadic pastoralists of Iran— are currently engaged in participatory action research about their own "sustainable livelihoods" and the conservation of biodiversity in their landscape. Their action-research refers to a resource management unit comprising their summering and wintering grounds and their associated migration routes in between. As part of this, the Kuhi held several workshops and their first concern was to involve the whole community. One of the major problems identified was the breakdown of the traditional organisational strength of the tribes. They analysed their governance situation in some depth and decided to re-create their autonomous organisation, building upon traditional patters but ensuring that those would be able to respond to modern challenges, including notions of participatory democracy. Extended negotiations led to the establishment of the "Council for Sustainable Livelihoods of the Kuhi Migratory Pastoralists" and its associated Community Investment Fund, which is now pursuing initiatives in each of the 5 categories of problems/ needs identified by the Sub-tribe. Such initiatives include support to animal raising, marketing and quality-control for highly priced *gabbeh* rugs produced by women, health care access, capturing of solar energy for various uses, access to legal support, and access to educational books and videos. The initiative that excited them the most, however, is about restoring natural resources to their common property care and control.

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[7] Cernea, 1993.
[8] Kothari *et al.*, 1998; Haverkort *et al.*, 2003; Borrini-Feyerabend *et al.*, 2004 (in press). See also Boxes 1.3; 3.3; 3.5; 3.6; 3.10; 3.11; 9.4 and 9.20.

tres in length, shared between the Kuhi and the Kolahli Sub-tribes. This has been a community conserved wetland from time immemorial. The Kuhi know all too well that they obtain many "ecosystem benefits" from this wetland, including water reserves, reeds for handicrafts, fodder for animals, fish, medicinal plants, micro-climate control, and wildlife. In a controversial plan, the government had earmarked part of the area to be divided up among households for agricultural use and had diverted part of the water of the wetland for irrigation. The newly constituted Council, on the other hand, believes it is better to preserve this area as a "*qorukh*" or "*hema*"— to be conserved by the community. It thus submitted a petition to the relevant governmental authorities to formally declare the wetland and the surrounding rangelands as a Community Conserved Area (CCA), with use rights being regulated by the Sub-tribe elders. The petition is being reviewed by the government and it is hoped it will be accepted under a larger co-management accord by which the respective areas of authority and responsibility of the government and the community will be agreed to mutual satisfaction. In terms of IUCN categories, the overall CCA could be considered as a protected area of category V (landscape management objective), with the wetland as a portion under category II (ecosystem management objective). The Council of Elders has managed to register itself as a legal entity— a unique occurrence in Iran for an indigenous social organisation. Action recently taken by the Council includes a successful redressing of recent invasions of its customary rangelands through court action.

This initiative is showing important ways in which nomadic livelihoods can fully reconcile with conservation. The initiative is supported by the Centre for Sustainable Development (CENESTA, a national NGO in Iran), the Organisation for Nomadic Peoples Affairs (ONPA, a government institution), the International Institute for Environment and Development (IIED), IUCN/ CEESP's Working Group on Sustainable Livelihoods, FAO (interested, among other things, in coping strategies of nomadic pastoralists in the face of drought), and WAMIP (World Alliance of Mobile Indigenous Peoples). The GEF (Global Environment Facility) implemented by UNDP has expressed interest in learning from the experience of the project for policy advocacy, and the Christensen Fund said it will support its extension and replication in other tribes and countries as a strategy for both conservation and cultural survival.

Conservationists should seriously consider ways to legitimise and strengthen customary and traditional organisations for natural resource management.

Customary and traditional organisations have many points of strength. For example, they know more than anyone else how to identify the members of user groups or community; how to assist in conflict management and administer sanctions for rule infringement at the local level; and how to develop rules for resource management based on local knowledge of ecological dynamics.[9] In an age of increasing globalisation, however, their political standing is often in peril. Conservationists should seriously consider ways to legitimise and strengthen such organisations, as managing natural resources requires the capacity to develop and enforce appropriate rules in the local context. As discussed in Chapter 1 of this volume, successful co-management organisations often combine formal arrangements, which may be initiated and supported by the state or other external agents, side by side with other arrangements of older, customary origin.

Letting the agreement specify the co-management organisation, and not vice versa

If the agreement foresees the establishment of an advisory or management body, such as a local conservation council or an extended natural resource management board, specifications of who is to be represented, what is the mandate, what are the tasks, etc. should be reached in the planning phases. It is important, however, that a body entrusted with specific tasks is set up towards the end and not at the very beginning of the process of developing the agreement. In fact, it is

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[9] Cousins, 1995.

through dialogue and negotiation that the most useful information and appropriate guiding principles are often discovered. For instance, it was through a few years of discussion of issues and policy development among the key relevant parties that the sophisticated and effective structure now in charge of the Galapagos Marine Reserve was designed and developed in practice (see Box 6.13). Similarly, in the Republic of Congo, the Conkouati management board could be envisaged only after a lengthy process of discussion and negotiation had started bearing fruits (see Box 9.5).

Box 9.5   **From social communication to negotiation, to establishing a management body— the co-management path in Conkouati (Republic of Congo)**
(adapted from Taty *et al.*, 2003; Chatelain *et al.*, 2004)

In the mid-nineties, the IUCN assisted in the development of a co-management setting for Conkouati National Park, in the Republic of Congo— a "difficult" and conflict-ridden site where other agencies had refused to work. Indeed, an enormous amount of energy had to be invested in social communication processes before the project could even properly start. Through time, however, the communication efforts generated some timidly positive perceptions of the social actors with respect to one another. This eventually developed into a concrete dialogue, and the park managers and local residents started envisaging that they could become "partners", they could work together for mutually beneficial initiatives.

The facilitation process focused on the local *natural patrimony* of Conkouati, and promoted negotiations on the basis of the common interests to maintain it for everyone's benefit. The parties figured out that they were obliged to find solutions together— not as police and robbers but as social actors sharing an interest to maintain the abundance of natural resources in the area. At the beginning, their proposals were widely different, but the project staff brought everyone to discuss the pros and cons of each perspective and managed to obtain an agreement around a charter of principles, progressively refined and accepted by all. It was only after this that a co-management organisation, the *Comité de Gestion des Ressources Naturelles de Conkouati* (COGEREN) was formally established, and took on the task of refining the charter further, establishing a zoning system and developing a number of specific accords for the three local most endangered species (manatees, marine turtles and bamboos). COGEREN includes representatives of the local communities, the state administration, the NGOs locally active in environment and development issues and some locally elected officials. The legitimisation of the organisation actually took place with the signing of an official Co-management Charter by the national and local government authorities, which was accompanied by rituals through which the local traditional authorities also engaged themselves publicly.

It is important to ascertain that any collaborative management body is created at the appropriate level, i.e., that it gathers representatives of stakeholders who can put into practice the agreement that has been developed. For instance, a management board at the level of the district may not be appropriate if the resources to be managed affect only one or two specific communities and businesses. It may be more useful to create instead an ad-hoc committee with direct representation of the social groups most directly affected. In other occasions, umbrella bodies may be needed to facilitate coordination between local resource users and relevant government departments. In Uganda, one such organisation links the 22 "Forest Societies" established in each of the 22 parishes bordering Bwindi National Park.[10] Each one of the societies,[11] however, is autonomously organised and decides its own work objectives.

…a management board at the level of the district may not be appropriate if the resources to be managed affect only one or two specific communities and businesses.

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[10]   Wild and Mutebi, 1996.
[11]   The name "Forest Society" derives from the first one that was set up, called *Ekibiina Kya'beihamba-Omuruka gwa Mpungu* or Forest Society of the Mpungu Parish.

Fostering relatively small, diverse, committed and accountable co-management bodies

Several characteristics of effective co-management organisations have been identified on the basis of field experience. Some were drawn in the context of particular sectors but they are reasonably valid for other areas of natural resource co-management, in different ecological and economic settings. These characteristics include:

Manageable size

There is a greater chance of success (and an easier ride) with a single-tenure area of moderate size and a relatively limited number of management issues and parties to the agreement. If the area is large, the issues are complex and interlocking and many actors are involved, progress may be exceedingly slow, and frustrations and setbacks may set in. The more complex the situation, the greater the need for support from government or well-organised federations of actors. A non-supportive government bureaucracy is a very substantial handicap.[12]

Diverse and committed membership of the management body

The diversity of members in the management body is a precious asset for learning by doing. Through dialogue and deliberation, resource users, government staff, planners, local authorities, business people and scientists can identify problems and questions, explore alternatives and adjust decisions and actions, as necessary. Ideally the membership of the co-management body would include representatives from a variety of disciplines and backgrounds, connected with a range of community sectors and well conscious of the duties and functions of governing bodies, and their responsibilities as members. They should also be prepared, ultimately, to set aside their personal and sectoral interests and make decisions in the best interests of all parties and the environment. The most effective members of co-management bodies are usually "fearless", but also strategic. If necessary, they stand up to individuals and institutions accustomed to exercising power (senior public servants and politicians, for example), but are also capable of exercising good judgement about which battles are winnable and what to do about those that are not.

The most effective members of co-management bodies are usually "fearless", but also strategic.

The members of the co-management body need to elect a good chairperson, capable of welding the group into a united team with a clear vision. And the CM body should be adequately resourced. People work better, and are more respected by their community, if they are seen to be valued and compensated. High fees or salaries, however, tend to attract criticism, especially in rural communities. To prevent this, the members of the CM bodies should be chosen in a most transparent way. Membership should balance the need to represent all key sectors and geographical areas (and sometimes ethnic groups) adequately against the need to keep numbers small enough for efficient functioning.

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[12] Ghai and Vivian, 1992; Finger-Stitch and Finger, 2003; Tall and Guèye, 2003; Fakih *et al.*, 2003; Pimbert, 2004.

Clear responsibility and reporting lines

The lines of reporting in co-management bodies should be clear, and staff should not have multiple masters. A fearless decision-making body prepared to do battle with government can place a government-employed chief executive in an impossible position by ordering her or him to carry out provocative or confrontational initiatives. At worst, this can paralyse the organisation and alienate the community. The government-preferred model, of having the chief executive as the chair of the board (and/ or the board dominated by government officers) may avoid the problem of conflicting reporting lines, but is rarely accepted by the community as a model of true participatory management. The co-management governing body and the chief executive should understand the dividing line between governance and management, and respect it. Ideally, however, the governing body should strongly back its chief executive and should thus be involved in choosing him or her.

Accountable procedures

Good co-management organisations should be accountable to all its members. In most circumstances, however, they are requested to be accountable only to the government of the relevant countries. Often, in fact, a co-management body is legally answerable to a ministerial department, which may also fund it, partially or totally. This may represent a moral tightrope for such organisations, and those involved must be prepared to walk it and remain accountable to both the government and the other partners in the agreement, including the local communities. In particular, the organisation's budget, policies, decisions and decision-making process should be open to public scrutiny, *i.e.,* they should be accessible and transparent.

A CM organisation is generally set up with the ultimate objectives of managing natural resources. Accountability should be mostly related to this goal, although some members— and communities in particular— may be trying to hold it accountable for aspirations beyond its charter. For instance, an organisation set up to protect the natural heritage values of an area is not primarily responsible for the economic welfare of the surrounding communities. While both ends can often be jointly served, the CM body may sometimes be obliged to make decisions that are not primarily for economic advancement, or even contrary to it. If such a decision causes community distress, it is up to all the concerned parties to weigh all factors and make a final decision in the best interests of the community as a whole, not to the CM body to compromise its agreed responsibilities. Alternatively, another co-management structure with a more comprehensive mandate may be set up to focus on both conservation and livelihoods in the same context.

The organisation's budget, policies, decisions and decision-making process should be open to public scrutiny, and should be accessible and transparent.

Open dialogue with a broad range of interest groups should be provided whenever possible. The CM body needs to inform the wider community about what it is doing by whatever means best suit local circumstances— newsletters, broadcasts, visits, public meetings, workshops, etc. The CM body also needs to listen hard, and have both formal and informal means of feeding public opinion back into its operations. Community meetings and attitude surveys carried out at regular intervals can be invaluable to focus community relations and mutual learning efforts, as well as to generally target weak areas of operation. Indigenous peoples, nomadic peoples and local communities— including their weaker, discriminated groups— should be actively informed and encouraged to have a say.

Pursuing timeliness, clarity and accountability… but also conviviality and warm human relationships

The co-management plan for the natural resources and the accords that complement it as part of the same agreement need to be implemented as soon as possible after the public celebration of the conclusion of negotiations. The organisations and rules agreed upon by all relevant actors also need to be set up and enforced in a timely manner. This allows the partners to capitalise on the momentum of the negotiation phase. A committee and/ or specific individual should be in charge and be made accountable for each component of the strategy, co-management plan or main activity, reporting to the relevant actors (and/ or to the organisations set in place by them) on the on-going progress. Compliance with the agreements and rules is essential to the effectiveness of the whole CM process. If some actors disobey the rules or do not accomplish what they agreed to do, others are soon likely to follow suit. To prevent this, the co-management agreements need to specify who is responsible for enforcement, as well as by what means and what regular checks they are to be carried out. Indeed the entitlements and responsibilities of relevant actors need to be clear for all the parties involved.

In this sense, accountability is crucial— the people who took on responsibilities need to publicly respond about them. And yet, it is also important that the process is not entrapped in some rigid and bureaucratic enforcement system. Co-management feeds on the passion and creativity of the groups and individuals involved, and on their ability to manage human relations in informal and convivial manners.[13] Flexibility and good human relations may go a long way in solving even complex and thorny controversies. Celebrating small successes along the way can be an effective way of keeping actors together and maintaining a constructive group dynamic (see Box 9.6).

Box 9.6	**Build on small successes**
	(adapted from EPA, 1997)

Small successes fuel future, larger ones. It is important, according to watershed practitioners, to start small and demonstrate success before working on a larger scale. For this reason, demonstration projects are often a popular choice in watershed work. In some states, small victories have been instrumental in prompting the implementation of a state-wide watershed approach. One of the first agreed actions in the Upper Arkansas Watershed Council (Colorado, USA) was a Citizen's Water Law Seminar. In the West, the Prior Appropriation law— based on the idea that water can be privately owned— has evolved into a complex and often mystifying tangle of rules. Additionally, water quality, in-stream flows, and recreation issues had complicated the understanding of water law.

Many of the local community leaders (county commissioners, planning and zoning boards, etc.), several of whom are new to Colorado, admitted to little understanding of the law, yet recognized its importance in their work. The council agreed that it did not matter which side of a water issue anyone represents— agriculture, development, environmental, recreation— the law is the law, and the more citizens who understand the water law, the better. In brief, the seminar was held and was a wonderful success. It was planned in three months, was low-budget, gave the council strong local credibility, and provided an early success upon which to tackle tougher issues. Commitment to the watershed is key, and a small group's passion for its improvement can catch fire. Practitioners also say over and over that it's important to "celebrate success" as it occurs.

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[13] Nguinguiri, 2003.

Publicising the agreement until it is widely known

Once an agreement (*e.g.*, a consensus over a management plan and an agreed sharing of rights and responsibilities) is reached, it should not be written in stone, but it should certainly be written on paper and publicised as widely as possible within the relevant communities and among the relevant stakeholders. The agreement should be explained in plain terms (clear and comprehensible to all) and in the local language(s), or *also* in the local language(s) when government officials tend to speak only a national language. If appropriate and feasible, oral and informal forms of communication, including popular theatre, use of audio-visual materials, presentations at traditional gatherings and other media, can be used as very effective complements.

The importance of the agreement should be underlined by means of a specific event or ceremony. As far as possible, the signatories should be people directly taking on management responsibilities (*e.g.*, the local village chief and the local park warden) and *not* relatively unconcerned and distant authorities. The parties should commit themselves in public and the agreement should be given ample visibility (*e.g.*, a copy of the agreement could be posted in local communities as well as in the premises of the agency in charge of managing the natural resources). Special steps such as the ones taken in Bwindi National Park may be needed to widely publicise and scale up the participatory management agreement (see Box 9.7).

Once an agreement is reached, it should not be written in stone, but it should certainly be written on paper and publicized as widely as possible within the relevant communities and among the relevant stakeholders

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Box 9.7   **Signing and publicising a collaborative management agreement in Bwindi Impenetrable National Park (Uganda)**
(adapted from Wild and Mutebi, 1996)

In 1992, the staff of Bwindi Impenetrable National Park and the representatives of the residents of the civil parishes adjoining the park began a process of planning and evaluating resource use. The main output of the parish workshops, follow up work and participatory research were memoranda of understanding between the communities and the park authorities, which documented decisions taken in the meetings as "multiple use plans". These were not legally binding documents, but set out the intent and responsibility of each party.

The agreements, in Rukiga and English, were reviewed by each one of the Forest Societies established in the parishes. A ceremony was held in the occasion of the signing of the agreements by the parties. The Director of Uganda National Parks and several park rangers were present, along with members of the Forest Societies such as community leaders, nominated resource users, women representatives, local chiefs and religious leaders.

Harvesting forest resources under these agreements began at Bwindi Impenetrable in late 1994 and involved at first only three of the twenty-two parishes bordering the park. To spread interest and compliance about the agreements, a new cadre of Community Conservation Rangers was established by the park to improve communication and discuss the agreements with each community leadership institution, resource users (*e.g.*, herbalists, basket makers, beekeepers) and interested community members. Publicising the agreement in this way proved not only key to making it functional but was also essential for extending similar agreements to other parishes. Negotiating the memoranda of understanding initially took 15-20 days per parish, spread over a period of 6 to 10 months. The negotiation process for the remaining 17 parishes, however, was considerably faster.

It should be clear that adjustments to the co-management agreements may take

place during their implementation, and review times should be scheduled in advance. Some forms of agreement, such as a memorandum of understanding, are quite flexible and allow for regular revisions. Other forms, such as contracts among legally-recognised parties, are less so. The latter are usually required when the agreement foresees some important packages of economic or financial incentives for one or more parties in the agreement. The agreement can also be formalised as a local by-law. It is useful that the agreement includes provisions for dealing with exceptional situations (*e.g.*, how to modify rights and responsibilities in case of acute ecological stress or social crisis).

Dealing fairly with conflicting interpretations of the agreement

During the implementation of activities, conflicting interpretations of the co-management agreement may arise. For formal, contract-type agreements, contract law and environmental public law should include procedures for dealing with conflicts. In cases of conflicts between indigenous peoples and the state or other sectors of society, International Human Rights Law and some UN bodies can provide some guidance.[14] For the less formal agreements it is important to foresee in advance who will assist the parties to clarify entitlements and responsibilities and to mediate in the event of conflicts. The Canadian Royal Commission on Aboriginal Peoples, for example, reports about a conflict over fish management which led to First Nation representatives on a participatory management board being outvoted and resigning.[15] In May 1994, a majority of the members of the Sturgeon Lake Co-management Committee in north-western Ontario voted to create a total sanctuary on all the valley spawning grounds. At the same time the committee, which included tourist outfitters and local hunters and anglers among its members, accused the aboriginal people of damaging fish stocks and habitat and voted to review the legal status of all aboriginal fishing in sanctuaries. It was at this point that the representatives of the local Saugeen First Nation resigned— in protest— from the committee.

Conflicts of interpretation during the implementation phase may be the inevitable result of a co-management process and may depend on the extent to which the relevant government agencies are committed to participatory management, as well as on the political strengths of the relevant social actors. In this sense, the Canadian Royal Commission on Aboriginal Peoples has suggested that if government agencies are to be represented on co-management boards, they should sit as technical advisors and be non-voting, especially where co-management is based on notions of power-sharing.[16] In Australia, the Law Reform Commission recommended in 1986 to uphold the following as priorities for access to natural resources: 1) conservation measures and other identifiable overriding interests such as safety, rights of innocent passage, shelter and safety at sea; 2) traditional hunting and fishing; and 3) commercial and recreational hunting and fishing. The commission recommended that, as a matter of principle, traditional hunting and fishing by the Aboriginal People should take priority over non-traditional activities, including commercial and recreational activities, where the traditional activities are carried on for subsistence purposes. On the basis of this principle the precise allocation of resources is now a matter for the appropriate licensing and management authorities acting in consultation with the Aboriginal People and other user groups.[17]

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[14] See Box 9.8 in this Chapter. See also Box 10.14 in Chapter 10.
[15] Canada Royal Commission on Aboriginal Peoples, 1996.
[16] Canada Royal Commission on Aboriginal Peoples, 1996.
[17] Law Reform Commission, 1986.

> **Box 9.8** **The International Covenant on Civil and Political Rights and the UN Commission on Human Rights**
> (adapted from Posey, 1996)
>
> International environmental and human rights law accord special recognition to the relationship between indigenous peoples and their customary territories. The UN Commission on Human Rights' Committee on the Elimination of Racial Discrimination, for example, adopted a general recommendation concerning indigenous peoples in August 1997. The committee called on the states Parties to the International Covenant to:
>
> - recognise and respect indigenous peoples' distinct cultures, languages and way of life as an enrichment of the state's cultural identity and to promote its preservation;
>
> - ensure the absence of all forms of discrimination;
>
> - provide indigenous peoples with conditions allowing for a sustainable economic and social development compatible with their cultural characteristics;
>
> - ensure that indigenous people have equal rights to participate in public life and that no decisions directly relating to their rights and interests are taken without their informed consent;
>
> - ensure that indigenous communities can exercise their rights to practice and revitalise their cultural traditions and customs and to preserve and practice their languages;
>
> - recognise and protect customary territories and resources, and either return them or compensate for their loss, if indigenous peoples have been dispossessed of those territories.
>
> The UN-adopted International Covenant of Civil and Political Rights has also been called on to elaborate the international human rights standards concerning indigenous peoples and the environment. Article 27 of the Covenant has often provided a basis for communications to the Human Rights Committee about states' violations of rights. Article 27 provides that members of ethnic, religious or linguistic minorities shall not be denied the right to enjoy their own culture, to profess and practise their own religion, or to use their own language in community with other members of their group.
>
> The committee has agreed that the exercise of the cultural rights protected under Article 27 may manifest itself in many ways, including a particular way of life associated with the use of lands and resources, especially for indigenous peoples. The enjoyment of those rights require positive legal measures of protection and measures to ensure the effective participation of members of minority communities in decisions that affect them. In the Kitok *versus* Sweden case, the Human Rights Committee found that although the regulation of an economic activity is usually an internal state matter, where that activity is an essential element in the culture of an ethnic community, it may be protected by Article 27. But individual rights to culture also need to be assessed in the context of the community's rights, and reasonable and objective restrictions on individual rights so as to preserve community rights may be found to be legitimate.
>
> The committee has expressed the view that the right to enjoy culture needs to be assessed in context, and need not be confined to traditional practices. The use of modern technology, for example, does not deny a given practice the status of continuing traditional culture. It has also suggested that economic activities that have only a limited impact on cultural rights, and which were engaged-in after consultations, may also not violate Article 27.

Ensuring compliance and effective enforcement of the agreement

Monitoring of compliance should be done on a regular basis and, in case of violations of the agreement, enforcing mechanisms need to be applied. This is a crucial

aspect for a co-management agreement to remain effective: if some parties can go by without complying to the rules, others are likely to follow suit. "Who enforces" is also very important. It is usually government that has the power and legitimacy to ensure compliance through coercive enforcement. And yet, effective enforcement mechanisms can also be organised and implemented by local communities and organised groups (see some examples in Boxes 9.9, 9.10 and 9.11), at least when the delinquent forces are not overpowering.[18] Enforcing rules, however, is always a delicate task. The natural resource management scheme may involve high stakes for parties that are in the best position to apprehend violations but have no legal basis to do so. If local residents take the enforcement completely "into their hands", for instance if they attempt to arrest people who came to cut timber or shoot wildlife, they risk becoming involved in violent clashes and facing legal prosecution afterwards.

Box 9.9   **Enforcing co-management agreements in coastal areas: an example from the Philippines**
(adapted from Zerner, 1991)

A community marine resource management programme was initiated in 1984 in fishing communities of the Visayas islands of the Philippines. The co-management programme was designed to promote conservation and sustainable use of coral reefs and associated fisheries through community based efforts to stop over-fishing and destructive fishing techniques using dynamite and cyanide.

Local fishers helped design and implement the reserve and sanctuary systems at all levels. Working with community organisers, they earmarked the portions of the reef to be governed as a reserve, or more strictly protected sanctuaries, and they physically laid the marker buoys themselves. Local communities also formulated regulations prohibiting fishing, the anchoring of motorised boats, and the collection of giant clams within sanctuaries. Within the larger and less restrictive reserve areas, they prohibited dynamite fishing and the use of small mesh gear. These guidelines were subsequently recognised by the government.

Enforcement of the sanctuary rules is also carried out by the communities. Young local men formed groups known as Guardians of the Sea to confront and chase away violators (local and outsiders), sometimes with the help of the Philippine police forces. The Guardians of the Sea also initiate public hearings for local perpetrators who are tried and punished according to an indigenous system of public justice.

Box 9.10   **Local enforcement of forest management rules in India**
(adapted from Bahuguna, 1992)

In the Indian state of Madhya Pradesh forest protection committees have developed different types of local rules as indicated by the following remarks of villagers: "It was resolved by the committees that all those areas where the trees are marked with red paints along the boundary are closed for grazing and hence all of us unanimously resolve not to take our cattle for grazing in these areas, nor allow the villagers of other villages to do so. We shall keep our cattle at home and all cases of violation would be reported to the forest officer."

For the protection of trees "it was unanimously resolved that we shall not girdle any tree nor allow others to do so. We shall have some strict watch over illegal cutting of trees." For goats "it is resolved that

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[18] Unfortunately in several cases the delinquent people— poachers and illegal fisherfolk who vie for the international market— can afford vehicles, fuel and weapons out of reach for the local communities and resource users. If the resources are available, however, the local enforcing crews can greatly profit from technology such as binoculars with electronic cameras, radio transmitters, and the like (Will Maheia, personal communication, 2004).

all those villagers who are having goats with them must sell them within a period of 3 days, otherwise action will be taken." As for firewood, "no villager would carry the fuel wood head load for sale outside the village. The defaulters will be charged 51 Rupees per head load."

In some cases, social fines have been imposed not only on villagers but also on forest guards, and in others, communities have taken action on social issues, punishing for anti-social drinking and abuse. In Madhya Pradesh, the benefits have included improvements in fuelwood, grass and crop yields; reduced poaching of elephants and other animals; changed relations between forest officials and local people; and the creation of democratic local organisations.

Box 9.11   **Enforcing regulation and awareness raising: two faces of the same coin**
(Adapted from Baird, 1999)

In the Khong region of Laos, it is generally up to the village headmen to assure that fishing regulations are respected by all (see also Boxes 3.11, 5.11 and 6.11). Most communities rely on a mixed strategy that includes enforcement of regulations and awareness raising, which are both important, especially at initial stages of implementation. The pattern has been that villages hand out a few warnings and fines in the first year in which they implement the new regulation, and in so doing they let everybody know that the village is serious about it. By the second year, they find that much less regulation enforcement is required. By then, locals are familiar with the regulations, and have come to clearly understand why they have been adopted.

When necessary, villagers are effective enforcers of regulations. They are also pragmatic people. Seeing is believing, and they tend to feel more positive about co-management regulations if they begin to see positive results. Fortunately, increases in fish stocks and catches often occur after even just a year of implementation of regulations. There appears to be an association between villages that have done an outstanding job with implementing their plans, and relatively remote villages with a high level of community spirit and solidarity. In other words, solidarity at the village level indirectly benefits community-based natural resource management. When solidarity increases as a result of co-management, there are also other spin-off benefits in terms of community development. Another important factor linked to the success of the co-management system in Khong relates to the good working relationships with district authorities.

9.2   "Learning by doing" through monitoring and evaluation

It is rare that the management plans and complementary accords are perfect in the form in which they were first agreed and do not require adjustments along the way. In view of this, the partnership should start with a basic agreement, but also foresee some reviews at specific times during implementation, to develop and adjust the details. As a matter of fact, the adaptive management approach implies that much of the learning takes place during the implementation phase. Even when the initial plans are very well thought out, there is a need to review them as they are implemented in practice. Too often, organisations wait until there is a crisis to undertake reviews, but monitoring, evaluation and adaptation are more effective when they are part of the normal life of organisations and institutions. In this way, "crises" are replaced by on-going learning and adjustments.

Monitoring and reviews should be inclusive of multiple perspectives and as participatory as possible. The relevant parties may learn by gathering the data specified in the follow-up protocol (see Chapter 6) but also other information, not even mentioned there. Such data and information should be documented and analysed, to understand in detail the factors that have an impact on the natural resources and resident communities. And this should be done in the sense of both positive and negative impacts and influences or benefits accruing to them. These factors should be brought to the attention of the responsible CM organisations in the monitoring, evaluation and review meetings.

Throughout implementation, meetings should be held to evaluate the results and impacts of the co-management agreements. If the activities and the financial and human commitments are substantial, the evaluation should be both internal (carried out by the key relevant actors) and external (carried out by independent experts), and the results of those evaluations should be compared and analysed together. Various participatory methods can be used to support both the internal and external evaluations, including methods already familiar to the actors who participated in the other phases of the CM process.

In the evaluation exercises, the evaluators assess whether the co-management agreements succeeded in progressing towards the short-term environmental and social objectives the parties agreed upon as well as the longer-term vision and goals subscribed by all of them. For this, they use result and impact indicators. Examples of result indicator are the existence of a zoning plan subscribed by all parties (if one of the objectives was to set up such a plan) and the number of infractions to the plan identified in one year of operations. Environmental impact indicators may be the viable presence of a species within a defined territory, or the trend of the water level in a village's well. Social impact indicators may include the nutritional status of children in the local communities, the engagement of women and minorities in decision-making about NRM, the improvement in average household income or the change (increase or decrease) in local conflicts over natural resources. The evaluators examine these indicators and also whether the hypotheses and assumptions on which the agreement was designed remain correct or whether the context conditions have changed.

The evaluators may also assess whether the process that developed the agreement has been appropriate and is still on the right track. For this, they need to use process indicators. An example of a process indicator is the fairness of negotiation, which may be measured by some objective information (were all the parties informed on time? Treated with dignity? Asked to present their views? Listened to carefully?), but also by the perception of participants. Interestingly, some process indicators are also indicators of social impact. For instance, the process may succeed in informing and engaging in

NRM some parties that were not involved before. This is a process result that, in itself, also constitutes a positive social impact.

On the basis of discussions of process, results and impacts, the parties decide whether the co-management agreements have to be modified and, if so, what modifications are needed and who should carry them out. If necessary, the process reverts to a phase of negotiation— although generally at a faster pace than the first time (see Figure 4.2 in Chapter 4). It is also useful to have an emergency plan for situations in which fast intervention is needed.

A co-management setting can thus be monitored and evaluated with respect to its own process (how did it develop? How is it run?), the expected results of that process (*e.g.*, emergence of new organised parties, CM agreements, a co-management body) and the impacts of such results. This is far from a simple matter, requiring the use of both quantitative and qualitative tools, participatory methods and often also the presence of external evaluators. It is neither simple nor immediate to maintain a clear distinction between the co-management process and its results, and the consequences (impacts) of such results. The complexity and demanding nature of the task may be responsible for the frequently inadequate understanding of co-management as a whole. In the rare cases in which co-management settings are evaluated, in fact, this is done by external professionals who tend to concentrate on short term results and involve the local organisations only as informants (see Box 9.12). A more balanced picture could be obtained by investigating process, results and impacts, as well as the links among them, with the active involvement of all parties that played an active role in the process itself. If an "independent" perspective is also required, the results thus generated could be compared and combined with those of an external evaluation.[19]

A more balanced picture could be obtained by investigating process, results and impacts, as well as the links among them, with the active involvement of all parties that played an active role in the process itself.

Box 9.12   Learning from poor practice in participatory monitoring and evaluation

Too little attention has been given to regular monitoring of participatory management initiatives, including in efforts that appear to be the most promising or successful. Only in the 1990s did some donors begin to insist on such processes. For instance, the Biodiversity Conservation Network, involved in various biodiversity-based enterprises in South and South-east Asia, began at that time to integrate detailed monitoring procedures.[20] In Nepal, it conducted some baseline research in the buffer zones of Chitwan and Bardia National Parks, where the Parks and People Project was being launched. Subsequent monitoring showed that there had been an increase in some wildlife populations, including the rhinoceros and the tiger. Under this project, the protected area warden was supposed to carry out monitoring with the help of staff, and submit monthly reports to the Department of National Parks and Wildlife Conservation. An independent assessment of the project, however, later stated that monitoring and evaluation had been rather weak.[21]

Even where monitoring has been happening, it has rarely been participatory, with outsiders usually conducting it. For instance, the World Bank's main monitoring mechanism of the projects it funds are "missions" that primarily involve expert consultants and its own staff. Rarely are the affected or beneficiary populations involved except as respondents.

Classical donor practice has been to fly in foreign experts, or hire expensive national consultants.[22] In

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[19]   An example of a participatory evaluation of a co-management setting that produced an external report but also prompted the beginning of an on-going local evaluation process is described in Box 9.18 later in this Chapter.
[20]   Bhatt, 1998.
[21]   Bhatt, 1998.
[22]   Chambers, 1993; Chambers, 1996.

some cases, however, this is beginning to change. In Pakistan, under a project entitled "Maintaining Biodiversity with Rural Community Development", promoted by the Aga Khan Rural Support Programme and IUCN, villagers have been trained to carry out wildlife surveys and monitoring exercises, and are now conducting yearly evaluations of the conservation and development plans they have elaborated.[23]

Regular monitoring and evaluation of both the process and results of the co-management initiatives is needed to assess and fill gaps in design and implementation, and to gauge whether progress is being made and is likely to remain sustainable. For both, essential ingredients are baseline data and adequate resources to sustain the collection and analysis of information through time (see Box 9.13).

Box 9.13   McKenzie Watershed Council— action at the sub-watershed level in Oregon (USA)
(from EPA, 1997)

Over 200,000 residents of Lane County, Oregon, depend on the McKenzie River watershed for their drinking water. They also use the river for fishing, rafting, and other recreational activities. Agricultural and other industrial users rely on the river to supply them with large amounts of high quality water for their operations. Economic development in the McKenzie watershed and other types of pressures have in recent years threatened the capacity of the river to sustain the quality of its water.

A partnership of two local governments led to the creation of the McKenzie Watershed Council. Lane County and the Eugene Water & Electric Board acted as conveners to organise, seek start-up funds, and provide early support and direction. The council's mission statement reads: "To foster better stewardship of the McKenzie river watershed resources, deal with issues in advance of resource degradation and ensure sustainable health, functions, and uses." The 20-member council was formed in 1993 and is made up of private citizens, public interest groups, locally elected officials, representatives of state government, as well as representatives of the Bureau of Land Management, Army Corps of Engineers, and the U.S. Forest Service. The Environmental Protection Agency (EPA) provided start-up funds and the BPA (Bonneville Power Administration) and other bodies contributed funds for completing the action plans and public outreach.

The council adopted a work programme that focused on four topics: water quality, fish and wildlife habitat, recreation, and human habitat. It adopted action plans for all four topics and implemented several of the prescribed actions, beginning with three key programmes: watershed-wide water quality monitoring, citizen water quality monitoring, and restoration and enhancement projects.

Watershed-wide Water Quality Monitoring Programme. Under the leadership of a local utility (the Eugene Water & Electric Board), the council worked with a team of technical advisors to put into place a coordinated approach to long-term water quality monitoring. The Oregon Department of Environmental Quality conducts the monitoring at seven stations in the watershed, as well as providing part of the funding. Other funding comes from council's partners Eugene Water & Electric Board, Army Corps of Engineers, Bureau of Land Management, and U.S. Forest Service. Since its inception in November 1995, the monitoring programme has expanded co-operation among the council, the Oregon Department of Environmental Quality and technical advisors from both public and private sectors.

Citizen Monitoring Programme. A partnership with RARE (Resource Assistance to Rural Environments, part of the President's Americorps Programme) has been critical to the success of the McKenzie Watershed Council's Citizen Monitoring Programme. This volunteer programme engages students

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[23] See http://srdis.ciesin.org/cases/Pakistan-Paper.html and http://www.iucn.org/places/pakistan/macp.htm

> throughout the watershed in the evaluation and monitoring of water quality parameters, and has been a very effective outreach tool. Starting with a grant from the state in 1995, the programme now involves over 200 students from six schools, who monitor five sites on a weekly basis. RARE workers have been involved from the beginning— from designing the pilot programme to training students and working with them on a weekly basis to do the sampling over the last two years.

Monitoring should be carried out at an appropriate frequency and the measured data and collected information should be made accessible to the relevant actors and the general public. The indicators should be identified on a case-by-case basis, although some examples of indicators for the different phases of a co-management process[24] may provide useful ideas. Some such examples are noted below.

Assessing the preparatory phase

The preparatory phase is the foundation of the co-management process and the interested actors (in particular the initiators, supporters and members of the Start-up Team) should assess whether its key expected results— which may already include some positive social impact— have been achieved. Checklist 9.1 includes indicators that may be useful to assess the preparatory phase.

Checklist 9.1 Examples of process and result indicators to assess the CM preparatory phase

● a shared understanding of the NRM unit(s) to be managed, identified on the basis of ecological and social considerations;

● available lists of relevant parties to include in negotiation, and preliminary analysis of their respective entitlements, claims and power differentials and of the NRM conflicts, both existing and potential, among them;

● information and tools (*e.g.*, maps) on the main ecological and social issues at stake in the identified NRM unit(s) gathered and made available to all parties;

● understanding of the key political and social factors and institutions that determine resource access and use;

● a "name" and a description of the co-management process that are culturally valid and broadly understood and accepted in the context at stake;

● social communication initiatives that opened and maintain two-way communication channels between the Start-up Team and the relevant actors, and foster a broad discussion of NRM issues in society;

● the parties reasonably well-informed, organised (*e.g.*, they have identified their own representatives and key interests at stake in the management of natural resources) and willing to negotiate a co-management agreement;

● enhanced local confidence of the parties in being able to manage natural resources;

● social emergence of previously unorganised or marginalised groups.

Assessing the negotiation phase

The negotiation phase is the heart of the process and its effectiveness and fairness set out a standard to be expected and observed by all parties. Examples of

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[24] See Chapter 4 and Figure 4.2 in particular.

indicators to assess the negotiation phase, which may again already include some social impact indicators, are listed in Checklist 9.2.

Checklist 9.2 Examples of process and result indicators to assess the CM negotiation phase

- knowledge and understanding of the relevant actors about the CM process itself;

- existence of mechanisms for exchange and dissemination of NRM information as well as regular meetings to debate and negotiate co-management agreements;

- use of informal media and means, in order to involve and consult those who are unwilling or unable to participate in formal processes such as meetings and workshops;

- actors' ease and fairness of access to communication and negotiation meetings (can all the parties attend the meetings? Are some actors discriminated against?);

- availability of competent facilitators to assist during meetings, mediate conflicts and help relevant actors to communicate among themselves and effectively negotiate agreements;

- active participation of the relevant actors in the development of a common vision and the negotiation of co-management agreements (presence at meetings, effective expression and arguing about their own interests and concerns, willingness to assume responsibilities, etc.);

- existence of a broad common vision among all parties about the desired future of the territory and resources to be managed;

- effectiveness and fairness of the negotiation process as perceived by the relevant parties;

- existence of co-management agreements (either oral or written, formal or informal) providing the parties with a clear understanding of their respective NRM functions, entitlements and responsibilities;

- existence of a clear plan and set of procedures for the monitoring and evaluation of the agreement (follow-up plan);

- existence of CM organisations (with executive, advisory, decision making or mixed roles and with enough resources to carry out their required tasks) expressing a plurality of NRM entitlements in the context at stake;

- quantity and quality of knowledge of the parties about the relevant CM actors; the agreed plans, the rules, the organisations and the roles they are expected to play;

- improved social relationships and trust among the parties participating in the negotiation.

Assessing the implementation phase

During the negotiation phase, follow-up protocols are usually prepared for the co-management agreements to be implemented, and individuals are identified to apply them. The protocols should make explicit the results and impacts each activity is expected to obtain and what indicators will be used to assess them. Thus, with respect to the preceding phases the indicators of interest are now changed. It is now time not only to asses the *process* of co-management and its immediate *results*, but also *the results and impacts of the agreement* it produced, translated into activities on the ground and rules followed by peoples. For this, indicators need to be agreed upon regarding the status and quality of the natural resources in the NRM units and the socio-economic conditions the agreements have specifically set out to influence. Such environmental and socio-economic indicators are unique for each agreement as they refer to its specific objectives.

The co-management process and on-going results, however, remains important and should keep being be monitored. Some such indicators, however, are poorly distinguishable from result and impact indicators (see Checklist 9.3).

Checklist 9.3 **Examples of process and result indicators to assess the CM implementation phase (some may also describe results and impacts of the management agreement)**

- availability of adequate resources to carry out monitoring and evaluation initiatives;

- availability of competent personnel to clarify entitlements and responsibilities and mediate in the event of conflicts among the relevant actors during implementation of the plans and agreements;

- adherence and compliance of the parties with their agreed entitlements and responsibilities;

- perception of the parties that they are learning through the implementation process, and maintenance of a constructive attitude in solving problems;

- satisfaction of the parties about the way in which the co-management agreements and organisations are working;

- fair distribution among the parties of the actual benefits and costs of the agreements;

- decrease in frequency and seriousness of conflicts among the parties now bound to the agreements;

- long-term commitment of the parties demonstrated by initiatives to promote political and policy changes that facilitate implementing the co-management agreements.

While the co-management agreement is being implemented, the area in which it is enforced may grow in size (*e.g.*, when new communities wish to sign on to the same agreement) and/ or new actors (*e.g.*, a federation of village associations) arrive on the scene. In addition, the people having access to the natural resources generally develop a heightened sense of responsibility and legitimacy of their role. This encourages the parties to refine NRM rules and apply more efficient and complex technical solutions. In such cases the organisations in charge of natural resource management may have to experiment— judiciously— with innovation. Judicious innovation, a key component of learning by doing, is facilitated by flexible management plans and budgets. Expansion in application, appropriation, enhanced fitting of the context through complex rules and judicious innovation are all important signals that the agreement is being "institutionalised" in society. They can be considered as CM indicators for both process and impact.

Expansion, appropriation, enhanced fitting and complexity and judicious innovation are all important signals that the agreement is being "institutionalised" in society.

In order to learn by doing it is important to collect data and information, but even more so to maintain a constructive attitude. If mistakes are regarded as opportunities for learning and if people are rewarded for identifying problems and promoting innovative solutions, learning-by-doing is strongly encouraged. On the other hand, it is important that innovations, and in particular innovations regarding NRM rules that were agreed upon by all parties, are never introduced without proper analysis and authorisation.

Assessing the co-management results

Appropriate indicators allow the relevant actors to assess whether the management objectives have been *achieved* (what results were obtained) and the degree to which the cooperation of various parties contributed to such achievements. A

main management objective is the conservation and sustainable use of natural resources. Another frequent aim is support to the livelihoods of local communities without undermining ecological functions and biological diversity and with due attention to empowering, and not disempowering, the communities themselves. Some basic recommendations around the choice of indicators for monitoring and evaluation purposes are collected in Checklist 9.4.

Checklist 9.4   Characteristics of effective indicators

For both assessing process and results of co-management it is important to select indicators that are:

- *significant*— *i.e.,* reflect changes or aspects of importance at meaningful spatial and temporal scales;

- *sensitive*, *i.e.,* change proportionately in response to actual changes in the condition or item being measured;

- *measurable*, *i.e.,* capable of being recorded and analysed in quantitative or qualitative terms;

- *precise*, *i.e.,* measured in the same way by all people;

- *simple and at low cost*, *i.e.,* they should involve simple measurement procedures and be cost-effective in terms of data collection, analysis and interpretation;

- *practical*, *i.e.,* it should be possible to measure them and analyse the measurement results in a timely fashion;

- *comparable*, *i.e.,* defined in a way that allows them to be compared to and combined with other indicators (*e.g.,* percent achievement of a standard).

Appropriate and relevant indicators are not easily identified. Many of the difficulties in assessing co-management may actually stem from the scarce fitting and significance of the indicators selected to monitor its process and results. In the initial phases, indicators related to the capacity of the parties and institutions are appropriate and should be studied in detail. This should include the performance of local organisations, the quality of the initial appraisals, the fairness of the negotiations, the knowledge, attitudes and skills of the parties and their respective contributions. Subsequently, during the management and implementation phase, the actual achievement of the management objectives should be investigated, as well as their repercussions on local productivity, livelihood security and well being. While the agreements are consolidated and expanded, the ecological indicators to assess the trends in the status and health of the natural resources should kept being followed, but also equity, poverty reduction, income generation, diversification of livelihoods and lateral networking should be studied along. Finally when the agreements are scaled-up and external support is withdrawn, long term results and impacts such as local empowerment, performance of CM institutions, economic and ecological sustainability of the CM agreement, performance of external support institutions and linkages developed between CM organisations and external parties could be studied.

Box 9.14   A good indicator of environmental impact: percent nutrient reduction for each bay tributary in Chesapeake Bay!
            (adapted from EPA, 1997)

In the 1970s, it became increasingly obvious that the Chesapeake Bay was degraded. Bay grasses had

died back to a fraction of their historical coverage, large parts of the bay were devoid of oxygen, the water was murky, and some species of fish and shellfish had dramatically declined. By the early 1980s, a scientific consensus emerged that nutrients— both nitrogen and phosphorus— were the primary pollution problem, to which all the bay's 64,000 square mile watershed contributed. In 1983, the first Chesapeake Bay Agreement was signed expressing a vision of a regional approach "to improve and protect water quality and living resources of the Chesapeake Bay estuarine system." The partners in the agreement included the Governors of Maryland, Virginia, and Pennsylvania, the district of Columbia, the Chesapeake Bay Commission (representing the legislative bodies of those states), and the United States' Environmental Protection Agency (EPA).

In 1987, the second Chesapeake Bay Agreement was signed, with a view to "…achieving by the year 2000 at least a 40 percent reduction of nitrogen and phosphorus entering the main stem of the Chesapeake Bay. The strategy should be based on point source loads and on non-point loads in an average rainfall year." This objective is specific, quantified and can be allocated to particular political jurisdictions or river basins. It can be communicated to and understood by the general public, elected officials and others, and progress towards it can be assessed by a very clear measurement: the percent nutrient reduction for each tributary to the bay. Generally, this was perceived as fair and flexible, as each jurisdiction was free to develop its own strategy to meet that goal, based on local land uses, existing programmes, and resources. The objective thus enjoyed the support of the leaders of the relevant states and the EPA, as well as the broad support of local governments, the public, and an array of interest groups.

Evaluations generally compare events and conditions before and after the co-management setting was set up. An example is given in Table 9.1.

Table 9.1   Soil and water conservation in southern Zimbabwe: farmers' perceptions of the old and new management approaches (process and results)
(adapted from Hagmann and Murwira, 1996)

The impact of co-managed research and development programmes on soil and water conservation in southern Zimbabwe was assessed by participating farmers. Their evaluation highlights important features of successful approaches to implement and coordinate soil and water conservation activities.

Old approach	New approach (participatory management)
● forcible methods were used;	● everyone to benefit as all are free to attend meetings now; there is dialogue;
● only few people could benefit (*e.g.*, literate farmers);	
	● process is well explained (teaching by example);
● intercropping was forbidden;	● farmers are the drivers now;
● failed to convincingly address Soil and Water Conservation (SWC);	● intercropping is encouraged to boost yields;
	● farmers are being treated as partners and equals;
● we were told to do things without questioning;	● no discrimination against poor or rich, educated or uneducated;
	● we are given a choice of options;
● the usefulness of conservation works was never explained;	● they pay attention to us and find time to find solutions to farmers problems;
● no dialogue between farmers and extension agents;	● we are being encouraged to try out new things;

● little cooperation among farmers;	● it helps farmers to work co-operatively;
● extension agents treated our fields as theirs.	● farmers practice SWC with enough knowledge of why they do it;
	● we are learning from others through exchange visits and sharing;
	● farmers develop the ability to encourage each other in farm activities;
	● large numbers of people are mobilised;
	● the approach brings about desirable SWC techniques through participation;
	● farmers are free to ask advice;
	● development has been brought to the area;
	● the conservation of trees, soil and water is now very effective.

Checklist 9.5 **Is co-management "successful"? Does it have a positive social impact?**
(adapted from Pretty, 1995)

The following checklist may be used to monitor and assess the social impact of a co-management process. Did co-management:

● provide a framework for cooperative action?

● Facilitate and promote forums to develop effective compromises?

● Help organise people to generate and use their own knowledge and research to advocate their own rights?

● Mediate for more equitable access to resources?

● Help secure sustainability in natural resource management?

● Organise labour resources?

● Mobilise the local economic resources to effectively manage natural resources (credit, savings, marketing)?

● Assist some groups to gain new access to productive resources?

● Provide social infrastructure at the village level?

● Provide a link between rural people and external agencies involved in R&D and natural resource management?

● Influence policy institutions that affect it in turn?

● Improve access of rural populations to information?

● Improve information flow from the local context to governments and NGOs?

Importantly, the evaluations should allow for the identification of both expected outcomes (see Box 9.15) and unexpected outcomes (see Box 9.16)

Box 9.15   **Monitoring and evaluation of the participatory management agreement in Bwindi National Park (Uganda)**
(adapted from Wild and Mutebi, 1996)

Five types of monitoring have been carried out in and with parishes that signed agreements with Uganda National Parks (UNP):

1. **Monitoring illegal activities.** Park patrol records and data on community assistance in controlling illegal activity were used for monitoring purposes. Initial indications were positive. Over the first two years in which beekeeping was allowed within the park no fires broke out in the relevant areas. Prior to that, fires occurred each dry season. Information from rangers indicated that some beekeepers were using the pretext of checking their hives to set snares. Park wardens held meetings with the beekeeper societies, which warned and fined the responsible individuals.

2. **Monitoring utilised species.** Depending upon their vulnerability, utilised species were monitored at three levels: by the users themselves, by UNP and by the Institute of Tropical Forest Conservation of Mbarara University.

3. **Monitoring secondary ecological impacts.** Two secondary effects of utilisation were checked: the impact on species that depend on their direct use and the indirect impact because of the presence of users in the forest. The interactions between users and gorillas have been of most concern.

4. **Monitoring user presence.** User presence was recorded during each harvesting event and results were compared with tourist and ranger presence levels.

5. **Monitoring community attitudes.** Park/ community relationships were monitored through "ground relationship graphs" that map changing attitudes between the community and forest managers over the years and the reasons for those changes. This tool consistently recorded not only any deterioration in relationships with increased attempts at law enforcement, but also improvements due to conservation education, permissions to community institutions to judge park infringements, the expectation of being allowed to use multiple resources, agricultural support, etc.

Box 9.16   **Watching for unintended and unexpected consequences…**
(adapted from Gilmour and Fisher, 1991)

Monitoring and evaluation of community forestry activities are frequently limited to "measuring progress", or checking "project goal attainment". Very little concern is placed on looking for "unintended" or "unanticipated" consequences, such as accidentally making some segment of the population poorer… Further, attention is rarely placed on questioning the appropriateness of project goals themselves. Given the great uncertainty about the social processes involved in community forestry, we suggest that it is vitally important to look for unintended consequences and to carry out *fundamental evaluations* of project goals and impacts in the light of analysis of the actual effects of project activities. Identifying and understanding "unintended consequences" requires emphasis on social, economic and political processes by direct observation and analysis. Quantitative economic analysis is not, in itself, an adequate tool.

Who evaluates success?

Besides "what to measure" at different moments in the co-management process and especially after the implementation of the co-management agreements, another important question is "according to whom?" Monitoring and evaluation of

issues, problems and progress on an ongoing basis is a management function that needs the support of all the partners that generated the co-management agreement. In this light, it is important to understand and include local criteria and categories in the ongoing monitoring and evaluation. Indigenous systems offer many quantitative, qualitative and process oriented indicators that can be effectively utilised (see Table 9.2).

Table 9.2	Indicators to monitor the implementation of participatory management agreements as suggested by indigenous systems of knowledge (adapted from Matowanyika, 1997)	
Objectives	**Indicators**	**Examples in Kagore (Zimbabwe)**
stewardship of natural resources	• strength of local institutions • maintenance of natural resource flows	• frequency of village assemblies • role of *svikiro* (traditional chief) in village assemblies • fruit and water harvests from specific sites
respect for the land	• effectiveness of indigenous regulations • extent of vegetation cover	• number of water points protected • use of local species in reforestation and surface afforested
ecological enhancement	• maintenance of sacred sites • enforcement of indigenous regulations	• quality of environment in the sacred sites • frequency of standing of specific tree species *e.g., Syzgium*
slope protection	• extent of vegetation cover • extent of gully erosion	• maintenance of terraces by local residents • rehabilitation of specific sites in Kagore

Different indicators are likely to be utilised by women and men, poor and rich, young and old, long time residents and recent migrants. For instance, indicators used to evaluate the performance and impacts of co-management are likely to differ according to the individual's degree of dependence on the natural resources. A woman head of household may be impressed by being able to collect abundant thatching grass and gum Arabic from a protected area. A national policy maker may be guided by the number of elephants residing in the same area, or by the trend in yearly collected tourist fees. The monitoring and evaluation phase in co-management needs to sensitively explore and build upon such different perspectives of what is relevant and important.

Some professionals suggest combining at least three types of indicators in a single process:[25]

• indigenous or experiential indicators used by rural people and reflecting *experience-based* changes in environmental or socio-economic conditions; these are *site-specific* and reflect the diverse needs and expectations of community members;

• technical or scientific indicators that are *universal*, disciplinary and *quantitative* enough to allow for comparisons between locations and across time;

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[25]   GTZ, 1997.

- indicators that can *help relate* scientific knowledge and methods to local peoples' experiences.

Different social actors may have different views of what constitutes a positive impact as well as different criteria of evaluation. It is important to include such plural views, indicative of how co-management contributes to:

- community empowerment in planning, implementing, and assessing results;

- resolving conflicts;

- fostering cooperation with government and outside organisations;

- regenerating or maintaining the health of natural resources; and

- sustaining local livelihoods and equity.

In extreme cases, what some may see as progress, others may even see as a problem. As when developing the management plan, some form of facilitated negotiation may be needed to reach consensus on the overall learning objectives, indicators and end-uses of results of the evaluation. Again, as for the management plan, all willing relevant actors should be involved. The members of local communities, in particular, should not be confined to role of information providers or data gatherers. Participatory monitoring and evaluation methods and approaches can allow them to express and analyse their realities on the basis of their own criteria and knowledge of environmental and social processes. Many of these methods involve visualisation, oral testimonies and ecological and natural resource assessment techniques familiar and/ or accessible to local people.[26]

...some form of facilitated negotiation may be needed to reach consensus on the overall learning objectives, indicators and end-uses of results of the evaluation.

Box 9.17   **Government foresters comment on the success of resource management institutions in Tanzania**
(adapted from Wily, 1997)

In Tanzania local communities were made responsible by government for the management of Duru-Haitemba and Mgori forests. Commenting on the characteristics of the successful co-management village institutions, the foresters described how and what they had gained in the process. They said that it liberated them from the exhaustion and failure of trying to protect *miombo* woodlands under pressure, with inadequate resources and in conflict with local communities. The local government foresters said that, for the first time in their long career, they were in a position to provide what they can best give—technical advice. District forestry staff have been asked by villagers to advice on issues that they have not been in a position to advise upon before, including mediating roles in disputes or problems which the actors themselves have found difficult to resolve, such as inter-village boundary disputes. The Mgori Forest liaison officer frequently refers to the work of the CM institutions as "conservation, not reservation".

Box 9.18   **Evaluating the elements of strength of the participatory management of Galapagos Marine Reserve**
(adapted from Borrini-Feyerabend and Farvar, 2001)

The Galapagos Marine Reserve (GMR) has been under a co-management regime since 1999, when the new management plan ushered by the innovative Special Law for Galapagos entered into operation. In

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[26]   Abbot and Guijt, 1998; Guijt, 1998; Pimbert and Wakeford, 2001a; Pimbert and Wakeford, 2001b; Pimbert and Wakeford, 2002; PLA Notes, 1998.

the summer of 2001, a participatory evaluation of the co-management setting (see Figure 6.1 in Chapter 6) engaged the local *Junta de Manejo Participativo* (JMP, the Co-management Council), representatives of all the relevant sectors in the three main inhabited islands of the Galapagos archipelago, and numerous individuals with significant concerns and responsibilities. The evaluation was meant to be "formative" (setting goals and indicators of progress) as well as "summative" (assessing progress towards those goals) and involved both a participatory aspect and an external component (the external evaluators produced their own report but also took advantage of the results of the participatory evaluation they facilitated).

The evaluators identified several elements of weakness and made recommendations to address them. They also stated, however, that the Galapagos Marine Reserve offers a most significant example of institutionalised co-management, which demonstrated resilience and the capacity to achieve consensus positions on important management decisions. In fact, the system managed to overcome various types of disputes, including legal attacks at the higher level in society, local instances of violence, political sabotage and numerous changes in sector leadership. Remarkably, it also allowed the reaching of a consensus over a zoning plan that freed from extractive use 18% of the archipelago coastline (the most depleted areas). Among the characteristics identified as contributing to these successes were the following:

- **Strong and clear legal back-up** (Special Law of Galapagos of 1998; Management Plan of 1999; Official Regulations of 2000; decision of the Constitutional Supreme Jury of 2001).

- Composite, **well-thought-out system** with a co-management body (JMP) in charge of elaborating technical proposals by consensus, and another co-management body— the *Autoridad Inter-institucional de Manejo* (AIM) in charge of casting decisions about such proposals by vote. Importantly, proposals that obtained the consensus of all members of the JMP were consistently approved by the AIM (basically 100% of such proposals were approved). This is a strong **embedded incentive towards achieving consensus and avoiding stalling** (if the JMP does not reach a consensus, the AIM decides on its own accord).

- **Design** of the system **through a participatory process** (the local Start-up Team called *Grupo Nucleo* worked for a couple of years to draft the Special Law of Galapagos and the GMR Management Plan). This strengthened its legitimacy in the early and most difficult years.

- The **favouring of local Galapagos residents** in both the JMP and the AIM, a fact that promotes accountability and enhances management effectiveness.

- The choice of the members of the co-management bodies on the basis of their technical competence and *not* as elected politicians, not even in the case of the Ministry representatives in the AIM. In principle, this set the **system remarkably aside from direct political influence,** which would not be the case if elected representatives would sit at the negotiation table (indirect influence is another matter).

- The support of **a co-management secretariat** (Coordinator, Facilitator and Secretary) that provided for several years the indispensable impulse and technical coaching for the development of the new management setting; the secretariat was financed by a WWF project.

- The **institutional support provided by the Galapagos National Park**, which formally adheres to the participatory approach and houses the technical secretariat for the JMP. This provides an **element of equilibrium and stability in the whole CM system**, linking in an effective way the development of technical proposals, the decisions regarding their enforcement, and the capacity and effectiveness of the enforcement itself.

- The provision of a **regular forum** for exchanging views and assuring **inter-sectoral dialogue** among the key partners, as well as the promotion of **joint initiatives among sectors**, such as joint biological monitoring by the Galapagos National Park (GNP), the Charles Darwin Research Station (CDRS) and the fishing folks.

9.3   Promoting effective and sustainable co-management institutions

There is, today, a considerable body of experiences in developing agreements and new organisational forms for the co-management of natural resources (forests, wetlands, rangelands, protected areas, species, watersheds, etc.). The lessons learnt from such schemes that have been in operation for several years provide useful insights into the characteristics of successful co-management institutions and how these can be nurtured. This does not mean that all is clear and that there are no more uncertainties about the roles and features of effective co-management institutions in a fast changing world. Far from it! As we have discussed, there are even multiple perspectives on what constitutes *successful* co-management. And yet, it seems that some advice can be offered towards enhancing the effectiveness and sustainability of the agreements, organisations, rules and culture-based patterns of understanding and action that constitute a "co-management institution".

Together, CM agreements, organisations, rules and culture-based patterns of understanding and action constitute a "co-management institution".

Developing goodwill among the parties

As the British Columbia Claims Task Force[27] has said, co-management agreements are about rights to land, sea and resources, and the real solutions to the problems they set out to solve lie in a broad based reconciliation, both legal and political. Whatever type of agreement, there is one essential element that all must contain. That is goodwill, *i.e.,* trust, mutual respect and integrity. If that element is not present, developing a co-management agreement becomes extremely hard. There is little point in even commencing negotiations towards functional agreements unless the parties are prepared to:

- respect one another;

- develop even a very broad shared vision of the desired feature for the resources at stake;

- act honestly, in particular by following through and delivering what they have agreed upon.

Mutual goodwill is particularly at stake *after* the agreement has been signed, when issues associated with co-existence and cooperation in the face of different world-views have to be confronted on a daily basis. Distrust or lack of understanding of the motives and rationale for a conservation agency by local people may be an ongoing problem. Similarly, a paternalistic and distrusting attitude on the part of government staff may be "felt" by people and may suffocate any desire for cooperation. Social communications initiatives during implementation can be helpful to clarify and possibly diffuse conflict. Good faith and commitment to the co-management agreement need to be demonstrated by all parties.

Maintaining flexibility and fostering social experimentation

Co-management is achieved through a cyclical process of dialogue, action, and reflection. An important characteristic of successful co-management is thus to

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[27]   British Columbia Claims Task Force, 1991.

value and support such a process without focusing entirely on the results it should achieve. The "process" approach is based on the assumption that when several institutional actors are at stake they need time to get to know their respective needs and capacities. The learning process involves acting together, creating knowledge, and developing an active institution through trial and error. Such a process must be flexible, and responsive to highly differentiated needs and site-specific conditions. Every farm or forest patch has its own signature. No one can predict how ecological conditions and needs will evolve over time. Co-management bodies must "learn by doing", building upon the motivation, confidence and rapport amongst all the parties involved.

An approach based on social experimentation treats error as a source of information to adapt procedures (see Box 9.19). Indicators are developed from those most important to key actors, in particular the local communities, and, rather than pursuing absolute and fixed targets, the actors find occasions to celebrate the milestones they reach along the way. Innovative learning methods promote group demonstrations, village level workshops, and community-to-community visits and extension to achieve effective multiplication of sustainable natural resource management technologies. Co-management schemes based on such a "process approach" must be pursued for realistic lengths of time before evaluating results in terms of social development and sustainable natural resource management. Some of the positive trends and results generated in this way (*e.g.*, local confidence in being able to manage natural resources, social emergence of previously marginalised groups) may be even more important than their concrete, short term, ecological results.

Box 9.19   **Learning by doing in co-managing aquatic resources in Khong district (Lao PDR)**
(adapted from Baird, 1999)

Because formal aquatic resource co-management planning is unfamiliar to the villagers who established the new co-management plans (see also Boxes 3.11, 5.11, 6.11 and 9.11), it is generally necessary for them to adjust regulations after having tried them out. This is an important part of adaptive management and a great way to increase local capacities. Lessons are invariably learnt as time passes, and experiences generally indicate whether regulations should be softened or hardened. Village headmen have the right to change regulations, but they are supposed to organise community-wide meetings and receive everyone's prior approval before alterations are actually made to the plan. They are also supposed to notify the district officials in Khong. Experience indicates that while village headmen almost always seek a mandate from their fellow villagers before instituting changes, they rarely inform the district. They just inform them when the officers pass by. The officers in Khong are mostly concerned that villages do not establish regulations that discriminate against other villages. For instance, they have a policy that villages are not allowed to restrict outsider-fishing activities unless they are willing to enforce the same restrictions on themselves. However, if a village bans a fishing method in their area of jurisdiction, outsiders are expected to abide by the ban in the same way as local fisherfolk. The "non-discriminatory regulation" policy of the district helps to maintain good relationships between villages.

While many of the lessons learnt from the co-management experience in Khong are applicable to other parts of Laos and the region, unique conditions in different areas will require inventive approaches to meet local needs. Common property regimes can break down in crisis, but experience in Khong indicates that they can also be strengthened in response to resource management crisis. The aquatic resource co-management programme in Khong has been very successful. It has enhanced village solidarity, increased natural resource management capacity and increased the fish and frog stocks and catches. Provided that co-management systems remain flexible and can adapt to social and institutional circumstances unique to particular areas, it will continue to be a most important option for equitably managing natural resources in the region.

Allowing the management partnership to mature

The implementation phase can provide inspiring examples of maturation and evolution of the management partnership. At the beginning the emphasis may be on basic resource protection combined with the exercise of some rights of access by specified parties. This may be followed by an increased sense of legitimacy and responsibility on the part of the people exercising such access, and, little by little, the development of more appropriate rules and/ or more complex manipulation and technologies for the sustainable extraction and use of resources. A telling example is the changing attitudes and priorities of villagers after they took over the management of their *miombo* woodlands in Tanzania (see Box 9.20).

Box 9.20   **Villagers regenerate *miombo* woodlands in Tanzania**
(adapted from Wily, 1997)

In a situation of severe degradation of the forest cover, two Tanzanian communities have pioneered the challenge of achieving sustained, effective control of the use of the forest resource in a very cost-effective way. This was made possible because the government of Tanzania gave them appropriate rights and access to benefits, allowing them to assume their responsibilities as forest managers.

Each one of the villages maintains a Village Forest Committee, the composition of which has steadily shifted from village leaders to ordinary villagers. This local level democratisation has both arisen from, and led to, a growing need for accountability as practical management and controls get under way. As the months pass, more, rather than fewer, villagers become effectively involved in the commitment to conserve and manage the forest. An interesting feature of this process is that whilst villagers cited virtually all uses from timber to grazing as "indispensable" before they were granted control over the woodlands, the same leaders and ordinary villagers swiftly argued for discontinuation of any use that they considered damaging once it was known that the forest was "theirs". As one villager observed when asked why the village was so intensely serious in its forest conservation effort: "Of course we stopped the encroachment and charcoal burning when we were given the forest to look after for ourselves! Now it is ours, we only have ourselves to blame if the forest gets used up. That is why you find us serious."

While the co-management agreement gets fine tuned, the area in which it applies may expand (new parishes or communities may join the agreement) so that the process may move in at least two dimensions— towards more complex accords and towards larger areas of application.[28] This may also be accompanied by the development of new associations among the parties in the agreement, or new nesting institutions (*e.g.*, a federation of fisherfolk associations). Flexible management budgets are very conducive to this maturation through "learning by doing" as they can provide the support necessary for organisations to get on their feet.

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[28]   Mark Poffenberger, personal communication, 1996. Complex agreements may include micro-zoning (mosaic plans), multiple time horizons, adoption of new technologies, etc.

The co-management agreement may expand as the process moves towards more complex management agreements and larger areas of application.

In addition, it is often in the implementation phase that the need for specific policy and legal change to support effective co-management of natural resources becomes well recognised.[29] These changes need to be pursued, as appropriate, by the management partnership (different stakeholders may be able to use different channels to achieve the desired changes). By such processes, several *de facto* management partnerships may also become *de jure*, *i.e.,* legalised by government authority. The same Tanzanian villages described in Box 9.20 began to manage their forests by preventing activities they had declared illegal, issuing a limited number of permits for sustainable uses, patrolling the forest, rehabilitating springs, etc., only on the basis of the support they had secured from the local district council. It soon became clear to them, however, that they needed more formal legal backing if their rules were to be taken seriously by all. Each village was therefore assisted to rephrase their management plans and rules as Village By-Laws. These were then formally approved under the District Authorities Act in 1995. Now each village is the legal authority and manager of that part of the Duru-Haitemba forest specified in the relevant Village By-Law as falling under its jurisdiction.[30]

Promoting people-centred organisational cultures

The quality and depth of a co-management process is dependent on the willingness of the parties to work together. Governmental agencies, in particular, should be willing to trust people— their knowledge, their culture-based organisations, their understanding of their own rights, their capacities to assume responsibilities and innovate. A solid commitment to "people-centeredness" and a philosophy of reversals from top-down management decisions are key features of enabling organisations and an indicator of their engagement in learning by doing.

Both empirical experience and theory suggest that "organisational culture"— *i.e.,* the combination of the individual opinions, shared knowledge, values and norms of the members of an organisation— is the most fundamental level at which transformation needs to take place.[31] Structures and work patterns may be reformed within organisations to enable co-management, but if their "organisational culture" is left untouched, the changes may remain superficial and ultimately without effect.

For natural resource management bureaucracies in particular, narratives and

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[29]   The legal and political conditions for successful co-management of natural resources are further discussed in part IV of this volume.
[30]   Wily, 1997.
[31]   Bainbridge *et al.*, 2000; Pimbert, 2004; Wright, 1994.

perspectives about people-environment interactions are the central element of their organisational culture. They give rise to, and legitimate, particular procedures, policies, technologies and professional practices that either deny or encourage diversity and participation in natural resource management. For example, an emphasis on relatively "stable" ecosystems feeds into the development of policies and "scientific" practices for conservation controlled by professionals and distant organisations. Conversely, notions of uncertainty, spatial variability and complex non-equilibrium ecological dynamics tend to emphasise flexibility, mobility and adaptive resource management in which local people are central actors.[32]

Simplified and a-historical perspectives perpetuated by the powerful have been a persistent feature of environmental policies and interventions. Neo-Malthusian narratives have been used by bureaucracies to blame people for environmental degradation and justify imposing on them massive packages of standard interventions. To "prevent further deterioration", official policies and bureaucracies have consistently defined local misuse of resources as the principal cause of destruction and excluded people from the management of natural resources.[33] All too often, "by depicting resource users (the local ones) as wild, destructive (or illiterate, uneducated, backward or non-innovative), state resource management agencies think they can justify their use of militaristic environmental protection".[34]

Simplified and a-historical perspectives perpetuated by the powerful have been a persistent feature of environmental policies and interventions.

Such policy (or crisis) narratives are usually robust, hard to challenge and slow to change. They play a key role in policy and project level decision making. They structure options, define relevant data and exclude other views within bureaucracies and professional circles. And yet, recent research has debunked several orthodox views on people-environment interactions (Box 9.21). Effective and inclusive co-management bodies are usually characterised by people-centred organisational cultures that embrace this new knowledge about people-environment interactions. People-centred organisational cultures typically emphasise the importance of social and ecological knowledge, flexible institutions and adaptive organisations for co-management.

Box 9.21   **Debunking myths on people-environment interactions**
(adapted from Bainbridge *et al.*, 2000; Pimbert, 2004)

Recent research has fundamentally questioned many of the environmental crisis narratives and received wisdoms on the supposed destructiveness of rural people on the environment. A combination of historical analysis, social anthropology, participatory methods to understand local resource users' knowledge and perspectives, and insights from non-equilibrium ecology has challenged some of the environmental knowledge taken for granted by government bureaucracies and donors:

- Contrary to neo-Malthusian, assumptions, population increase may not necessarily mean more environmental degradation and less biological diversity. More people can mean more care for the environment as shown by research in Sierra Leone[35] and Kenya.[36]

- Historical research in West Africa has shown dominant deforestation estimates to be vastly exaggerated. Many of the vegetation forms that ecologists and policy makers have used to indicate forest loss, such as forest patches in savannah, are, according to the knowledge of local resource users and

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[32]   Pimbert, 2004.
[33]   Beliefs are often the product of powerful discourse rather than facts. Sundberg (2004) illustrates this with regard to poor migrants in Guatemala, who are invariably considered "the primary cause of deforestation in the reserve, to the exclusion of other actors such as powerful cattle ranchers, loggers, and oil companies…".
[34]   Peluso, 1996.
[35]   Kandeh and Richards, 1996.
[36]   Tiffen *et al.*, 1994.

historical evidence, the results of landscape enrichment by people.[37]

● Many assumed "pristine" wetlands, grasslands, forests and other biodiversity-rich environments in Latin America, the Pacific Islands, Africa, Australia and Asia have been proved to be human modified and enriched landscapes.[38]

● New perspectives in ecology have challenged conventional views of dry lands in Africa as stable ecosystems subject to decline and desertification once carrying capacity is exceeded. Rangelands are resilient and less prone to degradation and desertification than once thought. The new findings concord with the knowledge of many local herders and emphasise how rangelands are subject to high levels of spatial and temporal variability, and ecological dynamics are characterised by sudden transitions rather than slow and predictable change.[39]

● In the insular Caribbean, field research has shown that increases in the level of poverty and unemployment of a coastal community do not automatically lead to increased resource use and degradation, as often assumed.[40]

Promoting participatory approaches and learning attitudes at various levels

Participatory methods [help in] breaking down the conventional distinctions between diagnosis, planning, implementation and evaluation, setting a fluid and flexible process of decision making and action.

Successful co-management organisations enable the people living closest to the resources to identify, exchange and analyse information, understand the issues at stake, negotiate solutions and develop an agenda for action. Their success hinges on a commitment to understand multiple perspectives within communities and among various actors and on sufficient time and space to negotiate workable partnerships with one another. Several families of methods and approaches are of help throughout this, basically revolving around participatory action research (PAR) and participatory learning and action (PLA). When introduced by facilitators in a sensitive and respectful manner, these methods enable people to truly "take part" in understanding issues and making decisions over natural resources and the other issues that affect their lives. The methods also contribute to breaking down the conventional distinctions between diagnosis, planning, implementation and evaluation, setting a fluid and flexible process of decision making and action. They help to identify new skills in the community and to generate local confidence to articulate solutions and take action.

Some co-management processes may wish to move beyond the empowerment process at the local level.

A learning approach implies that people are able to discuss alternatives and choices and develop their own process of appraisal, prioritisation, and decision-making based on locally developed indicators. This is particularly important at the community level, too often by-passed by analyses and decisions. As described in Part II of this volume, an enabling approach involves external support but in a way that complements and does not replace internal capabilities, knowledge and resources. In this sense, co-management processes have still much to do to promote learning attitudes at all levels. The empowerment process at the local level is crucially important and a foundation for any other type of participatory processes and learning, but it can even be envisaged to move *beyond* that, into institutional development and "lateral learning" (see Table 9.3 for a typology of practices).

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[37] Fairhead and Leach, 1996.
[38] Nabham *et al.,* 1982; Pimbert and Pretty, 1995; Saberwal, 1996; Posey, 1999.
[39] Sullivan and Homewood, 2004.
[40] CANARI, 2003.

Table 9.3	Participatory methodologies and approaches: the spectrum of current practice in co-management
	(adapted from Shah, 1996; Pimbert and Pretty, 1995)
Mere labelling	Participatory methods used only as a label to make proposals and rhetoric attractive to donors
Participatory methods for staff training	Participatory methods primarily used for one shot training of staff members. No commitment is demonstrated to use methods for field action, no effective skills are available.
Participatory methods for appraisal	Participatory methods are used at the appraisal stage to obtain a list of local priorities for action. Lack of skills, commitment and resources prevent the continuation of the approach for programme management and local organisational development.
Participatory methods for project management	Participatory methods are used to develop an effective sequence of programme implementation and management but are not linked with institution development aspects. The use of methods is sustained as long as funding is available but tapers off on withdrawal of resources in absence of effective local organisations.
Participatory methods for local institutional and organisational development	Participatory methods are used effectively for programme management and local institutional development, which shows short and long term impact. The process, however, may not be accompanied by corresponding changes in support organisations at larger scales (*e.g.*, in learning environment, structures, disbursement procedures and evaluation mechanisms). This may lead to decaying of effectiveness of organisational efforts over time.
Participatory methods for organisational change and "lateral learning"	Participatory methods used as part of a strategy of organisational growth and learning, as well as local institution development. The strategy involves appraisal, planning, negotiation, bargaining and conflict resolution as well as lateral expansion of resource use organisations through peasant to peasant (village to village), herder to herder (tribe to tribe), and institution to institution mechanisms.

Indeed, the institutionalisation of participatory processes may proceed by pursuing negotiation, organisational change and lateral learning at various levels:[41]

The local/ micro level

The more enabling co-management organisations encourage the expansion of participation from one activity, such as appraisal, to the empowering involvement of primary actors and local communities throughout the whole co-management process. In this sense, "participation" involves setting priorities (*e.g.*, what should be conserved, by when and how? Who decides where work should be done?); controlling implementation (whose project is it?); controlling funding (how are funds distributed and to whom? Who benefits?); reporting progress to authorities or donors (whose format counts?); developing institutions (whose power counts?). Co-management organisations may thus encourage a shift in the quality and type of participation, towards learning processes that allow the parties to reflect on their experience and develop knowledge together. Successful participatory learning initiatives often combine specific methodologies, such as PRA/ PLA, with

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[41] For a more general account of the scaling up and institutionalisation of participatory processes, see Blackburn and Holland, 1998; Bainbridge *et al.,* 2000; Pimbert, 2004.

other methods of participatory learning that are deliberately empowering.[42] For example, they link learning with creating or strengthening local organisations that act in self reliant ways.

From the local/ micro-level to a larger geographical scale

Successful co-management organisations encourage a scaling up of operations to include larger numbers of communities and places in the management of natural resources.

Successful co-management organisations encourage a scaling up of operations to include larger numbers of communities and territories/ resources in the management of natural resources. Once successful local experiences are in place, they can grow through a number of avenues including provision of resources, strengthening of networks, provision of mutual support in conflict resolution, etc. Some most effective learning processes are based in networks of field initiatives and engage the relevant field staff (governmental agencies and projects), local community members, local authorities and other relevant parties. The learning that takes place in such initiatives is directed by the learners and usually encompasses a wide range of skills and experiences (*e.g.*, analytical skills, communication skills, capacity to facilitate and participate in meetings)[43] towards effective co-management. A good example is described in Box 5.10 of Chapter 5.

Co-management organisations have at times achieved larger scale impact by supporting groups who have had successful experiences in one situation to spread their knowledge, innovations and experience to other areas. Exchanges, mutual visits, joint initiatives and information flows lead to lateral spread of participatory approaches over wider geographical areas and offered opportunities to influence policies at various levels. The work of the Aga Khan Rural Support Programme in Gujarat (India) offers an example of this type of scaling up of a participatory approach to natural resource management (see Box 9.22).

Box 9.22   **Co-management of natural resources in Gujarat (India): village to village extension**
(adapted from Shah and Kaul Shah, 1994)

The Aga Khan Rural Support Programme (AKRSP) is an NGO working with village communities in Gujarat to catalyse and promote community participation in natural resource management. AKRSP focuses on promoting village organisations and institutions to implement the villagers' own resource conservation plans. This approach has shown that programmes managed by local bodies result in higher investment by farmers in soil, water and nutrient conservation. Local villagers trained as para-professionals were able to create demand for their services of planning, management and monitoring.

Following this, the participatory process spread widely to neighbouring villages and watersheds. Agricultural productivity increased by 30% to 100% over a two to three year period. Soil loss was reduced, and out-migration slowed. Many households diversified into animal husbandry and horticulture. The local para-professionals and co-management organisations became confident enough to help promote similar activities in neighbouring areas and village level institutions.

The creation of a sustainable network of local institutions by AKRSP in the area depended to a great extent on its ability to provide training and programme support to such bodies to emerge as viable, small-scale commercial entities. The size of AKRSP and its initial operations in 40 villages enabled it to hire a good quality multi disciplinary team, which could provide support to village institutions in a diverse range of functional areas. By virtue of the size of its operations, AKRSP was able to mobilise and attract support from many external agencies, including the Indian government.

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[42]   Freire, 1970; Freire, 1985; ActionAid, 2001; Archer and Newman, 2003.
[43]   Absalom *et al.*, 1995.

Similarly, the scaling up and institutionalising of the Community Integrated Pest Management (CIPM) programme in Indonesia has been remarkable. Through its emphasis on farmer-to-farmer training, action research, policy dialogue and other participatory processes, CIPM has truly transformed the livelihoods of peasants by improving income security, food supply, public health and re-invigorating rural civil society. It has also strengthened social assets by supporting farmers' efforts to build associations and networks, giving them a stronger voice and improved means of collective action and mutual aid (see Box 9.23).

Box 9.23   **Community Integrated Pest Management in Indonesia**
                    (adapted from Fakih *et al.*, 2003)

Integrated Pest Management (IPM) emerged in Indonesia in the late 1980s as a reaction to the environmental and social consequences of the Green Revolution model of agriculture. A cooperative programme between the United Nations Food and Agriculture Organisation (FAO) and the Indonesian Government had centred on Farmer Field Schools (FFS), which are schools without walls. The FFS aimed to make farmers experts in their own fields, enabling them to replace their reliance on external inputs, such as pesticides, with endogenous skills, knowledge and resources. Over one million rice paddy farmers and local resource users participated, and are still today involved, in this national programme.

Over time, the emphasis of the programme shifted towards community organisation, community planning and management of IPM, and became known as Community IPM (CIPM). Agro-ecosystem analysis and methods for group dynamics were initially used to enhance farmers' ecological literacy as it related to plant-insect ecology. Farmer IPM trainers and researcher/ scientists learned facilitation and presentation skills and how to make basic experimental designs to analyse and quantify ecological phenomena. Then, the principles of FFS slowly extended from rice to the management of natural resources, from IPM to plant breeding and participatory water management, and from technical domains to broader engagement with policy issues, advocacy, and local governance.

The beneficial environmental impacts of the programme include significantly reduced pesticide use, increased biological and genetic diversity, and a more holistic approach by farmers to maintaining the complex ecological balance of rice agro-ecosystems. Learning to analyse policy, deal with high-level decision-makers in government and produce a newspaper with a print run of 10,000 has been key in enabling farmers and other natural resource users to become organisers, planners, advocates, and policy activists. The empowering dynamic led to a variety of campaign strategies, including a national IPM farmers' congress and the development of a charter for peasant rights. Such activities, together with the strengthened voice of farmers brought about by the Community IPM process overall, created an upsurge of support for a national peasant movement in Indonesia.

Transforming bureaucracies at the institutional scale

Organisations that operate at a large scale and wish to enhance participation in natural resource management have to focus on more than local communities and the micro-level. Possibly, in fact, one of their key challenges is to *change themselves.* Such organisations, which generally include representatives of national governments, large NGOs and donor agencies, tend to adopt standardised procedures that, no matter how sophisticated, do not adjust well to fine-grained local ecological and social characteristics. Together with the professional attitudes and behaviour usually associated with top-down, expert prescriptions, such standardised procedures are likely to inhibit the flexible, innovative practices needed for the co-management of natural resources to flourish in diverse local contexts.[44]

Institutional transformation and professional re-orientation are often needed.

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[44]   Chambers, 1993; Borrini-Feyerabend, 1996; Chambers, 1996.

Institutional transformation and professional re-orientation of the kind described in Checklist 9.6 are often needed.

Checklist 9.6 **Towards successful co-management organisations: some operational and policy implications of going large-scale**
(adapted from Absalom *et al.*, 1995; Shah, Kaul Shah and Pimbert, 1998)

Governments, large NGOs and donors that are effective in the co-management of natural resources typically encourage several types of internal organisational change, as described below:

● *Commitment to process*

Top managers/ decision makers of government departments and large NGOs commit themselves to a long-term process going "beyond projects" (cycles of 10 years or more are much more appropriate than 2-year projects).

● *Organisational culture*

The organisational culture provides opportunities to enable learning from experiences and mistakes, and is flexible enough to allow experimentation. Donor funding is flexible and more dependent on open-ended, event-focused targets than on fixed schedules.

● *Management styles*

There is a transition from management styles based on hierarchy, inhibited communications, command and obedience relationships to more organic styles that encourage lateral communication, collegial authority and flexible roles and procedures. The organisations encourage employees to be participatory in their work with each other, and not just during "field visits".

● *Organisational structure*

Efforts are on-going at transforming compartmentalised and hierarchical organisations into flatter structures that are multi functional and evolve organically. Innovative mechanisms may include the establishment and funding of small self managed teams within organisations, endowed with the freedom to experiment, motivate and learn from mistakes. Professionals are encouraged to work as "intrapreneurs" (entrepreneurs within organisations) and pilot innovations.

● *Quality of support professionals*

Co-management of natural resources requires a high degree of professional support in the initial phases until local institutions develop/ re-activate indigenous and local management systems. The need to respond flexibly and provide support in a wide range of areas requires dynamic and committed professionals. Efforts are made to attract and reward excellent professionals in the initial phases of the process in order to be effective in the long run. Donors invest early-on to build the capacity of these professionals and their field collaborators.

● *Incentives/ rewards*

Incentives and rewards encourage staff to be honest, work in the field with communities, stay on as staff, and encourage joint action between governmental institutions and communities.

● *Organisational procedures*

Organisational and programme management procedures enable linking of participatory learning and action with programme management and implementation (*e.g.*, through the decentralisation of funds management). They seek to build participatory learning and action from the start of the programme cycle. Co-management processes are piloted on a small-scale and implemented mainly through local organisations.

● *Outward Linkages*

Priority is given to developing effective linkages (*e.g.*, training exchanges, joint initiatives, on-going information flows) with partner organisations. This is meant to help partners (including donors) to better understand all phases of the participatory processes. Linkages are developed on principles of mutual respect, integrity and trust among partners.

Scaling up and institutionalising co-management approaches offer great opportunities to expand people's participation in natural resource management but also present considerable policy and operational challenges. In particular, few experts and specialised agencies have the will, experience or skills necessary to work in a participatory mode. Support measures may be needed to deal with the insecurity often associated with their changing roles. When this is lacking, one can even see the rapid demise of inspiring co-management (see Box 9.24).

Box 9.24 **How to spoil conservation: an effective co-management setting clashes against misunderstanding and the repressive approach**
(adapted from Taty *et al.*, 2003; Chatelain *et al.*, 2004)

The Conkouati-Douli National Park (Congo Brazzaville) offers a important example of how an effective management partnership can be developed even while facing some of the most challenging conditions in the world. The co-management organisation it formally established is the *Comité de Gestion des Ressources Naturelles de Conkouati* (COGEREN), which includes representatives of the local communities, the state administration, the NGOs locally active in environment and development issues and some locally elected officials. The legitimisation of this co-management body was accomplished through the signing of a Co-management Charter by national and local authorities and by a number of social rituals by which the local chiefs became publicly engaged. After this, a zoning plan was developed, as well as a management plan for the park, prepared on the basis of the zoning plan and progressively including three special agreements on the species most highly endangered in the area: the manatees, the marine turtles and rattan. These agreements were prepared cooperatively with all the parties engaged in the COGEREN and spelled out some important hopes for a voluntary code of conduct in the area.

Unfortunately, the achievements in Conkouati— arresting and powerful as they have been— remained vulnerable. After the IUCN project that nourished the development of COGEREN came to an end, COGEREN managed to survive well, continuing and even expanding activities for a couple of years, with a small but crucial support from the Netherlands Committee for the IUCN. All work grounded to a halt, however, when a new *Conservateur* (park manager) and a new conservation advisor from a foreign NGO[45] came into the area. Instead of valuing the advantages of the situation they found in place, they chose to follow a more conventional and dated "protectionist" and "repressive" approach. In spite of the existing official engagements, they did not respect the authority of COGEREN, prevented both the official signature and the application of the special agreements on the manatees, the marine turtles and rattan, and re-focused park management efforts on the armed repression of poaching. The wisdom of involving in conservation a poorly-paid armed militia in a country just out of a civil war was all to be seen. Far from eliminating poaching, this "repression" appears to have increased it. The armed forces have simply become a new layer in the system, taxing each poached animal that gets out of the park, and thus encouraging the poachers to hunt more than before. As a matter of fact, a sort of alliance is said to have been established between the armed police and the poachers (who are not members of the local communities and come from outside the park) with the first becoming the taxing protectors of the second: a great result indeed! Understandably, the sudden change of approach has angered and disheartened the communities engaged in the COGEREN, and new clashes and conflicts have been recorded. It would be unforgivable if the local communities were made to lose interest altogether after the long process that managed to involve them sincerely and effectively in conservation.

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[45] The Wildlife Conservation Society (WCS).

Encouraging "champions" with enabling attitudes and values

Promoting co-management is particularly problematic where there is little support from government or because of prevailing negative attitudes and negative historical legacies. In such contexts, the role of innovative, charismatic or dynamic individuals is often crucial. These "champions of change" can be found at any level of society— within local or national government, NGOs, local communities and, not least, among resource users. And yet, perhaps more than the existence of champions *per se*, it is the attitudinal and value orientation of the champions in co-management organisations that really makes the difference.

For example, many features of normal professional attitudes and behaviour— such as dominant and superior attitudes, authoritarian relationships, gender and upper-to-upper biases, failures to honour aroused expectations, rushing, and being "extractive" in terms of resources and information— are surely not conducive to co-management. Examples are the attitude of "we know what's best for them" of officials and powerful actors, the opposite feeling of awe and subservience amongst some community members and weaker actors, the mutual distrust and ill-will built upon a history of conflicts, and the behaviours that perpetuate mystifying symbols of power and authority. As respectful, learning-oriented attitudes are increasingly seen as crucial, abandoning routines (un-learning patterns) and engaging in personal reorientation and organisational learning are increasingly appreciated. In this sense, co-management organisations can encourage their members to:

- interact in a participatory and non dominating way;

- develop a self-critical attitude, recognising that they are continually learning and welcoming rigorous peer review;

- be explicit about whether they are eliciting information or/ and resources for external use, or are promoting community action and devolution of decision making power over the use of natural resources— a distinction that should be made clear and documented;

- make commitments to value fairly the contributions made by all partners (South, North, local, external);

- recognise the need for a diversity of views and approaches, and respect them;

- identify, in partnership with communities, relevant rights and appropriate forms of compensation when eliciting information and resources for external use;

- ensure that credit and compensation are given as they are due;

- strive towards a process of empowerment of women, marginalised people and weaker people in society.

Bureaucratic structures exert pressures on their staff to act and behave in certain ways. In turn, the behaviour and attitudes of staff shape the organisational cultures and influence the way bureaucracies operate, both internally and with their "clients" and "beneficiaries".

The challenge of unfreezing and/ or shifting attitudes and the working style of bureaucracies (government, donors, large NGOs) demands examining the relationships between working structures and staff attitudes and behaviour, which are often mutually reinforcing. Bureaucratic structures exert pressures on their staff to act and behave in certain ways. In turn, the behaviour and attitudes of staff shape the organisational cultures and influence the way bureaucracies operate, both internally and with their "clients" and "beneficiaries". Organisational change needs to combine training for individual change with structural transformation— a process through which the organisation examines and re-shapes its programmes

and procedures. The scaling up of co-management implies nothing less than fundamental changes in the operational procedures of bureaucracies, their reward and incentive systems, their organisational culture, their career patterns, and their use of time, space and resources.[46]

Ensuring transparency in the distribution of benefits

Ensuring transparency in the distribution of the natural resource management benefits is an important factor to promote and maintain the good will of the co-management parties. A simple and successful example of "transparency in practice" comes from the early days of the CAMPFIRE programme, in Zimbabwe (see Box 9.25).

Box 9.25   **Learning transparency from Mahenye Ward (Zimbabwe)**
             (adapted from Jones, 2003)

In Mahenye and some other CAMPFIRE areas of Zimbabwe, village meetings are held when the Ward Wildlife Committee gives a statement of accounts for the year and decisions are taken on how to spend the next year's income from wildlife and tourism. When the income is distributed, each head of household individually collects the cash. If it was decided to spend some of the income on a community project, such as a grinding mill, then each head of household returns the agreed portion of the cash for this purpose. They all see and hold in their hands the cash that was generated from wildlife and fully realise that wildlife has a monetary value. Further, each head of household, having assigned money to a purpose, is bound to want to ensure that it will be actually used for that purpose, thus promoting accountability.

Striving for equity

Effective and sustainable co-management organisations pay attention to equity and human rights issues for both ethical and practical reasons. It is crucial to recognise that the top-down management of wildlife or protected areas can maintain a degree of effectiveness even in the face of injustices and the impoverishment of people.[47] Co-management, however, has little chance of success if benefits are not distributed fairly among the relevant parties. Or, let us say, has little chances of remaining "co-management" and not being transformed into yet another top-down body at the service of the powerful. As discussed in Chapter 2, "equity" in natural resource management entails the fair sharing of information among the parties, the chances for everyone to participate in discussion and negotiate agreements that are understood and appreciated by all, and the sharing of resource management benefits and responsibilities in a way that is commensurate with the varying capacities of the parties, the sacrifices and contributions they made and/ or the damages they incurred in the process.[48]

Achieving a balanced representation of actors and interest groups in co-management organisations is also an important element of an equitable co-management setting, and it is all but an easy task. Most communities show internal inequities and differences, based on ethnic origin, class, caste, economic endowments, religion, social status, gender and age. In all societies, the composition of decision-making bodies is likely to reflect and reinforce such imbalances of power, with the weaker and underprivileged social groups being least represented in decision

In all societies, the composition of decision-making bodies is likely to reflect and reinforce imbalances of power, with the weaker and underprivileged social groups being least represented in decision making structures.

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[46] Bainbridge *et al.,* 2000; Pimbert, 2004.
[47] Brockington, 2003.
[48] For instance, through lost access to resources, damage to crops and through the physical danger presented by many wild animals. See also Pimbert and Pretty, 1998.

making structures. And, of course, what benefits one group and meets some conservation goals, may harm other parties and other goals. Inequities in the composition of the co-management bodies can create profound resentments among the parties and ultimately defeat co-management as a whole. Institutions striving for successful outcomes develop special arrangements to bring to the fore the views of all relevant parties, and particularly the views of gender, caste, racial or religious groups, in ways that are culturally appropriate.[49] A powerful way to do so requires that not only the least powerful actors are represented in decision-making bodies, but also that decisions in such bodies are taken by consensus. Through time, this can generate entirely new skills, collaborative capacities and mutual respect in a local society.

Ensuring fair and equitable representation of different stakeholders is key to the success of co-management institutions. If co-management bodies are created in regions where the demographic composition of the affected communities is quite homogeneous, the decision-making could involve only government and representatives of the communities as a whole, sometimes holding the majority of seats. This occurs in some northern Canadian co-management organisations. On the other hand, where the local communities are highly differentiated internally, their representatives in the participatory management body need to reflect that diversity. Identifying the most appropriate representatives of indigenous communities connected with a particular area may be difficult, especially if there are intra-group conflicts over titles and responsibilities.[50] Clarity over the types of representation and criteria used to identify primary and secondary actors is crucial to ensure the CM success. And care must also be taken not to weaken or damage the traditional community organisations (such as Councils of Elders) that are often the last (and best) resort to represent the interests of communities and negotiate on their behalf.[51]

Many co-management organisations sooner or later find the need to invest time and resources in reforming policy and legal frameworks to ensure more equitable benefit sharing among the parties involved in co-management.[52] Similarly, innovations to promote more equitable benefit sharing need to be encouraged at the local level. A particularly good example of local level practice that evolved with equity in mind is described in Box 9.26. Working through their *sanghams,* women adapted social mapping and wealth ranking methods to decide on how to allocate food grains in the fairest possible way under a Public Distribution System they co-manage in south India.

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[49] See some examples in Boxes 5.15, 5.16 and 9.1.

[50] Sullivan, 1997.

[51] Experience shows that such entities can adapt themselves to modern challenges such as gender and equity concerns; attempts at "improving such systems" from the outside can backfire, however, if help is not offered with sensitivity and respect.

[52] This point is explored in Part IV of this volume.

Box 9.26   **Women design, manage and distribute the benefits of an alternative Public Distribution System in Andhra Pradesh, India**
(adapted from Satheesh and Pimbert, 1999)

Like elsewhere in India, a Public Distribution System (PDS) operates in the villages around Zaheerabad in Medak district of Andhra Pradesh. Every month each family having access to this system (about 50% of the rural population) can buy 25 Kg. of rice at a subsidised rate. Although this ration is the lifeline of poor rural families, the rice sold in the PDS is an alien grain for the women of Zaheerabad. They never grew rice on their dry lands. It was always sorghum, pearl, finger and other millets mixed with a wide range of pulses that made up the crops on their lands and the meals in their pots. With more and more PDS rice coming from the resource rich areas of South India, dry land farmers and their food crops were being gradually displaced. Their lands were being put to fallow and local biodiversity important for food and agriculture was eroded. The PDS rice was economically attractive but was nutritionally inferior to traditional coarse grains. Being reduced to consumers, dependent on purchased food for their own survival, undermined the women's self-esteem and self-respect as food providers and keepers of seed.

The women organised into *sanghams*— voluntary associations of *Dalit* women, the lowest social rank in the village— and discussed possible alternatives to the government's PDS. They decided to reclaim their fallow lands and grow their traditional dry land crops again. They aimed at setting up a completely community-managed PDS system based on coarse grains, locally produced, locally stored and locally distributed. Meetings were held in villages and the modalities of running an alternative PDS were worked out together with the Deccan Development Society (DDS), an NGO supporting the work of the *sanghams*. Formal agreements were signed between the DDS and the village *sanghams* to specify the roles, rights and obligations of each party in the joint management of the alternative PDS. Working through the DDS, the *sanghams* also approached the Government of India's Ministry of Rural Development, which saw the merit of their case and approved funding for a Community Grain Fund.

In the very first year, this jointly managed scheme involved over 30 villages, brought about 1,000 hectares of cultivable fallows and extremely marginal lands under the plough, produced over three million Kg. of extra sorghum (at the rate of about 100,000 Kg. per village) in a semi-arid area, grew extra fodder to support about 2,000 cattle; created an extra 7,500 wages and provided sorghum at 2 Rupees per Kg. for about 4,000 families. Grain storage took place in a decentralised fashion, using indigenous storage techniques that minimised pest damage and health hazards. Biological diversity significantly increased in the area as traditional crops and varieties were reintroduced as part of complex and diverse farming systems.

At the end of the storage period, during the food-scarcity seasons, the *sanghams* grains are sold at a subsidised price to poor households. The *sanghams* identify around 100 poor households in each village. Using participatory methods, the *Dalit* women decide who among the villagers are the poorest and qualify for community grain support. In each village, social maps indicating all the households are drawn on the ground by villagers themselves. Criteria for rural poverty are evolved by the villagers themselves and each household is judged on a five point scale of poverty. Each level is identified by a different colour (*e.g.*, black=destitute, red=very poor, green=poor, etc.) and each house marked by a specific colour after careful deliberation in an open and transparent way. Households thus selected are issued a sorghum card by the *sangham.* Instead of the subsidised rice of the government PDS, which costs 3.50 Rupees per Kg., this card entitles a family to an amount of sorghum at the subsidised price of 2 Rupees per Kg. for each of the six months that make up the rainy season. The poorer the family, the larger their entitlement. In recognising each person's fundamental right to food, the *sanghams* thus put in practice their own concepts of equity and solidarity as they distribute the benefits of the co-managed Public Distribution System.