

CO-MANAGEMENT OF RESOURCES
IN SRI LANKA:
STATUS, ISSUES AND OPPORTUNITIES

**** FINAL DRAFT ****

BY

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EXECUTIVE SUMMARY

Sri Lanka's environmental resources are coming under increasing pressure. As they do, it becomes more and more evident that the government alone cannot deal with these problems. It is necessary, therefore, to find new strategies for the management of these resources, particularly strategies that seek to share management responsibility among groups of people who have a stake in the resource. This study discusses a strategy described as collaborative resource management, or co-management for short.

This study provides the reader with a clarification of some of the concepts pertaining to co-management, an overview of the framework for co-management in Sri Lanka, and a discussion of the experiences of co-management efforts in Sri Lanka and worldwide. The study concludes by drawing policy lessons and suggesting opportunities for more effective use of the co-management approach in Sri Lanka.

The "resources" that this study focuses on, although state-owned, are *de facto* open access resources. Five groups of people—the community, local support institutions, outside local beneficiaries, central resource institutions, and external stakeholders—are identified as stakeholders in the co-management process. The study defines co-management as "the active engagement of communities and outside local beneficiaries in the collaborative management of *de facto* open access resources by local support institutions and central resource institutions."

The distinction between co-management and community-based management is important. While community-based management places the primary focus on the community, co-management seeks to share responsibilities among the wider group of stakeholders. The assumption that a community living in the vicinity of a resource will always have a stake in its management is not accurate. The strength of the community's "stake" depends on its relationship with the resource. Where the community retains a strong relationship with the resource and has both the capacity and the incentive to actively engage in its management, emphasis on the community makes sense. However, in many

situations in Sri Lanka, where communities have lost their traditional link with natural resources, co-management efforts must spread the focus among a much wider group of stakeholders.

A review of co-management efforts worldwide looks in particular at international experience with integrated conservation and development projects (ICDPs), social forestry, coral reef management, irrigation water management, and the use of direct incentives. These diverse experiences suggest that co-management efforts have often been focused too narrowly and have, consequently, failed to change incentives for resource depletion that originate outside the realm of the co-management activity. They also suggest that issues such as land tenure must be addressed if a sound framework for resource management is to be built.

The framework for resource management in Sri Lanka is largely regulation-oriented. The state owns more than 82% of the nation's land area and its land-based resources. More than 28% of the land area is administered either by the Forest Department or the Department of Wildlife Conservation both of which see their roles not only as "protectors" but also as "policemen." Although the legislation under which the Forest Department and the Department of Wildlife Conservation operate remains very control-oriented, these institutions' attitudes toward community involvement in management activities is slowly changing. This shift is reflected not only in documents such as the recent Forestry Sector Master Plan but also in the actions of many wildlife and forestry officers who have begun to work in cooperation with communities at the grassroots level. The Coast Conservation Department and the Irrigation Department have taken the testing of co-management further than other government agencies.

The historical and cultural context for co-management is as important as the policy and legal framework. Ancient systems for joint management of resources were swept away by legislation like the Crown Lands Encroachment Ordinance of 1840 which confiscated large tracts of rural land and

severed communities' link with vital parts of their land. As a result of this and succeeding laws, landlessness has become acute and poverty associated with landlessness has become the root cause of many resource management problems. The abrogation of community-based rights reflected in the Crown Lands Encroachment Ordinance still remains the legal basis for property rights in Sri Lanka. This impedes the sustainability of co-management efforts.

A review of the Sri Lankan experience with co-management discusses several projects funded by the United States Agency for International Development—the Shared Control of Natural Resources project, the Coastal Resources Management Project, and The Asia Foundation special projects on community-based resource management—and others implemented by the Forest Department, the Irrigation Department, and the Sri Lanka chapter of the International Union for the Conservation of Nature.

The Sri Lankan experience reveals five interesting points. First, even though the co-management approach suggests an equitable sharing of responsibilities among stakeholders, most co-management efforts still place heavy emphasis on the community. This appears to be the case even in situations where much of the damage to resources originates from outside the community. Second, even though stakeholders participate in co-management activities, they often do not have a role in the actual management of the resource. In most cases, sole responsibility for management remains with the state and co-management efforts emphasise participation over management. Third, even though co-management projects involve entire communities, they frequently focus on individual activities rather than collective effort. Fourth, even when communities have “disengaged” from resources, they can still remain important players in co-management efforts merely because their proximity to the resources enables them to act as “watchdogs.” Fifth, if co-management efforts do not address the land shortage issue, management successes can be eroded by resource depletion and encroachment.

The study draws from past co-management experiences in Sri Lanka and worldwide to make conclusions and develop recommendations for future action. The main conclusion is that the co-management approach is viable and that it is necessary for the sustainable management of some of Sri Lanka's natural resources. Co-management strategies must be based on a clear understanding of the community-resource relationship and a realistic assessment of the capabilities of the various stakeholder groups. In many co-management efforts, the community has been the primary focus, often to the point where it receives more attention than the resource itself. Co-management project designers must, therefore, clarify whether their primary goal is community development or improved resource management. The assumption that community development and socioeconomic improvement will lead to improved resource management has not been validated by experience.

Future co-management efforts must be designed and implemented within a broader framework. First, these efforts must be linked to and have the strong support of central resource institutions. These institutions must provide the supportive policy, legal, institutional, and technical framework required to sustain co-management efforts. The more a central resource institution takes “ownership” of the co-management concept, the more likely it is that co-management will be replicated in other areas. Second, inadequacies in the legal framework for co-management are likely to pose threats to the sustainability of many co-management efforts unless legal reform is achieved. In order to make co-management viable in the long-run, the package of rights accruing to communities should formally be expanded. Since transfer of title for many of these resources is presently out of the question, communities must be granted more extensive use rights. There is also much to be done to facilitate the recognition of communities as legal entities for the purpose of entering into contracts with the state or other parties. Third, co-management efforts must seek to involve a broader set of actors in their activities. Since the group defined as “outside local beneficiaries” is often a significant cause of degradation, future co-management projects must test approaches to bring this group into co-management.

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LIST OF ABBREVIATIONS

BAP	Biodiversity Action Plan
CBO	Community Based Organisation
CBRM	Community-Based Resource Management
CCD	Coast Conservation Department
CLEO	Crown Lands Encroachment Ordinance
CRMP	Coastal Resources Management Project
DS	Divisional Secretariat
DWLC	Department of Wildlife Conservation
FD	Forest Department
FO	Farmers' Organisation
FSMP	Forestry Sector Master Plan
HEC	Human Elephant Conflict
ID	Irrigation Department
IIMI	International Irrigation Management Institute
IMD	Irrigation Management Division
IUCN	International Union for the Conservation of Nature
LDO	Land Development Ordinance
M/ALF	Ministry of Agriculture, Lands & Forestry
M/TEWA	Ministry of Transport, Environment & Women's Affairs
NARA	National Aquatic Resources Agency
NFP	National Forestry Policy
NGO	Non Governmental Organisation
NTFP	Non-Timber Forest Product
PC	Provincial Council
PS	Pradeshiya Sabha
RITICOE	Ritigala Community-Based Dev. & Environmental Mgmt. Foundation
SAM	Special Area Management
SCOR	Shared Control of Natural Resources
SDA	Southern Development Authority
SLO	State Lands Ordinance
SNR	Strict Natural Reserve
TAF	The Asia Foundation
URI	University of Rhode Island
WJMS	Wana Jana Mithuro Sanvidanaya
WLO	Waste Lands Ordinance

I

I. INTRODUCTION AND PROBLEM STATEMENT

A. CONTEXT AND SETTING

As Sri Lanka's environmental resources come under increasing pressure from an expanding population and economy, new strategies need to be sought to improve their management. Resource management problems are made more acute by the financial constraints placed upon those government institutions with responsibility for management of the resources. One option for improving resource management is to engage those people who have a stake in resources to manage them better. These efforts, described as collaborative resource management, or co-management for short, have gained considerable attention inside and outside Sri Lanka in recent decades.¹

Co-management has been a focus of a number of national environmental policy developments in Sri Lanka. Led by the Forest Department, Working Groups on forestry legislation are currently examining options for altering use rights on different categories of forest land to enable more sustainable management. The soon-to-be-released Coastal Zone Management Plan includes explicit recommendations for extension of the Special Area Management approach, which reflects elements of co-management. With its goal of promoting the "conservation and sustainable use" of biodiversity, the Convention on Biological Diversity, to which Sri Lanka is a signatory, requires that countries "promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of those areas" (Article 8e). The Strategy for the Preparation of a Biodiversity Action Plan, which is currently being prepared under the Ministry of Transport,

Environment and Women's Affairs, calls for a policy framework which will allow biodiversity conservation to be done "at the grassroots level through community participation" (M/TEWA, 1995: 69).

Efforts to test co-management principles on the ground have been attempted by the Coast Conservation Department, the Forest Department, the Irrigation Department, and the International Union for the Conservation of Nature. Since the early 1990s, nine co-management pilot activities have been directly funded by the United States Agency for International Development (USAID).²

Third party reviews of lessons learned from these myriad activities are few. The International Resources Group portion of the Natural Resources and Environmental Policy Project (NAREPP/IRG) commissioned a study by Nakatani (1992), which recommended a strategy for supporting co-management early in the Project, and others by Nakashima (1995 and 1996) in which he reviewed the experiences of the Kahalla Pallekele Human Elephant Conflict Project and the Ritigala Community Resource Management Project. There has not yet, however, been a comprehensive review of the status of and opportunities for co-management work in Sri Lanka.

B. PURPOSE AND METHODOLOGY

The *purpose* of this study is to review the context for and experiences with co-management in Sri Lanka and draw lessons for national policy development. The methodology employed is to

¹ "Collaborative resource management" describes any collaborative arrangement between resource stakeholders. The term more commonly used in Sri Lanka, "community-based resource management" is one type of collaborative resource management which places emphasis on the community as the primary and most important actor in the resource management process. We use the term "co-management" not only because it describes a broader set of possible arrangements, but also because it is the term now regularly used internationally (see, for example, *World Conservation 2/96* published by IUCN).

² The USAID-funded projects and the implementing or overseeing organisations are listed here: Deniyawatta Settlement on the Shore of Bolgoda Lake (The Asia Foundation - TAF); Obeysekarapura Urban Environmental Improvement (TAF); Kahalla Pallekele Human Elephant Conflict Project (TAF); Ritigala Community Resource Management Project (TAF); Horton Plains National Park Management (TAF); Rekawa Lagoon Special Area Management Site (Coastal Resources Management Project - CRMP); Hikkaduwa Special Area Management Site (CRMP); Huruluwewa Watershed and Nilwala Watershed Activities of the Shared Control of Natural Resources Project (SCOR).

undertake a review of co-management inside and outside Sri Lanka and then to draw lessons applicable to the development of a co-management approach here. Admittedly, because of time constraints in preparation of the study, it may not cover all co-management activities and does not place an equal weight on all resources. Management of forests and protected areas, for example, receives greater attention than management of urban pollution. Future studies will need to address this imbalance.

This report is not an evaluation of any of the projects or institutions mentioned in it. Indeed, NAREPP has no mandate to do so and, what is more, has not dedicated the sufficient time or resources to have completed an evaluation. Each of the co-management projects underway in Sri Lanka has merits which would take much longer to understand than allowed by this study. The persistent and energetic work of countless people on these projects has created the opportunity to look more closely at new paradigms for resource management in Sri Lanka. Rather than evaluating,

therefore, the focus is on the lessons which emerge from each of the projects. These lessons are fit together into a set of recommendations for future action in the area of co-management.

In light of the considerable difference of opinion surrounding terms and concepts pertaining to co-management in Sri Lanka, the study begins with a review and clarification of some of these concepts. Since it is important for co-management practitioners inside Sri Lanka to build on successes elsewhere and to avoid making the same mistakes, the study then turns to a review of lessons learned from co-management experiences outside Sri Lanka, with a special emphasis on Asian experiences. After a review of the historical and cultural context and the policy, institutional and legal framework for co-management in Sri Lanka, the study then turns to a review of the co-management efforts in Sri Lanka. The study closes with a summary of conclusions as well as policy and research recommendations.

II. CO-MANAGEMENT - TERMS AND CONCEPTS

There is considerable difference of opinion in Sri Lanka about what constitutes "co-management." The differences stem from a lack of clarity concerning the resource and the rights associated with it, the community and other stakeholders in the resource management process, and the relationship between communities and resources. Each of these concepts are therefore reviewed below with the objective of clarifying their potential applications. In addition, the concept of participatory or bottom-up planning, which has contributed considerably to the way co-management is practised here, is discussed.

A. WHAT IS A "RESOURCE"?

How can the resource around which co-management is organised be described? A context for understanding the application of the term "resource" is given by describing three aspects of all resources: type; rights; and ownership categories, as illustrated in Figure 1. Although most resource *types* are defined by land use (e.g., forestry, fisheries, wildlife management), they can also be defined by their physical features (water resources, soils, watersheds) and by the ecosystems which are present on them (such as wetlands, grasslands, coral and sandstone reefs).

Whatever the resource type, it can signify a potential threat or cost to a community as well as a potential benefit. The elephants in Kahalla Pallekele may be a benefit to the urban inhabitants of Colombo who want to preserve them, but they are a distinct threat to the people of the area. Similarly, the health improvement objectives of co-management efforts at Deniyawatte have been added because of the threats to the community posed by poorly managed water.

In addition to resource types, resources can be characterised on the basis of the *rights* associated with them. In any common property management systems, the major rights can be identified as: 1) rights of direct use; 2) rights of indirect economic gain; 3) rights of control; 4) rights of transfer; 5) residual rights; and 6) symbolic rights (Crocombe, 1971 referenced in Lynch, 1991: 13) To this list can be added rights of exclusion, which allow outsiders to be excluded from use of the resource. When "use rights" over land are altered, it need not imply a change in title or the owner of a resource, but rather the bundle of rights associated with it. Management strategies for resources to which a community has rights of direct use, control and transfer will be different from strategies for resources for which a community has only

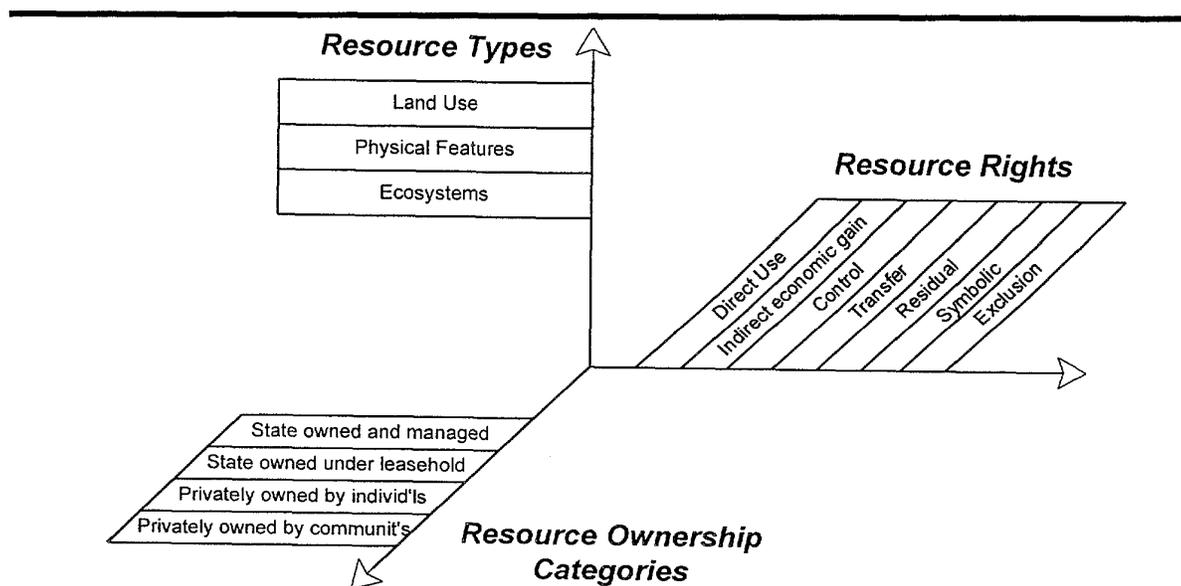


Figure 1: Select Characteristics of Resources

symbolic rights. A community living next to a Strict Natural Reserve may have symbolic rights and rights of indirect economic gain, but their rights of direct use are by definition very limited. A clear understanding of this diversity of rights that a community has with respect to a given resource is a prerequisite to designing co-management management strategies for the resource.³

Finally, resources can be described on the basis of *ownership* categories. To develop or alter incentives for conservation, one must know who owns the resources of concern. Although land has traditionally been divided into that which is owned publicly and that which is owned privately, this division masks other subtleties of resource ownership. Specifically, it does not allow for private ownership by a community, nor does it allow for easy inclusion of shared ownership agreements under leaseholds. Resource ownership categories are thus divided into four groups: (1) state owned and managed, (2) state owned under leasehold, (3) privately owned by individuals, and (4) privately owned by communities.⁴ Legally, most forests, wetlands, waters and protected areas in Sri Lanka are state owned and managed, although lease agreements are being explored for management of forests. Other examples of state owned resources under leasehold would include the long-term lease agreements of forests to communities in the Philippines. Although private community ownership of rural resources occurs in other parts of the world, private ownership by

³ See Bruce et al (1985) for a thorough discussion of the bundle of rights that may be held by resource managers.

⁴ The categories used here mimic Lynch's (1991: 14-15), which include (1) public individual, (2) public communal, (3) private individual, and (4) private communal. He uses the term "individual" to mean that a resource is held by a single legal entity (e.g., the State, a corporation, or an individual) and "communal" to mean that ownership rights are shared by more than one legal entity, one of which is a community of persons. A "public individual" resource, therefore, is one that is held by the state and the state only, with no ownership or use rights granted to any other entities. A "public communal" resource is one in which the state owns the resource, but on which significant ownership rights are shared among more than one legal entities. "Private communal" resources therefore include those rare cases in which a community is given complete ownership rights.

communities, as Nanayakkara argues, is rare in Sri Lanka: "Today ... community of ownership in Sri Lanka is almost non-existent" (1996: 39). Although the Veddahs come the closest of rural groups to have a defined corporate status, even they have not established clear rules defining members in the community. There is precedent for private resource ownership by communities in such institutions as sports and social clubs.

Although most of Sri Lanka's natural resources are under the legal ownership and management of the state, their rapid degradation is testimony to the fact that the state's management is not effective. Panayotou and Ashton argue that "Most tropical forests are *de jure* state property, but *de facto* open access with an undefined but large number of nonexclusive claimants" (1992: 201). Most other natural resources are under similarly open access regimes. In this study, it is assumed the resources held privately by individuals do not present the most pressing problem for resource management, as it is more straightforward to alter incentives for individual owners than for other ownership categories. It is assumed further that most of the remaining resources are effectively under open access regimes. Co-management is one means of trying to introduce elements of sustainable common property management systems into the management of open access resources.

B. WHAT IS A "COMMUNITY"?

Initially, exploration of the co-management concept in Sri Lanka focused on the community, hence use of the term "community-based resource management." Because the term "community" suggests the existence of a single, cohesive social organisation residing in an well-demarcated area, it can become a source of confusion in the conceptualisation and analysis of co-management. In fact, most co-management projects do not work with a single community defined as such but with a set of communities or even with an artificial grouping of disparate people and organisations who may be united by having a stake in the same resource. In the case of The Asia Foundation's (TAF) Ritigala Community Resources Management Project, fourteen villages comprised of Muslims, Christians and Buddhists are involved.

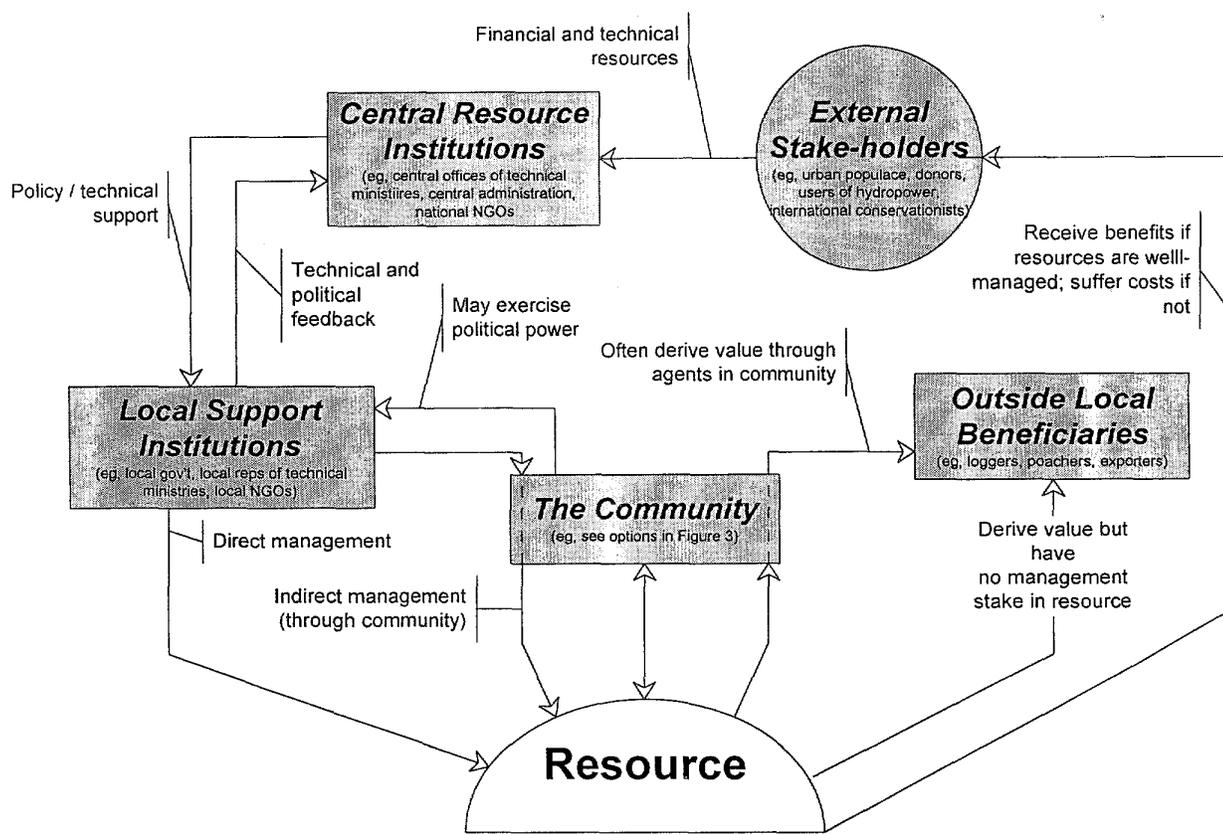


Figure 2: Co-management Stakeholders and Their Relationships

By virtue of the charismatic leadership of Rev. T. Chandaratana of the Thanthirimale Monastery and the sound management of TAF, the fourteen villages have been moulded into a single community with a perceived common stake in the SNR and in improving their livelihood, but they were not so when the project began. One of the major constraints to the co-management project at Horton Plains is that the community is not a community at all, but a geographically dispersed set of residents who have been difficult to unite. In the case of the project at Huruluwewa, the “community” includes all the members of a watershed covering four Divisional Secretariats and more than 47,000 hectares. The greatest danger of using the term “community” is that it may give a misleading suggestion of the potential of the group of stakeholders to come together to manage a resource in common.

Use of the term “community” in “community-based resource management” also diminishes the

importance of other stakeholders in the co-management process. To ensure that all co-management stakeholders are identified and included in the process, the major categories of co-management stakeholders are divided into five groups, including the community itself, local support institutions, outside local beneficiaries, central resource institutions and external stakeholders.⁵

The “community” includes those who live next to or in the immediate vicinity of the resource and who receive direct benefits or suffer direct costs from it. The community may have existed prior to the co-management effort, or it may have to be created out of common concern for management of

⁵ In its *Participation Sourcebook (1996a)*, the World Bank defines the major stakeholders in any participatory project to be the following: government, directly affected groups (including the poor and marginalised), and indirectly affected groups (NGOs, intermediary organisations, private sector businesses, technical and professional bodies).

the resource. The community may or may not receive value from the resource (see discussion of community-resource relationship below). Under "local support institutions" are included those NGOs, government officials, or other organisations whose objective it is to improve management of the resource or to improve the livelihood of the primary stakeholders. Local support institutions may manage resources directly or with and through the community. "Outside local beneficiaries" include those who may benefit from direct interaction with or use of the resource, but who do not live in the vicinity of the resource and are likely to have little stake in its sustainable management. Examples of this group include traders of products from the resource (e.g., loggers, poachers) and others who directly consume the resource. "Central resource institutions" are those government and non-government actors who constitute a source of expertise and resources from which the local support institutions can draw in the management of the resource. Finally, "external stakeholders" are defined to include those people who may benefit from improved management of a resource, but who are not in the vicinity of the resource and have no direct interaction with it. Included here would be such people as urban dwellers who place value on the continued existence of a resource, beneficiaries of the power generated from water captured in well-managed watersheds, and the world community who benefits from knowing that rare species endemic to Sri Lanka are being preserved. The relationships between the five groups and the resource are shown in Figure 2.

C. THE COMMUNITY-RESOURCE RELATIONSHIP

It is often implicitly assumed that a community living in the vicinity of a resource will have a stake in the sustainable management of that resource. This is not always the case. If the greater part of a community derives its livelihood from employment in a nearby textile factory, for example, then the value of the resource to the community may be marginal. In such cases, it is unlikely that a co-management effort focused primarily on communities will have much success, since such applications of co-management assume that the community has a stake in a resource and is

interested in its improved management. A careful understanding of the relationship between communities and the resources of interest is thus an essential prerequisite to planning of community-based co-management projects, particularly if they are to make the community the primary focus of resource management activities.

To attempt a clarification of the relationships between communities and resources, four primary types of relationships are defined. For each type of relationship, implications for co-management are suggested and an example of the type of relationship is identified in Sri Lanka. The four relationships are shown in Figure 3.

In the first type of community-resource relationship, the community realises little or no value from the resource, in spite of living next to it. In such cases, co-management is not an appropriate approach since the community has little or no incentive to ensure that the resource is managed sustainably. To the extent that resource degradation is occurring, it is the likely result of actions by outside local beneficiaries, and resource management improvements should, therefore, focus on this group rather than the community. An example of this relationship in Sri Lanka includes the communities surrounding the Attidiya Sanctuary. These communities are predominantly engaged in wage activities in Colombo and the surrounding areas, and realise virtually no benefits from the Sanctuary.

In a second type of community resource relationship, a significant benefit or cost of the resource accrues to only a few members of the community, while the rest of the community has little or no interaction with the resource. In such a case, co-management is not likely to be appropriate, since co-management generally implies involvement by all or most of the community. If the members of the community who benefit from the resource can be identified, then it may be sufficient to train or educate this few in sustainable resource management methods to ensure better management of the resource. An example of this type of relationship in Sri Lanka would be the small groups of specialised turtle egg poachers who operate at many points along the

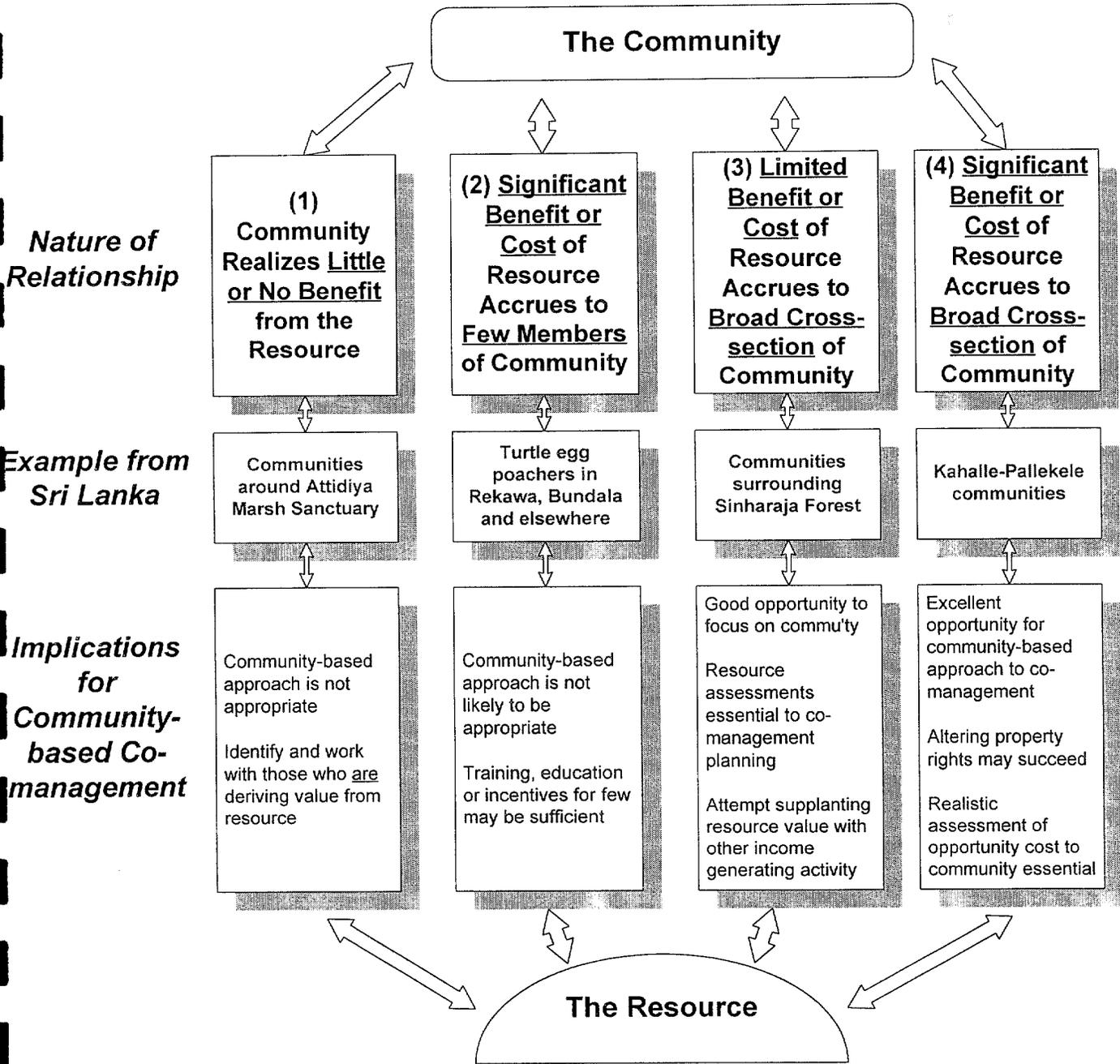


Figure 3: Community-Resource Relationships and Implications for Community-based Co-management

southern coast. The rest of the communities in which the poachers live and work have very little influence over their resource management actions, and thus to alter their management patterns it will probably not be helpful to engage the broader community.

In a third type of community-resource relationship, the benefits or costs derived from the resource by

the community is small, but they are widely distributed across all the members of the community. Community-based co-management has the potential for success in these communities, since virtually the entire community has a stake, however small, in the resource. Communities such as those surrounding the Ritigala Forest would be an example of this relationship, as they enter the forest to harvest of a small number of medicinal

plants like wild cardamom which cannot be found on the market. Although the value of the cardamom and other non-timber forest products is not great by comparison with their total income, the community recognises that the forest gives them something they cannot get anywhere else.

In a fourth type of relationship a significant benefit or cost of the resource accrues to a broad cross-section of the community. Here the opportunity for community-based co-management is very good, since the entire community has a large stake in the resource. When the community has a strong sense of its relationship to the resource, including some established social rules for resource management, then the opportunity to establish privately communal ownership may be good. Introduction of alternative income generation activities should be done only with a careful prior assessment of the opportunity costs to the community of giving up use of the resource. Although there are not many examples of communities that derive significant benefits from resources in Sri Lanka, there are numerous examples where a resource is a significant threat or cost to the community at large. A good example of this relationship would be the communities menaced by elephants in Kahalla Palkelele and the many urban communities who are threatened by the health hazards of unclean water.

The community-resource relationship types described above make it apparent that a community must have a strong *incentive* if they are to be engaged in the management of a resource. Although having an incentive is necessary, it is not sufficient, for a community must also have the *capacity* and knowledge to manage resources (Ascher, 1994: 2). Typically, such capacity relies upon indigenous knowledge. If communities have less and less interaction with resources, and if traditional management practices and systems have been eroded by decades of exclusion by the authorities, then it cannot be assumed that they still have the capacity to manage resources. Honadle and VanSant argue that the assumption of communities having the know-how to manage resources is one of the fundamental myths in development -- the "myth of the noble peasant". "Since rural villagers", according to the myth, "know how to do it, the answer is to get out of their

way and let them get on with the job" (1985: 101). As we shall discuss below, the capacity and know-how of rural Sri Lankans to manage resources is limited by comparison with many countries, as a result of the historical and cultural context here. Design of co-management efforts in Sri Lanka must pay special attention to assessing whether this myth of the noble peasant can be verified for a given community in Sri Lanka or not.

The four preceding types of community-resource relationships assess the level of ongoing interaction between community and the resources in their vicinity. A fifth type of relationship has nothing to do with ongoing interaction, and is based instead on a desire of the community to own the resource for its own sake. This is the encroachment problem common not only in Sri Lanka but all over the world. In the context of an extreme land shortage for settlements, many rural inhabitants are interested in land-based resources only for the land, not for any of the resources. This issue will be returned to in greater detail in the chapters on Sri Lanka.

D. "CO-MANAGEMENT" DEFINED

Using these terms and concepts, therefore, co-management is defined as follows:

The active engagement of communities and outside local beneficiaries in the collaborative management of *de facto* open access resources by local support institutions and central resource institutions.

The definition should highlight two points in particular. First, use of the term "active engagement" should make it clear that co-management is not appropriate for those communities who have no relationship with resources of concern. The second point is that both communities and outside local beneficiaries should be engaged in the resource management process, with no presumption that either of the two is of greater importance.

E. A NOTE ON PARTICIPATION

One other idea merits brief discussion. Common to most work on resource management is an emphasis on the importance of participation of communities in the process, which is alternatively described as participatory or bottom-up planning and implementation. Although not new to development planning⁶, the importance of participation has gained an increasing acceptance over the years. Virtually all of the NAREPP-funded co-management efforts have made participation an essential element in their approaches (see, for

example, Wijyaratna, 1994; White, 1996; , and the TAF Annual Report, 1995). In their summary review of integrated conservation and development programmes, Wells and Brandon recognise that "the sustainability of project benefits depends strongly on the effective participation of local people" (1993: 63). Participation is essential to the successful planning and implementation of any development activity, including co-management.

⁶ For a discussion of the importance of participation in the 1970s and 1980s, see Cernea's (1992) piece on the PIDER project launched in Mexico in the early 1970s or Honadle and VanSant (1985) on integrated rural development projects.

III. REVIEW OF CO-MANAGEMENT EXPERIENCES FROM ASIA AND BEYOND

A. PURPOSE AND METHODOLOGY OF REVIEW

The co-management approach, or variations akin to it, have been undertaken around the world for many years now. Development organisations in Latin America implemented social and community forestry programs beginning in the early 1980s (see reviews in Current, 1994 and Gregerson, Draper and Elz, 1989). Working closely with the Club du Sahel, the World Bank developed a series of projects in the late 1980s on co-management in Burkina Faso, Ivory Coast, Niger, Chad and Mali, while USAID supported similar efforts during the same period in The Gambia, Botswana, Niger and Senegal. The well-known CAMPFIRE program in Zimbabwe is only one of many efforts in East and Southern Africa to give communities a more active and formalised role in resource management.

Asia: India, Social Forestry in West Bengal; India, Shivalik Hills Resource Management; Nepal, Community Resource Management [reviewed in Poffenberger, 1990] -- India, Ecodevelopment Project [reviewed in World Bank, 1996b] -- Philippines, Marine Conservation and Development Program [reviewed by White (1996)] -- Philippines, Social Forestry; India, Social Forestry in West Bengal [reviewed by Owen (1991)] -- Indonesia, Central Moluccan Reef; Philippines, San Salvador Island; Thailand, Reef Protection in Phuket [reviewed in White et al (1994)] -- Indonesia, Dumogo-Bone National Park; Indonesia, Gunung Leuser National Park; Nepal, Annapurna Conservation Area; Nepal, Royal Chitwan National Park; Thailand, Khao Yai National Park [reviewed in Wells and Brandon, 1992]

Latin America: 10 projects in 5 countries [reviewed by Current (1994), Wells and Brandon (1992), and Cernea (1992)]

Africa: 9 projects 8 countries [reviewed by Wells and Brandon (1992)]

Figure 4: Projects Included in Review

In Asia too, projects designed to involve communities in resource management date to the 1980s and in a few cases before. Among the better known experiences with co-management have been the Annapurna Conservation Area work in Nepal, the West Bengal social forestry efforts in India, and

the Philippines social forestry work. Although Sri Lanka is unique in its cultural traditions, policy setting, and resource endowment, the successes and failures of co-management practitioners elsewhere in Asia and the world can and should be built upon.

B. LESSONS LEARNED

1. Integrating Conservation with Development

Recent years have seen a rapid acceptance of the concept of "Integrated Conservation and Development Projects", or ICDPs. These projects "attempt to ensure the conservation of biological diversity by reconciling the management of protected areas with the social and economic needs of the local people" (Wells and Brandon, 1992: 3). Put another way, they are "efforts to finance conservation by identifying and developing commercial activities that rely upon, and, consequently, would encourage the preservation of, natural habitats" (Simpson, 1995: 1). An underlying assumption of the ICDP approach is that projects can introduce a set of economic activities to communities which will reduce the pressure on the resource of interest.

Few assessments of ICDPs have been as well researched as Wells and Brandon's work entitled *People and Parks: Linking Protected Area Management with Local Communities* (1992).⁷ In this piece, they conducted in-depth reviews of more than twenty of the most successful ICDPs from developing countries around the world. The projects they examined had been underway for at least three years. This study also reviews works on ICDPs by Simpson (1995), Southgate and Clark (1993) and Ferraro and Kramer (1995). Studies by Cernea (1991) and Brandon and Ramankutty

⁷ It is worth noting that Wells and Brandon support co-management efforts. In fact, even after concluding that ICDP experiences demonstrated fundamental flaws, they still proceed to conclude that: "innovative, well-designed ICDPs at carefully selected sites...are essential to the conservation of biodiversity..." (1992: 61).

(1993), although not explicitly on the subject of integrating conservation and development, were included because of the relevance of some of their findings to the ICDP approach.

Observations on integrating conservation and development are grouped around three broad categories of results that emerge from the Wells and Brandon review: (1) the scale and scope of ICDPs; (2) the linkages between development and conservation; and, (3) resource monitoring.

By and large, analysts have found that integrated conservation and development projects have been *focused too narrowly*. Wells and Brandon conclude that ICDPs have been "implemented on too narrow a front" because "threats to parks and their neighbours often originate far from park boundaries." To date, the replication of ICDPs has been "rare," in part because their experiences were too location specific to provide lessons for replication on a larger scale. The origins of threats inside communities and parks include in particular the "laws, policies, patterns of resource access, social changes, and economic forces." "One of the clearest lessons," Wells and Brandon therefore conclude, "is that implementation of the next generation of ICDP initiatives...needs to involve significantly larger collaboration among governments, conservation groups, development NGOs, development organisations and aid agencies." In this process, the local "NGO and government agencies charged with protected area management can play only a limited role." Instead, high-level commitment and involvement from governments will also be necessary (Wells and Brandon: 1992:61-64). A recent World Bank review of lessons learned from ICDPs in India found that there was a recurrent need to incorporate project concerns into "regional planning and regulation" (World Bank, 1996b: 59).

Wells and Brandon are not alone in finding that integrated conservation and development projects have been implemented too narrowly. In a review of conservation projects in the Amazon, Southgate and Clark find that projects have not adequately recognised "powerful incentives for depletion" originating far from park boundaries. They add that:

"The worst shortcoming in the current campaign to save biological diversity in Africa, Asia and Latin America traces from conservationists' and donor agencies' insistence on working in or very close to threatened habitats themselves. By definition, this approach ignores how performance of the entire economy influences resource use and management of frontier areas" (1993: 165).

Overly narrow approaches to local resource management project design is nothing new. Cernea's general analysis of "bottom-up approaches" to rural resource management recognised that successful local participatory projects required the support of "top echelons" of government agencies and "the integrated skills of professional researchers and development practitioners" to be successful (1992: 57-59). Brandon and Ramankutty's (1993) review of environmental challenges in Asia reaffirms the importance of broadening the focus of local resource management projects to include such actions at the "top" as tax incentives, legal reforms, and institutional priority setting.

The ICDP review brought out a second lesson--that the *economic linkage* between development activities and resource conservation is often *unclear* (Wells and Brandon, 1992; World Bank, 1996b; Southgate and Clark, 1993). Project-introduced income generation activities are designed to conserve resources by providing an incentive for resource users to stop unsustainable consumption. In a stark conclusion, Wells and Brandon argue: "In virtually all projects, the critical linkage between development and conservation has been missing or unclear." Going further, they argue that "very few projects appeared likely to generate enough economic or financial benefits to become self-sufficient" (Wells and Brandon, 1992: 64). Inaccurate assessment of incentives has resulted from such oversights as the fact that "most biologically important areas do not have the potential for enough tourism to support conservation" (1992: 64) and to overstatements of the potential value of non-timber forest products to communities (Southgate and Clark, 1993: 164).

Even where incentives are sufficient, attention must be paid to who can gain from them. "Where tourism revenues are high, the benefits tend to be captured by the private sector in major cities or by the central treasury funds" (Wells and Brandon, 1992: 64). There is little evidence that those who benefit from ICDPs represent real threats to the parks, and that those who threaten the parks receive sufficient benefits to reduce their potential threat (Ferraro and Kramer, 1995; Wells and Brandon, 1992). To use the stakeholder language introduced above, while communities may receive some benefits from project activity, the outside local beneficiaries of resource consumption have not, in most ICDPs, been given adequate compensation to discontinue their exploitative consumption of the resource.

Such fundamental problems with attempts to integrate conservation and development activities lead Simpson (1995) to present two fundamental questions: If such projects are "expected to be sustainable", he asks, "why are international funders needed to initiate them? Second, if they are not expected to be commercially successful, would it not be better to take the money applied to their establishment and make direct payments for conservation instead?" Simpson's questions must be taken seriously by designers of co-management projects. If such projects are to create incentives for sustainable conservation of resources, then incentives must be sufficient for those damaging the resource to alter their patterns of income generation. Experience with ICDPs around the world has shown that these alternative incentives have been consistently underestimated.

A final shortcoming of ICDPs has been that they have been designed without adequate understanding of the socio-economic context or baseline data. Information gained during project execution, Wells and Brandon argue, was not sufficient to overcome this fundamental flaw at the beginning of the projects (1992: 64). The same problem has plagued the CAMPFIRE and Luangwe Integrated Resource Development Project in Zambia (Barbier, 1992: 132).

2. Social Forestry

ICDPs have generally paid little attention to the legal rights of communities to the protected areas of interest. Social forestry efforts, by contrast, offer an example of the state explicitly granting rights (usually through leases) to a community or communities for the joint management of some aspect of public lands. In each instance of social forestry, "tenurial rights are granted and are cancellable by government bureaucracies with legal jurisdiction over 'public' forests" (Lynch, 1991: 20-21). Social forestry efforts have thus paid considerably more attention to legal and *tenure* questions than have ICDPs (Poffenberger, 1990; Current 1994; and Lynch, 1991).

In one of the most well-known of these social forestry efforts in Asia, the Forest Management Bureau of the Philippines granted 25 year communal forest leases to the community, predicated on a Community Forest Stewardship Agreement agreed to by the community and the bureau. Most of the 15 or so of these agreements established by the end of 1990 had effectively ensured that outsiders would be kept out of the forests (Lynch, 1991: 21-22). Forests which were once being degraded at a rapid rate are now regenerating.

In experiments similar to those in the Philippines, the West Bengal Forest Department has worked out Joint Forest Management (JFM) Agreements with communities with the explicit objective of rehabilitating degraded forests. The West Bengal example began in the 1970s with the Forest Department agreeing to give the villagers 25 percent of all revenues generated from the sale of firewood and timber on managed lands. The efforts were so successful that by the end of 1989, community-based Forest Protection Committees (FPCs) were protecting 152,000 hectares of forest land. As communities gained control over and improved the management of once almost denuded land, conflicts began arising. First, because the FPCs did not have clearly defined rights to restrict access of outsiders to the forest resource they managed. Second, because, as India has gone through a decentralisation process, an increasing number of disputes have arisen over the allocation

of management rights and responsibilities. In order for the process to continue successfully, the continued involvement of researchers and central policy-makers was necessary (Poffenberger, 1990: 9-18). It was also necessary to ensure that benefit sharing arrangements like the JFM agreements continued to gain legitimacy. By 1996, the major obstacles had been overcome, and nearly all state governments had established JFM policies and were initiating programmes to register informal village forest management groups (Poffenberger, 1996: 7).

Many authors stress the importance of addressing use and ownership rights in the Asian context. "If forest departments want to sustain joint protection activities, they will need to establish better methods to support their rural partners. Procedures will need to be developed to formally acknowledge the authority of user groups to *restrict access* and to benefit from forest production" (Poffenberger, 1990: 39). In this conclusion, Poffenberger is echoed by Davis (1988: 7), who argues that "the key issue is tenure" in the sustainable management of forest resources. Lynch concludes that the "indiscriminate legal labelling of forest resources as public has effectively created open access situations" and has "provided economic and political elites with easy legal access to forest resources..." (Lynch, 1991: 9-10). After a review of eleven social forestry projects in Central America, Current finds in the same vein that "the...case of land ownership laws is the most common and troublesome one in Central America" (1994: 7). As an appropriate response to the resource management problems in the forest sector, Panayotou and Ashton conclude that "a reasonable dose of both secure property rights and equality will go a long way in saving both people and forests" (1992: 209).

Experimentation with improved ownership rights must be undertaken with care. Experiences in India show that resource management investments must be coupled with "strong encroachment control" to prevent them from acting as a "magnet" for new settlers (World Bank, 1996b: 59).

Like the ICDPs, social forestry efforts have also suffered from a lack of baseline information

without which assessment of management effectiveness and the ability to re-orient projects has not in many cases been possible (Panayotou and Ashton, 1992; Wickramasinghe, 1994; World Bank 1996b: 61).

3. Management of Coral Reefs

Conservation of resources in terrestrial and marine environments are not the same, principally because of the unique characteristics of the water media (Norse, 1993: 38-44). Sri Lanka, possessing marine environments of considerable diversity, has a need to maintain and improve management of marine resources. Because the potential applications of co-management to the marine environment is mostly likely on near shore reefs, this review is confined to these sites.

White's reviews of co-management experiences on coral reefs around the world (1994 and 1996) echo some of the themes that have been noted above, although with a slightly different emphasis. As with Wells and Brandon, he recommends that the scope and scale of co-management be broad enough to include not only the community but also other stakeholders: "In some cases, much of the authority is in the hands of the local community organisations; in other cases, much of the authority is in the hands of a government agency. In virtually all cases, however, a level of government continues to assume responsibility for overall policy and coordination of functions." (1994: 14). In coral reefs as in ICDPs, the narrow scope of projects must be avoided. White argues that communities need assistance in dealing with problems that originate outside the community and that "communities are constrained by their own legal and institutional mandate to deal with outsiders" (1996: 119).

In reef co-management projects, baseline data and monitoring systems are essential because "complete and practical environmental and resource use surveys...are a prerequisite to helping a community decide on a feasible management plan which can offer tangible results". What is more, "baseline data and monitoring of the coral reef resources are required to illustrate to fishermen the condition of

their environment.” and make the case for future improvements to policymakers (White, 1994: 8).

4. Irrigation Water Management

Irrigation water is one of the most precious natural resources in agricultural economies. Joint management of irrigation water systems have a long history in many parts of the world. Since irrigation systems cover vast areas of land, agencies mandated to oversee them rarely have the manpower, facilities, or information to control and distribute water at the lower levels of the system (Uphoff, 1986: 4). Most systems, therefore, have some form of joint management with varying degrees of balance between agency management and user management—from the completely agency-managed Mwea scheme in Kenya to the jointly-managed Gal Oya scheme in Sri Lanka to the completely user-managed *zanjera* systems in the Philippines.

Among the many goals of irrigation water management are: greater reliability and equity in water distribution, increased agricultural productivity, and reduction in conflicts between water users. Generally, the more congruence there is between the objectives of water users and irrigation agencies, the more likely it is that farmer participation will be high and better water management will be achieved. International experience has shown that irrigation systems that use the participatory approach have consistently improved the management and productivity of the system. In India's Pochampad scheme, the irrigable area increased by some 35% after newly-established Pipe Committees introduced a rotation system. In Thailand's Nong Wai scheme, Farmer Organisations raised cropping intensity from 50% to 90% in a period of two years. On the other hand, the 1.8 million acre, agency-managed Gezira scheme in Sudan suffered from some twenty years of stagnant crop yields, which experts attribute to the failure to involve farmers as “partners” in management. Analyses of irrigation management efforts in the Philippines and Sri Lanka suggest economic rates of return in the 50% range (Uphoff, 1986: 18-22).

The community's role in irrigation water management usually includes: helping to design, construct, operate, and maintain irrigation structures; allocating water to different users; and resolving conflicts arising from water allocation and use. Users' incentive to engage in joint action is weak when water supply is either extremely scarce or extremely abundant (Uphoff, 1986: 64). He also notes that farmers with insecure land claims are “less willing than land owners to contribute to permanent capital improvements in the irrigation system” (Uphoff: 1986: 77).

Strong policy support for participatory irrigation management systems is a crucial factor for success. This is especially important in order to re-orient the bureaucracy and “create a more positive attitude toward participation...involving engineers and technicians in a process of collaboration with farmers...” (Uphoff, 1986: 93). Legal recognition for water user groups is also an important factor. This not only gives them more legitimacy in the eyes of engineers and agency staff but also enables them to operate bank accounts and raise funds. Uphoff suggests that, after taking the incentive and success factors into consideration, co-management efforts should be opportunistic and venture into the most promising areas.

5. Direct Incentives for Resource Conservation

ICDPs have relied on indirect incentives to improve resource conservation--resource degraders are “lured” away into other more financially rewarding activities. The assumption is that, by getting those who destroy the resource to do something else, the quality of the resource will improve. Judging from the experience of ICDPs, however, the use of these indirect incentives have met with only limited success in improving management of protected areas. In addition, indirect incentive programs can be very expensive, since they call for considerable interaction with the community in the reengineering of social and economic patterns. For these reasons, Simpson (1995) asks whether it would not be better to take the money applied to the establishment of indirect incentive programs and make direct payments for conservation instead. What is meant by direct incentives, and what have

been the experiences of resource managers in applying them around the world?

Direct incentives for resource management call for an agreement between the party that has a direct stake in conserving a resource and the party responsible for the resource's quality. They are collaborative in the sense that there is an agreement and each party participates in management. In the case of a park, a direct incentive agreement might be made between the government representing the public's interest in conserving the site and the communities or outside local beneficiaries who are responsible for degrading it. Each side makes explicit its needs and works out an acceptable agreement to conserve the resource. Typically, this might include establishment of a monitored agreement by which the community takes responsibility for preventing resource destruction while the government agrees to provide and maintain some needed service to the community (e.g., a school, a clinic or a road). Even if a community has no active relationship with or need

of a resource, their very presence next to the resource might make them viable candidates for direct incentive agreements to police a resource at a lower cost than the state.

Although economists and conservationists are working out the details of how direct incentive measures might work (see, for example, Defenders of Wildlife, 1993 or Simpson and Sedjo, 1996), to date there are few concrete examples of direct incentive programs. One of the few well-known examples is the use of direct incentives to conserve wolves in the western United States. There the government made a direct agreement with the private landowners on whose land wolves might breed. Under the agreement, each landowner who has wild wolves reproduce on his or her land and successfully raises the pups to adulthood receives a direct payment of \$5,000. Since the inception of the program in 1992, ecologists have found that it has made a significant impact on wolf population recovery, in part because the landowners have become less adversarial towards the wolves, and have begun to see them as a potential asset.

IV. FRAMEWORK FOR CO-MANAGEMENT IN SRI LANKA

For most of the post-Independence era, the management of natural resources in Sri Lanka has consisted primarily of centralised, control-oriented approaches. State agencies mandated to manage natural resources have traditionally perceived their role not only as “protectors” but also as “policemen” and have perceived local communities either as passive observers that can be ignored or as potential threats that can be controlled. The main thrust of resource management has, therefore, been to restrict and control peoples’ interaction with resources. The adoption of this “command and control” approach has been based on the notion that the country’s natural resources are the property of the state. This mentality has been reinforced by the fact that the state does, indeed, own more than 82% of the nation’s land area and its land-based resources.

Forests, protected areas, and wildlife are the most precious natural resources of this country. The Forest Department (FD) and the Department of Wildlife Conservation (DWLC), by virtue of their mandate to conserve these resources, are the major actors in natural resource management in Sri Lanka. The 1987 *Report of the Land Commission* noted that the largest single land use in Sri Lanka is for forestry and wildlife. More than 28% of the land area is reserved and administered by either the FD or the DWLC (FSMP 51). The 16.1% administered by the FD consists of forest reserves, proposed reserves, and national heritage wilderness areas. The 12.4% administered by the DWLC consists of national parks, nature reserves, strict natural reserves (SNRs), sanctuaries, and jungle corridors (FSMP 52). Although there is a long history of community participation in the management of natural resources for agriculture and irrigation in Sri Lanka, in forest and protected area management, communities have been viewed as potential threats. The guiding principle, therefore, has been to limit or prohibit peoples’ interaction with these resources. The FD, for instance, has attempted for decades to enforce this with a system of permits and heavy fines. Although it has become evident over the years that the rigid, centralised approach to resource management is not effective and will not be

sustainable, the “command and control” mentality has been slow to change.

In the last decade or so, there have been several initiatives which have sought to take resource management to the local level so that resource users can play a role in planning for and managing resource use. Chapter V will look at some of these initiatives in more detail. Before these co-management efforts are reviewed, it is important to consider the historical and cultural context and the legal, policy, and institutional framework within which co-management initiatives have been attempted. This chapter will attempt to give the reader an understanding of the backdrop against which the field-level co-management efforts operate.

A. HISTORICAL AND CULTURAL CONTEXT

In the pre-colonial era, a well-defined and widely-accepted system of traditional service tenure, called *rajakariya*, prevailed in Sri Lanka. The king owned all the country’s resources and would bestow on citizens—individuals and communities—the legal rights to tracts of land and other resources in return for service to the monarchy. Almost every family could claim rights to a tract of land and could decide how these resources would be used as long as it served the monarch as required. Resources such as forests and irrigation works were managed collectively and communities had accepted methods of controlling and allocating their use. Two aspects of this ancient system are important to note. First, community-based tenurial rights were legally recognised. Second, strong systems for joint management of natural resources existed.

Colonial land laws, especially those instituted under British rule, changed this system of community-based resource ownership and management irreversibly. The Crown Lands Encroachment Ordinance (CLEO) of 1840 declared that all lands for which title was not registered could be vested in the Crown. Even though much of this land was customarily owned and used by communities, common property rights were

impossible to establish. As a result, vast amounts of land were vested in the Crown and subsequently transferred to British planters for coffee cultivation. This land included large areas of fallow chena land.⁸ The Waste Lands Ordinance (WLO) of 1897 consolidated this transfer of lands by authorising Government Agents to declare by notice that particular tracts of land were the property of the Crown if no claims were made within three months of the date of the notice. The Land Reform Laws of the 1970s stipulated a ceiling of 50 acres on privately-owned agricultural land and confiscated all lands in excess of this amount. Although these Land Reform Laws were enacted with the stated goal of redistributing lands to the landless, they resulted in adding to the state's already excessive inheritance of land.

The land ownership issue colours the historical and cultural context for natural resource management. The CLEO, formulated to take over lands on which coffee cultivation could be extended, had the more deleterious effect of making thousands of people landless overnight. The problem of landlessness has grown more severe over the years--more than 19% of rural workers are landless (FAO, 1985 in Land Commission, 1990: 109)--and there has been no significant progress in dealing with this problem. As a result, *poverty and landlessness* have become the root cause of many resource management problems in Sri Lanka today. Although governments between 1935 and 1985 had alienated over 831,000 hectares of land to rural people under colonisation schemes, village expansion schemes, regularisation of encroachment schemes, and other settlement programmes (Land Commission, 1990: 133), there is still a severe shortage of land that can be privately owned. Parcels of land that have been passed down through generations are highly fragmented now and these small plots of land are impossible to cultivate efficiently. Consequently, expansion to accommodate new generations is possible only through encroachment. The incidence of encroachment, therefore, is very high--the *Report of*

⁸ *In ancient Sri Lanka, chena cultivation was not an unsustainable or damaging agricultural practice. Farmers had a system of rotation for use of land. Fallow land was left for a few years to regenerate and then re-used.*

the Land Commission puts the number at 6% of the nation's total land area (20)--and is frequently associated with unsustainable resource use.

Centuries-old systems that communities had developed to manage their natural resources, which included allocating use rights and restricting outsiders' access, were swept away by the CLEO of 1840 which severed communities' link with vital areas of their land. The outcome of the CLEO, the WLO, and the Land Reform Laws of the 1970s was simply that *too much land was vested in the state*. Even after major attempts to transfer state land, the state still owns some 82.3% of the country's land area (Land Commission 44). The state, with its limited financial and human resources, has not been able to manage this vast amount of land effectively. Although access to these lands has been legally restricted, the lack of enforcement and absence of any semblance of management has fostered the impression that it is "no one's land" (De Silva 40). Moreover, many tracts of land confiscated in the 1970s were simply abandoned afterward. As a result, large amounts of land have become *de facto* open access areas which have been subject to encroachment and unsustainable use.

The self-sufficient, sustainable lifestyle of ancient Sri Lankan communities was eroded not only because of the sudden loss of lands but also because of the pervasive nature of the commercial economy that took firm root in the British period. Colonies such as India were so large that the effects of the colonial land policies never reached many rural areas. In those areas, therefore, communities remained highly dependent on natural resources such as forests and continued to engage in their traditional systems of resource management. In Sri Lanka, the situation has been quite different. Most rural communities have had relatively easy access to nearby towns and have interacted closely with the commercial economy. While many still use forests and other natural resources, the extent of their reliance is very small and, in many cases, the knowledge and use of traditional management practices has all but disappeared.

B. THE LEGAL FRAMEWORK

In Chapter II, co-management was defined as an arrangement in which local support institutions and central resource institutions actively engage communities and outside local beneficiaries in the management of *de facto* open access resources. The purpose of this section is to determine the extent to which these types of collaborative arrangements are supported in legislation. For such arrangements to work smoothly in the long-term in Sri Lanka, where landlessness is one of the major causes of resource degradation, issues such as land tenure and community-based rights must be addressed. For this reason, this section discusses implications for co-management not only in legislation developed explicitly for the management of natural resources but also in legislation that provides for increasing security of tenure and for community participation in natural resource-based development activities.

The Fauna & Flora Protection Ordinance, the key law that provides for the protection of wildlife and flora in protected areas, is administered by the DWLC. This law grants varying levels of protection to SNRs, national parks, nature reserves, jungle corridors, sanctuaries, refuges, marine reserves, and buffer zones. The main thrust of the Fauna & Flora Protection Ordinance is *regulation* and *restriction*. A large part of the ordinance lists out prohibited acts, permit requirements, and fines. Among the acts prohibited in most protected areas are tapping, collecting, or removing plants, clearing land for cultivation, and allowing domestic animals to stray. Fishing in protected areas is allowed only with a permit. However, permits may be granted free-of-charge to those communities who have fished in these waters "by custom or usage."

This ordinance does not recognise that local communities or other stakeholders can play a role in the management of protected areas or in the protection of wildlife. Moreover, with the exception of the provision recognising communities' customary fishing rights in protected areas, it does not acknowledge the need to reconcile protected area management with the needs of surrounding communities. This ordinance strongly reflects DWLC's "command and control" approach

to resource management and offers little support for co-management efforts in areas administered by the DWLC.

The Fauna & Flora Protection Ordinance also provides a high level of protection to elephants and other endangered species both inside and outside of protected areas. The ordinance recognises, however, the need to protect farmers and rural communities from damage caused by elephants. In cases where there appears to be "serious damage to life or property," the ordinance allows the Director of DWLC to issue permits either to outsiders or to the cultivators concerned to have these elephants captured or killed.

The Forest Ordinance, administered by the Forest Department, provides the legal framework for the management and conservation of forest land in Sri Lanka. When this ordinance was enacted in 1907, its primary thrust was revenue collection from timber production. Throughout the years, the ordinance has been amended to reflect conservation concerns. It now affords protection to fauna and flora within forest reserves. On the whole, the Forest Ordinance remains largely *regulation-oriented*. Rural communities are allowed to use certain types of forest products only if they have obtained the required permits. As a result, much of forest officers' time is spent issuing permits, monitoring their use, and appearing in court against violators (Forestry Planning Unit, 1995: 286-288). The ordinance contains little recognition of the role and rights of rural communities in forest management.

Although the primary emphasis is on keeping people out of forests, there is one provision that could be used to share with local communities the responsibility for the management of some non-critical forest areas. This provision enables the Minister of Lands to "constitute any portion of a forest [as] a *village forest* for the benefit of any village or group of village communities" and to "make regulations for the management of village forests."

The Coast Conservation Act, administered by the Coast Conservation Department, seeks to regulate

development activities in the coastal zone.⁹ The act emphasises the importance of establishing a scientific basis for coastal zone management by calling for documentation of the status of natural resources in the coastal zone and for the assessment of threats caused to these resources. The act also recognises the need to reconcile the socio-economic needs of local communities with the need to conserve the coastal zone. For instance, it calls for a programme to provide alternative employment for people displaced by effective coastal zone regulation. The Coast Conservation Act establishes permit procedures for development activities undertaken in the coastal zone. The 1988 amendment to the act strictly prohibits the “mining, collecting, storing, burning, or transporting... of coral” and requires the demolition of all kilns in the coastal zone. It also provides police officers with broad powers to enforce this act and declares that half the fines collected will be credited to the Police Reward Fund. Although this act is regulation-oriented to a large extent, it provides a basic framework for collaboration among stakeholders.

Another piece of legislation that could potentially have significant implications for the introduction of co-management efforts on a broad scale is the Thirteenth Amendment to the Constitution. Enacted in 1987, this amendment provides for the devolution of a wide range of legislative and executive powers to the provincial government level. These powers cover environmental protection, public lands, agriculture, irrigation, and many other areas linked to natural resource management. There is currently confusion over the division of responsibilities between the central government and provincial governments and a marked lack of implementation capability at the provincial level. As a result, provincial government institutions currently do not play a significant role in co-management efforts. (See Section D of this chapter for a more detailed discussion.)

The issue of community-based property rights is often an important factor in co-management

arrangements. In Sri Lanka, legislation such as the CLEO of 1840, which effectively abrogated all community-based tenurial rights, precipitated the erosion of traditional joint management systems based on community ownership. This rejection of traditional communal ownership has remained the legal basis of most recognised property rights in Sri Lanka (Lynch & Talbott, 1995: 36). This is reflected in several Supreme Court judgements, which have refused to recognise traditional communal ownership of natural resources and have clearly demonstrated an aversion to excluding “outsiders” from using these resources (Nanayakkara, 1996: 40). The fact that communities do not have the legal *right to exclude outsiders* from using a collaboratively managed resource is a major constraint to the sustainability of co-management efforts.

The Land Settlement Ordinance (LSO) contains a rare acknowledgement of communal land rights in Sri Lankan law. The LSO has a special provision to allow settlement officers to set apart state land as a “communal chena” reserved for the use of inhabitants of a certain village (De Silva, 1993: 41). Once this land has been declared, outsiders can use the land only with the consent of the villagers. This is unique in that it gives the community the right to exclude outsiders from using their resource.

Even though the general lack of recognition of communal ownership poses a constraint to co-management, there are several areas in existing legislation, which address issues like land settlement and resource management in agriculture and irrigation, that could be used to strengthen the framework for co-management. For instance, legislation such as the State Lands Ordinance and the Land Development Ordinance has the potential to increase security of tenure and land ownership and, therefore, can be used to strengthen incentives for community management of land-based resources. Likewise, legislation such as the Agrarian Services Act and the Irrigation Amendment Act, which grant legal recognition to resource user groups (ie. Farmer Organisations) can lend enormous credibility to these groups and facilitate their acceptance as equal partners in co-management efforts.

⁹ *The coastal zone is defined as the area lying within 300 metres landward of the mean high water mark and two kilometres seaward of the mean low water mark.*

Many past governments have recognised that the state owns more land than it can manage, that landlessness is one of the major reasons for poverty and resource degradation, and that private ownership is likely lead to more efficient and sustainable land use. Although legislation such as the State Lands Ordinance (SLO) and the Land Development Ordinance (LDO)¹⁰ have sought to establish a rational basis for the alienation of state lands, the process of transferring state lands to private hands has been slow and inconsistent. The SLO provides for the grant and disposition of state lands. The LDO provides the framework for the "systematic development and alienation of state lands." The legal tenure system in irrigated settlement projects, which cover a large area of the Dry Zone, is based upon 99-year leases prescribed by the LDO (Harker et al, 1995: 43). Although the LDO recommends that mapping and land use planning be done prior to alienation, it is often a political decision conducted in a haphazard manner (De Silva, 1993: 38). The LDO also provides for a Local Land Advisory Committee, representing the interests of local communities, to be appointed to review land use plans developed prior to the alienation of land. This committee's powers are now vested in District Agricultural Committees (DACs).

Unlike in the area of natural resource management, there is a very strong legal framework for community participation in irrigation management and agricultural development. The Irrigation Ordinance of 1946 provided for the establishment of DACs, which would coordinate all activities related to agriculture and irrigation in each district. The DACs consist of cultivators and relevant government officers. The Agrarian Services (Amendment) Act of 1991 grants Farmer Organisations (FOs) the status of "body corporate with perpetual succession." These FOs can enter into legally-binding agreements with government agencies and other parties and act on behalf of its members in purchasing inputs, marketing produce, and entering into farming contracts. The Irrigation (Amendment) Act of 1994, formulated to strengthen the legal framework for the Irrigation

Department's (ID) participatory water management efforts, recognises FOs established in irrigation systems as legal entities and requires the Divisional Secretary to assist in implementing FO decisions. These FOs enter into legally-binding agreements with the ID to transfer responsibility for the operation and maintenance of distributory channels. These agreements formally establish FOs' management rights and use rights pertaining to the distributory channels.

In most of the legislation that has been discussed here, there is little specific provision for collaborative management of natural resources. In fact, the legal framework does not allow for communities to *own* resources as corporate bodies. Only in the case of *de facto* open access resources such as irrigation canals does the community, through FOs, have the right to *manage* resources *in perpetuity*. There are, however, several provisions in various types of legislation that endorse the concept of community participation in the planning and implementation of development activities.

C. THE POLICY AND PLANNING FRAMEWORK

All post-Independence governments in Sri Lanka have stressed the importance of popular participation in the nation's development and have sought to facilitate this at all levels of administration. This approach has been reflected in the increasing decentralisation of power that has occurred in the past decades. The thinking behind both the Thirteenth Amendment and the recently proposed "devolution package" has been that local communities should have a stronger voice in the formulation of strategies to manage the financial, human, and natural resources of their region.

Policy makers at national institutions such as the DWLC and the FD have been slow to incorporate the "bottom-up" approach into their policies and plans. There is increasing recognition, however, that regulation and enforcement alone is not effective and that the active engagement of local communities is essential in order to reduce pressure on resources like forests and protected areas in a sustainable manner. This section examines the extent to which the collaborative management

¹⁰ Both the SLO and the LDO are administered by the Land Commissioner.

approach is supported in policies and plans developed for the management of natural resources in Sri Lanka.

The National Forestry Policy (NFP) and the Forestry Sector Master Plan (FSMP), both adopted in 1995, constitute the first coherent, long-term framework for forest development in Sri Lanka. They were also the first policy documents in the forestry sector to emphasise both development and conservation. The NFP and the FSMP both reflect a fundamental change in the conceptual basis for forest management--that forests are important not only for their timber value but also for their ecosystems and that they must be conserved for the benefit of both current and future generations. This is a far cry from the production and regulation-oriented, "keep people out" approach reflected in previous forest laws and policies. The NFP and the FSMP both contain very strong endorsements of the participatory resource management approach.

The NFP declares that, in the management and protection of natural forests and forest plantations, "the state will, where appropriate, form *partnerships* with local people, rural communities, and other stakeholders, and introduce appropriate tenurial arrangements." It advocates progressively entrusting the establishment and management of industrial forest plantations to rural communities and private companies with appropriate environmental safeguards. The NFP also pledges to promote the efficient utilisation of forest products and to encourage forest-based rural development activities of NGOs and CBOs. It calls for the zoning of state forest lands into four categories on which various degrees of co-management are possible. These categories are: 1) Class I forests which are strictly protected; 2) Class II forests which will be managed according to plan developed jointly with rural communities--controlled collection of non-timber forest products (NTFPs) and dead fuelwood will be allowed; 3) Class III multiple-use forests on which rural communities can harvest timber sustainably and collect NTFPs--this will include buffer zones; and 4) Class IV forests on which forest plantations and agroforestry can be established to produce timber and NTFPs--this includes degraded state lands that can be reforested.

The FSMP, which is to be implemented over the period 1995-2020, is the outcome of several years of consultation and debate. It acknowledges that the government has not been effective in managing all forest lands and that local communities do not currently have the rights and incentives to use these forests sustainably (Forestry Planning Unit, 1995: 3). It also recognises that poverty associated with landlessness is the primary cause of deforestation in Sri Lanka and that the conversion of forest lands will continue unless this problem is addressed. Consequently, the FSMP identifies improving the welfare of rural communities as one of the goals of the forestry sector. It also identifies security of tenure for rural communities as one of the most important incentives for sustainable forest management. Although the FSMP declares that the state must remain the highest authority in the forestry sector, it defines the state's role in relation to the support it should provide to empower local resource users to become effective resource managers. The FSMP also provides a description of the distribution of roles among the various partners in future co-management efforts--the FD, the DWLC, other government institutions, local communities, NGOs, and private firms--for different types of forests (Forestry Planning Unit, 1995: 10-12).

Although both the NFP and the FSMP provide a very supportive framework for co-management, they include little detail on exactly how these policies and plans are to be implemented. Moreover, the extent to which the FD has actually engaged local communities and other stakeholders in forest management is minimal. The discussion of the FD's co-management activities later on in this study will show that, although progress has been made in the past few years, the level of community engagement in managing forest lands has not been very high. The wide gap between plans and practice is a reflection of the inter-institutional conflict between the Forestry Planning Unit (which led the development of the FSMP and NFP) and the FD (which is charged with implementation of these policies and plans). The FSMP's approach to forest management would require a dramatic transformation of current FD management practices. In light of this situation, it is unrealistic to expect that the FSMP will be

implemented in full unless there is a complete re-orientation of the FD bureaucracy.

In the area of wildlife and protected area management, unlike in the areas of forestry or coastal zone management, there have been no recent attempts to comprehensively review and revise the existing policy and planning framework. Existing DWLC policies emphasise enforcement of regulations to keep people out of protected areas and provide little opportunity or encouragement for collaborating with local communities.

The lack of scientific research and national-level planning has been felt most acutely in the area of elephant management. Much of the landmark elephant research conducted in Sri Lanka--for instance, the studies by McKay in 1973, Vancuylenberg in 1972, and Iswaran in 1979--is approximately 20 years old and only covers elephant populations in small areas of the country. Although human elephant conflict has increased rapidly over the past two decades as a result of large-scale clearing of forests for settlements and agriculture, there has been no coherent policy or strategy developed to respond to this. Instead, the DWLC has tended to deal with each trouble spot on a case-by-case basis with fairly *ad hoc* responses. When conflict reaches crisis levels, like in the recent case of Handapanagala, the DWLC has responded by translocating herds. A major constraint to the development of a comprehensive plan to prevent and manage human elephant conflict is the lack of reliable information on elephant behaviour, habitat requirements, food preferences, the quality of existing habitat, etc. on which to build a response. There is also no comprehensive information on the extent of the damage caused by human elephant conflict (both in terms of threats to elephants and elephant habitat and in terms of threats to humans, property, and crops). Some of this information is recorded by DWLC officers at the field-level, but it has not yet been consistently documented or analysed.

In addition to national-level policies and plans, there have been several management plans that have been developed for specific resources like forests and protected areas. For instance, the FD has developed management plans for nine

conservation forests in the wet zone including the Sinharaja and Knuckles forests. Seven of these management plans¹¹ include detailed strategies for engaging local communities in resource management activities. The management plans zone the forests into protected core zones, traditional use zones, recovery zones, village integration zones, and buffer zones according to their need for protection and their capacity to accommodate community use. The DWLC has also developed management plans for several wetland sites under its management and for a few protected areas declared by the Mahaweli Authority. Although many management plans have been developed, mostly on donor agencies' advice and with their funding, they have rarely been implemented with any degree of success.

The revised Coastal Zone Management Plan (CZMP), to be finalised in early 1997, is an update of the CZMP adopted by the Cabinet of Ministers in 1990. The plan identifies the coastal problems the CCD should address in the next four years and suggests strategies to respond to these problems. The CZMP recognises that the regulatory approach¹² used by CCD in its first ten years is not sufficient to achieve effective management of the coastal zone. It strongly advocates the concept of Special Area Management (SAM) which is a community-based and collaborative means to "cope with the impact of... individual resource use decisions and conflicts over an area that might include resources not in the legally designated coastal zone" (Coast Conservation Department, 1996: 9). The CZMP identifies 22 potential sites for SAM planning. Each site has been rated with respect to four "factors of concern" and the sites

¹¹ Management plans for the following seven conservation forests in the Wet Zone were prepared by IUCN with IDA/World Bank funding in 1995: Bambarabotuwa-Messana, Dellawa, Oliyagankela and Welihena, Kekanadura, Kandawattagoda, Viharakele, and Kottawa-Kombala.

¹² This approach focused primarily on issuing permits for relatively large development projects. While this helped to prevent adverse impacts on coastal resources that might have been caused by these projects, it was not able to deal with the degradation caused by cumulative effects of continued use of coastal resources by individuals or communities.

with the highest cumulative values have been recommended as high priority sites for SAM implementation (Coast Conservation Department, 1996: 99). The "factors of concern" are: 1) the severity of social, economic, and environmental issues; 2) the relative richness and abundance of coastal ecosystems; 3) the feasibility of management based on size, location, legal, and institutional factors; and 4) the existing or potential value of economic development in the area. Two of the highest priority sites have, since 1993, been developed as pilot SAM sites. These two sites, Hikkaduwa and Rekawa, will be discussed in Chapter V of this report.

The Biodiversity Action Plan (BAP), which is still in the process of development, will also advocate the involvement of communities in biodiversity management. The Strategy Document for the preparation of the BAP clearly accepts that "any plan to conserve biodiversity... has to recognise the underlying socioeconomic causes of loss of biodiversity" and that biodiversity conservation should be "centred at the grassroots level through community participation" (Ministry of Transport, Environment and Women's Affairs, 1995: 32, 69). Networks of NGOs dealing with biodiversity issues have been established to provide input into the preparation of the BAP. This is expected to help ensure that local-level concerns are identified and addressed in biodiversity management strategies.

In most areas, although the supreme authority over most common property natural resources is securely held by the state, a relatively supportive policy environment exists for community participation in the conservation and management of these resources. The problems, however, arise in the implementation stage. There are two major reasons for problematic implementation. First, threats to effective natural resource management frequently arise as an outcome of policies of other sectors. For instance, threats to wildlife increased dramatically as a result of Mahaweli Development Programme's activities. Second, incorporating community participation into many areas may require a complete change in attitudes of agency bureaucracies. This type of re-orientation cannot be achieved through policy formulation but by human resource development.

D. THE INSTITUTIONAL FRAMEWORK

There are institutions at all levels of government that have various roles in natural resource management. At the national level, there are policy making bodies such as the Ministry of Agriculture, Lands and Forestry and the Ministry of Fisheries and Aquatic Resource, implementing agencies such as the DWLC, the FD, and the CCD, and technical agencies such as National Aquatic Resources Agency (NARA). At the provincial level, there are Provincial Councils. At the local level, there are Divisional Secretariats and Pradeshiya Sabhas. At all levels, there are NGOs that constitute a vital part of the institutional framework for co-management. NGOs that are involved in facilitating community participation in resource management include March for Conservation, Environmental Foundation Ltd., and Sarvodaya on a national level, and Sinharaja Sumithuro and Dumbara Sumithuro on a local level.

The DWLC, which functions under the Ministry of Public Administration and Home Affairs, is mandated to protect the country's wildlife resources and manages some 12.4% of the nation's entire land area. Although the DWLC's approach is almost completely regulation and enforcement oriented, there is growing recognition that it simply does not have sufficient manpower to rely on enforcement alone and that more sustainable approaches must soon be developed. DWLC's field officers, in particular, have realised that their work would be much more effective if they could develop a less confrontational relationship with local communities. Although DWLC's primary means of involving local communities thus far has been through public awareness programmes, it has recently begun to recognise, with experience in places like Ritigala, that communities can play a much more active role in protected area management. Even though attitudes within the DWLC are beginning to change slowly, it is unlikely that the DWLC would have the capability or the will to support broad-based collaborative protected area management efforts in the near future.

The FD, which functions under the Ministry of Agriculture, Lands and Forestry, manages over a

million hectares of natural forest and forest plantations in Sri Lanka. In the past decade or so, the FD has slowly begun to recognise the need to involve local communities in forest management. In spite of the fact that the FSMP and NFP provide a strong framework for co-management and that the FD has three years of experience with a participatory forestry programme--implemented in 18 districts throughout the country in locations such as Diyatalawa, Hambantota, Teldeniya, and Huruluwewa--it is still not equipped or oriented to adopt co-management on a broad basis. In fact, the FD is still uncertain about the role local communities should play in the management of forest lands. Many of the FD's participatory activities have given communities a role in activities like tree planting on unforested lands previously used for chena.

The CCD and the ID are both leaders in terms of their endorsement and adoption of the co-management approach. Both institutions have identified the active engagement of local communities and other stakeholders as a prerequisite for sustainable resource management and have led the development of policies, plans, and legislation to facilitate use of the co-management approach on a broad scale.

At the *provincial level*, the Provincial Councils (PCs) possess legislative and executive powers over many areas including natural resource management, public lands, irrigation, agriculture, and inter-provincial transport. Although the Thirteenth Amendment was adopted in 1987, implementation has been weak because of confusion over the division of power between the central and provincial governments and because of the lack of technical capability and staff resources at the provincial level (De Silva, 1993: 45). Moreover, with the exception of the Northwestern Province, no PC has even attempted to actively manage the natural resources of its province.¹³ The Southern Province has recently shown an interest in managing (and more specifically, accruing the benefits from management) of national parks in its

province. It has formally requested that the revenue generated from Yala National Park be returned to the province. The recently established Southern Development Authority (SDA), which works in collaboration with the Southern PC, has also taken a strong interest in environmental management. These are signs that provincial governments are slowly beginning to recognise the incentives to better manage their natural resources.

PCs serve as the link between the central government and Pradeshiya Sabhas.¹⁴ Future co-management efforts should take advantage of this link and engage PCs more actively in co-management. It is also likely that PCs will have stronger incentives to support co-management than central government institutions because their constituents will benefit directly from better resource management. The constraint to PCs' involvement, however, has been their lack of interest and lack of capability. This is likely to remain a constraint for the next few years.

At the *local level*, governance and administration is currently complicated by the fact that two parallel institutions (the Divisional Secretariat and the Pradeshiya Sabha) function with a poor definition of roles and responsibilities and very limited coordination. The Pradeshiya Sabha (PS), an amalgamation of the former Town Councils and Village Councils, is a locally elected body which is responsible mainly for the provision of public utilities and services; the PS reports to the PC. The Divisional Secretary (DS), the equivalent of the former Assistant Government Agent, is appointed by and reports directly to the Ministry of Home Affairs and Public Administration and is responsible for coordinating all government development programmes in the Division. The DS carries the delegated authority of all national agencies in that Division and often has field officers from agencies such as the ID or the Department of Social Services located in its office. PSs and DSs often administer the same geographical areas.

¹³ The Northwestern Province adopted the first Provincial Environmental Act in Sri Lanka in 1990. This act is based on the National Environmental Act.

¹⁴ Pradeshiya Sabhas are the unit of local government introduced in 1987 to most rural areas under the Thirteenth Amendment. The equivalent unit in urban areas in the Municipal Council or the Urban Council.

Of the two institutions, the Divisional Secretariat is better funded, better connected, and has a higher level of technical capacity. The DS carries the devolved authority to coordinate the activities of field officers of government agencies and has a good traditional rapport with the local community. On the other hand, PSs are elected by local communities and are more accountable to them; they also have close links with provincial government and oversee the provision of important public utilities and services. Co-management initiatives should, therefore, try to get both these institutions on board.

Since NGOs typically have a better rapport with local communities than government institutions do, they are important players in any collaborative development activity. In addition, NGOs also have specific areas of expertise--for instance, Sarvodaya in community empowerment, EFL in legal issues, MFC in scientific knowledge, and Wayamba Govi Sanwardana Padanama (WGSP) in rural development. Co-management experience in Sri Lanka shows that NGOs are often a crucial member of the co-management partnership.

V. REVIEW OF CO-MANAGEMENT APPROACHES IN SRI LANKA

Co-management is a relatively new concept in Sri Lanka. Although community participation has been actively sought in many areas of rural development, particularly in sectors like agriculture, irrigation, and health, this has focused mainly on giving communities the opportunity to voice their opinions on management decisions that will affect them. There are a few examples, most of them very recent, where projects or programmes have gone beyond this to actually give communities and other stakeholders a role in the *management* of a resource. Irrigation water

management is perhaps the only area in which there is a strong precedent for co-management. In this chapter, we will examine several approaches that have been used in Sri Lanka to share responsibility for resource management among local communities, government agencies, NGOs, and other parties.

We look first at four projects initiated and funded by USAID: the Shared Control of Natural Resources (SCOR) Project, the Coastal Resources

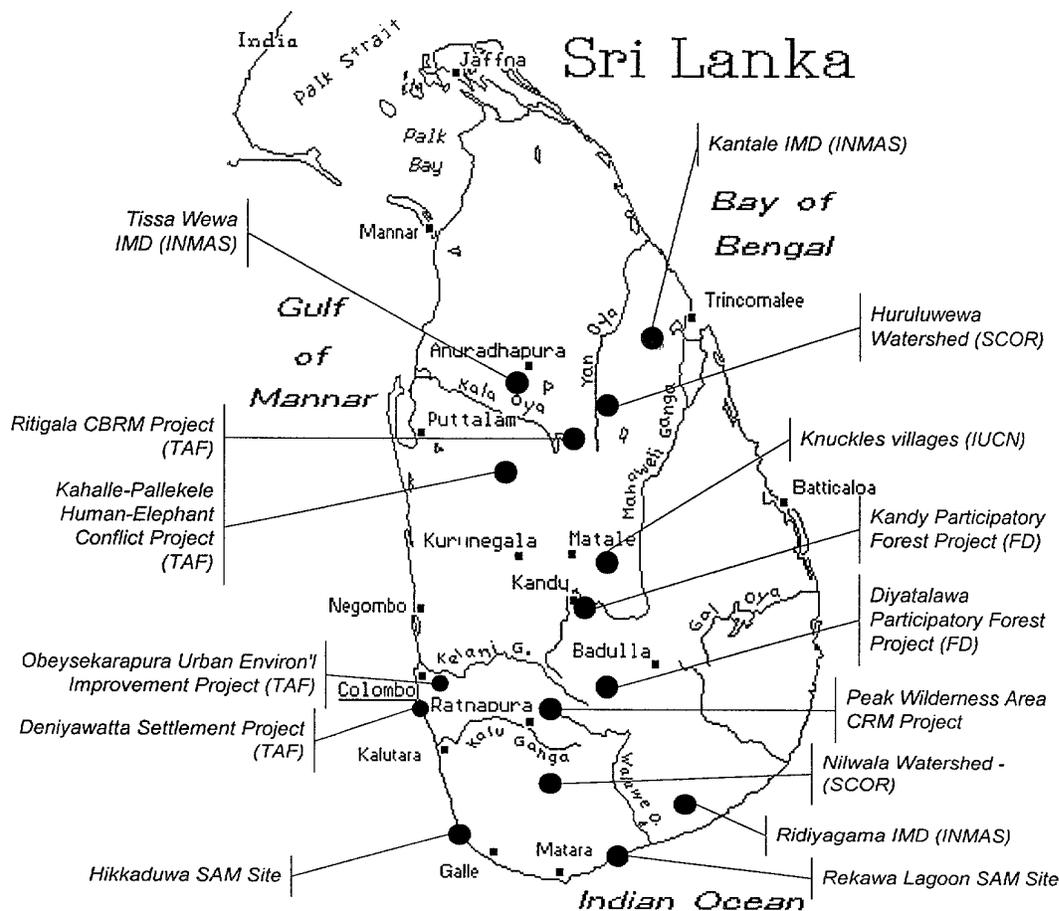


Figure 4: Select Sites in Sri Lanka Where Co-management Projects are Being Tested

Management Project (CRMP), and The Asia Foundation's Special Projects on CBRM in Kahalla Pallekele and Ritigala. SCOR and CRMP are projects managed by international institutions--the International Irrigation Management Institute (IIMI) and University of Rhode Island (URI) respectively--with considerable expertise in resource management throughout the world. These projects have relatively large budgets and staff resources and significant technical capability. The Ritigala and Kahalla Pallekele projects, on the other hand, have very small budgets and are managed jointly by The Asia Foundation's field staff and small local NGOs. Next, we look at experiences with different types of co-management efforts used by the FD, the Irrigation Department (ID), and the Sri Lanka chapter of the International Union for Conservation of Nature (IUCN). This chapter concludes with a general discussion of the major lessons that can be learned from these co-management experiences.

A. SHARED CONTROL OF NATURAL RESOURCES (SCOR)

The SCOR project, managed by IIMI, works in the Huruluwewa and Upper Nilwala watersheds to pilot test a participatory approach to sustainable resource management in watersheds. SCOR focuses primarily on "increasing the sustainable productivity of land and water resources" by integrating conservation concerns with production goals (Wijayarathna, 1995: 1). The Huruluwewa project area comprises 420 square kilometres (total population 39,000) and the Upper Nilwala project area comprises 52 square kilometres (total population 23,500). SCOR's strategy is to first organise and strengthen user groups in the project areas and to then facilitate the establishment of formal state-user agreements in order to increase users' control over the relevant land and water resources. An integral part of the SCOR philosophy is that security of tenure reduces the temptation for exploitative land use and enhances the incentive to engage in sound production practices that have long cost-recovery periods. The type of tenure security that SCOR advocates is *shared control* (i.e. some degree of "communal" ownership) rather than exclusive individual

property rights (i.e. the transfer of ownership title to an individual).

There is one important point to note before the discussion of SCOR's experience begins. SCOR is a very well-funded project (US\$ 7 million over six years) which is implemented by IIMI, an institution which has extensive international experience with agricultural production issues. Therefore, it had easy access to funds, staff, and technical expertise in the design stage and continues to draw from these valuable resources in project implementation and monitoring. SCOR is similar in this respect to the Coastal Resources Management Project (CRMP) which is discussed in the following section. The Asia Foundation (TAF) community-based resource management projects, however, are very different in that they had very small budgets and limited scientific expertise.

One of the most notable features of SCOR's co-management effort is its comprehensive design process. Project designers involved numerous local stakeholder groups in the identification of the resource management problems to be addressed and built the project strategy upon the lessons of previous co-management efforts in Sri Lanka (in particular, the experiences of water user groups in major irrigation systems). During the participatory resource assessment, IIMI staff worked closely with existing groups of resource users to map land use patterns and to gauge the community-resource relationship by studying the demand and supply characteristics of the land and water resources. The project design was based, therefore, on a good understanding of the dynamics underlying the prevailing methods of resource use for agricultural production. Since factors like tenure security, incentive structures, and access to credit, seeds, fertiliser, etc. were identified as serious constraints to sustainable productivity, project designers placed great emphasis on strengthening the legal, policy, and institutional framework for joint land and water management.

The decision to choose entire watersheds as the resource to be managed is an interesting one. This complicates project implementation to a certain extent because the geographical boundaries of the watershed are not congruent with the administrative

boundaries (Wijayarathna 9) and because the interests and socioeconomic conditions of communities in different areas of the watershed do not coincide. Therefore, the residents of different areas within the watershed are not a "community" that is united either by common interests or by traditional links. However, SCOR capitalises on the one common interest—that the potential benefits from integrated use of the watershed can be large. Project activities such as the construction of mini hydropower plants have used this approach effectively to link the goal of electricity generation to the preservation of forest lands in upper area of the catchment.

The operational focus of SCOR is at the user group level and the watershed level. At these levels, *catalysts* work with user groups and relevant officials (i.e. Grama Niladhari, extension agents) to provide training in and help implement soil and water conservation strategies and other development activities. A great deal of SCOR's success can be attributed to its well-trained catalysts. The Mid-Term Evaluation of the SCOR project, conducted in 1995, recommended that IIMI should move away from fielding catalysts from its own staff and focus more on involving NGOs and local institutions in playing this role (30). It also advised that IIMI change its role from "implementor" of SCOR to "an increasingly lower-profile consultative and advisory role as it guides other institutions to helping user groups..." (30). In spite of this recommendation, however, IIMI still remains at the forefront of SCOR implementation. This invites doubts about the sustainability of SCOR's work after the big budgets and technical interventions are over.

SCOR supplements its strong field-work with close links with provincial and national level institutions. SCOR's activities are coordinated at the watershed level by a Watershed Resources Management Team, at the provincial level by a Provincial Steering Committee, and at the national level by a National Steering Committee. Such institutional arrangements serve as an effective means to obtain the collaboration of a variety of external stakeholders and central resource institutions.

This approach has obtained certain policy and institutional responses that support SCOR's activities and has helped build a larger framework for project activities. For instance, SCOR has obtained legally-recognised usufructuary rights (for a 25-year period) for some farmers under the FD's Participatory Forestry Project. SCOR assistance for some "mini-projects," such as the one in Maha Meegaswewa in the Huruluwewa watershed, has leveraged relatively large bank loans for user groups' activities—SCOR's grant is used as collateral. Many of the other project activities such as agroforestry, conservation farming, integrated water management, access to information, etc. seek to build permanent links between user groups and relevant national agencies and to illustrate to these agencies that joint management can be effective and sustainable.

A feature that distinguishes SCOR from many other co-management efforts in Sri Lanka is its use of detailed action-research to direct project activities. SCOR uses studies of land capability, fertility levels, drainage quality, etc. and socioeconomic and environmental analyses to evaluate different land and water use options. SCOR also uses Geographic Information Systems (GIS) to characterise water and land resource use in different subsystems of the watershed (*SCOR Monitor* Jan-Aug 1995). This gives project activities a solid scientific and technical foundation. SCOR also places a strong emphasis on monitoring and evaluation. A detailed set of indicators assesses the project's performance not only in terms of land and water conservation and productivity but also in terms of user group activities, investments, and participation.

B. COASTAL RESOURCES MANAGEMENT PROJECT (CRMP)

The CRMP, managed by the University of Rhode Island, focuses its field activities on Hikkaduwa and Rekawa. CRMP uses these two sites to demonstrate the potential of the Special Area Management (SAM) concept. SAM is a co-management approach in which communities work with local and national government to develop and implement management plans for the sustainable use of resources within a defined geographic

setting. Very early on in CRMP's work, the Coast Conservation Department (CCD) took "ownership" of the SAM concept and has since championed this approach to integrated coastal management. CRMP's efforts in Hikkaduwa and Rekawa are therefore closely enmeshed with CCD's work.

At both the Hikkaduwa and Rekawa sites, there are entire ecosystems which are *de facto open access resources* for the use of which several groups of the local community compete. In Hikkaduwa, the Marine Sanctuary is being rapidly degraded by over-use and poor management. Much of the threat to the sanctuary's famous coral reef comes as a result of glass-bottom boats, fishing boats, untreated waste discharged by hotels and restaurants, and tourists walking on the corals. The SAM process in Hikkaduwa brings the immediate stakeholders—the hoteliers, restaurant owners, glass-bottom boat owners, and fishermen—together with local government, CCD, DWLC, and other relevant parties to jointly develop strategies to manage their resource more sustainably. In Rekawa, the lagoon and surrounding lands are gradually being degraded and made less productive. Unsustainable resource use methods employed by fishermen and farmers, illegal coral mining, turtle egg poaching, and mangrove clearing are some of the major threats to the lagoon ecosystem. In both these cases, since large sections of the community derive substantial benefits from the resources concerned, the community-resource relationship is quite strong. Particularly in Hikkaduwa, where the coral reefs and other tourist attractions draw some Rs. 110 million annually (*SAM Plan for Hikkaduwa*, 1996: 1), the potential benefits from sustainable resource management are large.

There are two important features of the SAM planning process in Hikkaduwa and Rekawa. First, it has placed great emphasis on *data collection and analysis*. Environmental profiles of both sites produced early on in CRMP's history provide extensive assessments of the resources in question. NARA has been intimately involved with all resource assessments conducted at the two sites and plays a leading role in providing the scientific and technical expertise required for SAM planning. In spite of NARA's scientific input, however, resource degradation problems such as the

operation of excessive numbers of glass bottom boats at Hikkaduwa have not been addressed successfully yet. Although NARA has recommended that the number of boats allowed in the marine sanctuary be limited to 15, the current number of boats operating exceeds 70.

Second, CRMP educates and organises local communities and tries to nurture a "sense of ownership" of the resource management process. Full-time CRMP *catalysts* work with communities in both sites and help the various stakeholder groups to play an active role in the management planning process. The institutional mechanism used to enable collaborative planning and management is the SAM Coordinating Committee. At both sites, the Coordinating Committees are chaired by the Divisional Secretary and comprised of representatives of stakeholder groups, relevant government agencies (i.e. CCD, NARA, DWLC, Ceylon Tourist Board, Irrigation Department), and other parties (i.e. the Hambantota Integrated Rural Development Programme). The Divisional Secretaries at these two sites have perceived the sustainable management of the resources as their responsibility and have taken a strong leadership role in the SAM process. This has been critical to the success of the CRMP effort.

An important feature of the CRMP approach is its basic premise that project activities "must be part of a large, more comprehensive national planning and management effort for long-term success and sustainability to occur" (White et al, 1994: 3). To this end, CRMP's field activities have been coupled with an effort to strengthen the policy and institutional framework for collaborative management of coastal resources. The SAM concept is strongly advocated in the new Coastal Zone Management Plan (to be adopted in early 1997) and in *Coastal 2000* (1992) and has become an integral part of CCD's approach. Recently, the SAM approach has also been endorsed by the newly created SDA. However, even with active and capable stakeholders and a supportive policy framework, experience at Hikkaduwa and Rekawa has shown that there are limits to what the current actors can achieve. It has become evident that many of the threats to the resources concerned arise as a result of policies in other sectors (such as

fisheries, tourism, or irrigation). In order to be successful in the long-run, these co-management efforts will need to involve these other parties and combine enforcement and self-regulation in a manner that is accepted by all actors.

Although the existence of a supportive policy and institutional framework increases the likelihood that these co-management efforts will be sustainable, there is still doubt about whether the momentum for co-management can be maintained in the absence of the catalytic CRMP project and its financial and technical resources. In theory, SAM does not need long-term external support, because implementation and monitoring of the SAM plan becomes a local responsibility. It remains to be seen, however, whether this will be a realistic expectation given the limited technical, financial, and project management capability of local government institutions and CBOs.

C. THE ASIA FOUNDATION'S SPECIAL PROJECTS ON COMMUNITY-BASED RESOURCE MANAGEMENT

The Asia Foundation (TAF) manages a set of five special projects to pilot test the community-based resource management (CBRM) approach in rural and urban settings. The Cooperative Agreement between USAID and TAF states that these projects will seek to address "a few critical and manageable biodiversity and urban pollution issues by the communities in collaboration with relevant private and public sector organisations." The main objective of these efforts is to enable communities to manage local resources by enhancing the capacity of community NGOs, and public and private sector agencies (*TAF Workplan* 1994). It is important to note that the emphasis from the beginning was on institutional strengthening to build a good foundation for improved resource management in the future. The agreement did not make specific claims to attempt to create linkages between development and conservation of resources.

1. Kahalla Pallakele Human Elephant Conflict Project

The Human Elephant Conflict (HEC) Project works in 45 villages in the Divisions of Galgamuwa and Giribawa in the Northwestern Province. Like most of Sri Lanka's dry zone, the Kahalla Pallekele area used to be prime habitat for elephants. With the large-scale clearing of forests for irrigated agriculture and human settlements in the post-Independence era, there was substantial elephant displacement and habitat loss. Increasing levels of human elephant conflict has resulted not only in regular elephant injuries and deaths but also in severe damage to communities (in terms of death, injury, and property/crop damage, etc.) in the project area. DWLC officers estimate that there are approximately 150-200 elephants in the Kahalla Pallakele area. Project statistics indicate that in 1993, villagers incurred more than Rs. 3,200,000 in losses as a result of elephant-related damage. In addition, 3 people were killed, 5 people were maimed, and 31 houses were destroyed that year. Villagers residing in this area are very poor and heavily dependent on chena cultivation. They are, therefore, not equipped to withstand the human and economic losses inflicted by elephants.

Although DWLC is responsible for the management of elephants and other wildlife in Sri Lanka, it has not been effective in providing protection either to humans or to elephants in this situation for two major reasons. First, there is no coherent elephant management strategy for DWLC to implement. Second, DWLC's financial, technical, and human resources are completely inadequate to cover the vast area under its jurisdiction. Project staff claim that the project area requires 60-70 DWLC rangers if elephants are to be afforded effective protection. There are, however, only 7 rangers in the Kahalla Pallekele area and their movements are severely restricted by the fact that they do not have a vehicle. As a result, the rangers cannot respond in a timely manner to elephant-related emergencies and villagers take the law into their own hands to defend their lives and crops from elephant attacks.

The Kahalla Pallekele HEC project started under the Special Projects initiative in 1993 with the goal

of strengthening communities to “manage local resources.” The local resource to be managed in the case of Kahalla Pallekele is the elephant population. This resource is different to the other resources discussed in this study for two reasons. First, it does not generate any benefits for the primary stakeholders; rather, it generates only costs. For this reason, the project focuses on trying to minimise elephant-related costs. Second, the resource is mobile and interacts with other communities and resources in a fairly large geographic area; therefore, management outcomes may have an impact on communities and resources outside the project area.

The HEC project is implemented by a NGO coalition named the Wana Jana Mithuro Sanvidanaya (WJMS).¹⁵ The basic thrust of the WJMS strategy is to address the elephant-related issues by first helping villagers to address their socioeconomic problems. The assumption underlying this approach is that better socioeconomic conditions and improved governance will reduce villagers’ vulnerability to elephant-related damage and consequently reduce the pressure on elephants. In each Division, WJMS has helped to establish an Apex Body to bring together the different actors in the resource management process. Each Apex Body is chaired by the Divisional Secretary and consists of representatives of the local community, DWLC, and other government institutions. Project activities in the first three years have focused on: 1) introducing new crops and cultivation techniques that reduce potential for conflict with elephants; 2) strengthening community-based organisations (CBOs) and improving their capability to interact with providers of services (credit, marketing, agricultural extension, etc.); 3) enhancing knowledge of elephant behaviour/habitat and teaching methods of elephant deterrence. Numerous training programmes in forestry, animal husbandry, agriculture, grain storage, bee keeping,

and nursery development have been conducted in order to encourage new means of income generation.

Looking at project outcomes from a *socioeconomic* perspective, villagers appear to be better off now than before the project began. The success of elephant deterrence methods taught to villagers has succeeded in reducing the incidence of human-elephant conflict. Preliminary data indicates that crop damage has decreased from 921 hectares in 1993 to 19 hectares in 1995, and the number of houses destroyed has decreased from 31 in 1993 to 1 in 1995. Anecdotal evidence also suggests that the introduction of new entrepreneurial activities has increased incomes and that increasing levels of external assistance are now being channelled through project-strengthened CBOs. Although it is not clear how the success of these rural development activities will improve the quality of the resource (elephants), it is expected that increased awareness and community empowerment will contribute positively to elephant management in the future. It is already evident that, as communities begin to be perceived as important actors in controlling human elephant conflict, the relationship between DWLC and the community has improved. Villagers now understand the value of elephants as a national resource and are willing to engage in habitat enrichment activities. DWLC has also recognised the benefits of collaborating with local communities and is increasingly seizing this opportunity.

Looking at project outcomes from an *elephant management* perspective, there is little evidence to suggest that overall pressure on the elephant population was reduced or that the quality of elephant habitat was improved. In fact, the decrease in human elephant conflict in the project area has been accompanied by an *increase in conflict* in other areas.¹⁶ There is growing recognition among project staff and DWLC officers that elephant deterrence and removal strategies do not constitute elephant management and that they

¹⁵ The four NGOs in the WJMS coalition are Wayamba Govi Sanwardana Padanama (WGSP), Organisation for Resource Development and Environment (ORDE), Wayamba Environmental Science Explorers (WESE), and March for Conservation (MFC). WJMS links the rural development experience of WGSP and ORDE with the conservation experience of WESE and MFC.

¹⁶ R.A.D. Ranasinghe, a DWLC ranger at the Meegalawa Beat Office, stated that human elephant conflict in northern Kurunegala District is presently on the rise in spite of project activities.

will not provide a long-term solution to the human elephant conflict. It is evident that the effectiveness of the HEC project is undermined because it does not have a larger framework within which to work--there exists no coherent elephant management strategy and little research¹⁷ on which to ground such a strategy. Under these circumstances, a project of this nature cannot have a significant impact on human elephant conflict on a regional or national level. It must be emphasised that the Kahalla Pallekele project was not designed to reduce human elephant conflict at a regional or national level. It is important, however, to examine what projects like this can realistically achieve in terms of elephant management by working solely at the local level. Many DWLC officers and wildlife experts are of the view that intense human elephant conflict will continue as long as high population densities of humans and elephants remain in areas like Kahalla Pallekele in Sri Lanka's dry zone.

The project has not been able to significantly change the incentives currently in place with respect to elephant management. For villagers, the fact that the compensation scheme¹⁸ for elephant-related damage is almost ineffective is an incentive to kill or injure elephants. Since they do not get compensated for the damage incurred, villagers' want to make sure that it does not happen again. Hence, the compensation scheme is a "negative" incentive for elephant protection. If the compensation scheme was working (if it paid villagers the amount claimed within a reasonable time), this would neutralise the incentive to kill or injure elephants. It is admittedly hard to try to

¹⁷ Since adequate scientific data is not available, it is not possible to accurately assess the impact of project activities on elephants. For instance, if farmers' crops are a crucial part of an elephant's normal dietary intake, then protecting crops and deterring elephants from entering chenas will have a negative impact on elephants.

¹⁸ Villagers are entitled to government compensation for any elephant-related damage: the Department of Social Services compensates for crop and property loss and DWLC compensates for loss of life. However, this system is rendered all but ineffective for two reasons: first, the process of lodging a claim is time-consuming and riddled with bureaucratic procedures; second, claims are usually paid after one or two years and, even then, only a fraction of the original claim is paid.

build "positive" incentives for elephant protection in a community which derives no benefits from the existence of elephants. Nevertheless, more emphasis must be placed on trying to neutralise the incentive to destroy elephants.

If similar projects are to be replicated in other areas of Sri Lanka, there must be a stronger scientific basis and a more supportive policy framework for elephant management. There is an *urgent need for scientific research* on elephants (their biology, behaviour, ranges, habitat, etc.) to be carried out in collaboration with DWLC. This research should be used by DWLC to identify high conflict areas and develop plans for sustainable elephant management. Such plans must address issues such as incentives, institutional mechanisms, culling and corridor development and should be integrated into existing development plans for the regions concerned.

2. Ritigala Community-Based Resource Management Project

The Ritigala Community-Based Resource Management (CBRM) Project¹⁹ covers the regions bordering on and including the Ritigala Strict Natural Reserve (SNR) in the Anuradhapura District. Established in 1941 under the authority of the Flora and Fauna Protection Act, the SNR is a unique cultural and biological heritage, in particular with respect to medicinal plants. The SNR is managed by the DWLC and lies in the Anuradhapura District of the North Central Province, about 27 km north of Dambulla and 36 km southeast of Anuradhapura. Threats to the SNR have included harvest and sale of hardwoods (particularly ebony), chena cultivation, cattle grazing, poaching, collection of plants for food and medicine, and firewood collection. It is not clear how much of this degradation can be attributed to local inhabitants and how much to outsiders.

A pre-CBRM phase of the project was begun in 1994 to sensitise members of the fourteen area villages to their potential to create a joint

¹⁹ The term "community-based resource management (CBRM)" is used here because it was the precise terminology used by TAF.

management structure and to demand better service from local support institutions. By 1995, villagers had joined together into the Ritigala Community-based Development and Environmental Management Foundation (RITICOE), whose Chairman is the Rev. T. Chandaratna. During this same short period, they were successful in demanding and receiving better service from the DWLC, the FD, and various levels of local government. Technical support for the medicinal plants work has been provided since the pre-co-management phase by the Bandaranaike Memorial Ayurvedic Research Institute and oversight has been done by TAF. It is important to note that this phase of the project was a test phase, and that the emphasis was not so much on resource management as it was on exploring the potential for bringing communities together in a viable management structure.

The CBRM project itself, which got underway in 1995, is designed to continue this participatory work while attempting to increase the economic opportunities of the community and ensure that the SNR becomes more sustainably managed. One project document described the objectives of the project as developing "a CBRM programme for the conservation and sustainable use of medicinal plant resources in and around Ritigala" while another document goes further to say that the objective is "protecting the Ritigala range and surrounding areas while educating inhabitants about its value and providing them with income generation opportunities." The project works on three fronts: 1) education and awareness-raising; 2) promoting liaison between those actors currently or potentially involved with the SNR; and, 3) introducing income generating opportunities.

Considerable progress has been achieved to date in expanding the *ex situ* production and processing of medicinal plants, hardwoods and fruit trees. Village committees have been formed and are functioning successfully, and numerous educational and awareness-raising activities have been undertaken. In addition, the project has successfully improved relations with, and the delivery of services from, the DWLC.

Anecdotal evidence suggests that illegal incursions into the SNR are occurring less frequently and that the SNR is not being degraded at the same rate as before. Unfortunately, hard *scientific evidence* on changes in resource quality and management are not available to validate these anecdotes. As TAF has recognised, this inability to assess changes in resource quality will constrain their long-term ability to know whether resource management is improving. In particular, project managers will need to have more concrete knowledge about the rate of change in resource quality and the source of damage to the resource. Co-management projects such as the one at Ritigala need to be adequately funded to carry out baseline studies and establish monitoring systems early in project implementation.

Apart from assessing resource quality, assessments and baseline studies need to be used to determine the benefits accruing to a village from a resource. At Ritigala, many villagers believe that a better managed SNR will bring direct benefits to them, primarily via improved availability of water associated with increased tree cover. The elder members of the community argue that there has been a steady reduction in water availability for irrigation in the past several decades, and that the primary cause of this decline is the loss of tree cover in the SNR. They conclude that the benefits from improved water availability associated with the project exceeds the opportunity costs of giving up illegal use of the SNR. TAF recognises that the long-term sustainability of the project requires that the communities see a long-term benefit to forsaking use of the SNR. Unfortunately, without the ability to conduct the resource assessment TAF had envisioned, it is not possible to assess this long-term incentive question. Without such an assessment, it is not possible to ensure sustainability.

Any discussion of the long-term sustainability potential of the project cannot ignore the challenges posed by the current legal status of the SNR. While co-management projects generally assume that communities can receive benefits from the resource they are being asked to manage, in Ritigala these stakeholders have virtually no rights to the resources of the SNR. By law, access to the SNR

is strictly limited. The restricted rights which neighbouring communities enjoy with respect to SNRs, and indeed with respect to most protected areas in Sri Lanka, represents a serious constraint to the potential for sustainable co-management efforts. If some sharing of management responsibility is to be undertaken for protected areas, therefore, then the allocation of rights between the state and communities must be reconsidered.

The Ritigala project draws attention also to the link between income-generating activities and their impact on resource conservation. The income-generating activities at Ritigala are not reviewed, except to note that they have been rapidly adopted, particularly with respect to the *ex situ* cultivation of medicinal plants. In spite of these successes, it is not at all clear that these and similar activities have had any impact on the *quality* of the SNR. Even the theoretical link between cultivation of medicinal plants and its impact on the SNR is not clear, since an expanding market for medicinal plants might be an incentive for villagers to cultivate *ex situ* and then augment this with collection from the SNR. In fact, on the basis of our review, it appears that the improvements in SNR management have less to do with new income generating opportunities and more to do with: 1) improved patrolling and enforcement by the DWLC (due in great measure to the project's liaison work); 2) increased fines for illegal incursion; and 3) improved awareness of the value of the SNR (again, due to the project). If resource improvements cannot be linked to the income generating activities of the project, then this should be noted by co-management designers, since the income generating activities (credit, medicinal plants, home gardens, etc.) absorb the majority of this and other co-management project efforts.

D. OTHER CO-MANAGEMENT EFFORTS IN SRI LANKA

1. Forest Department

Any discussion of experiences of co-management in Sri Lanka is incomplete without mention of the FD. Since the FD has under its jurisdiction such a vast amount of *de facto* open access resources in

this country, it has the potential to be one of the major actors in co-management initiatives in Sri Lanka. As mentioned previously, the FD has only recently recognised the importance of involving rural communities in the management of the country's forests.

The FD's first formal social forestry initiative, funded by the Asian Development Bank (ADB), is now widely considered a failure both in terms of expected outputs and community participation. This initiative, launched in 1982, worked in villages in five up-country districts to address fuelwood scarcity. The extent of community participation was that farmers were contracted to plant seedlings provided by the FD. The farmers had no choice in species planted. In fact, farmers' requests to plant useful native fruit and timber species instead of the non-native pine and eucalyptus were ignored (Lynch & Talbott 96). It is now recognised that an arrangement like this, where the FD plays the dominant role and communities play a passive role, is unsustainable and does not adequately use the knowledge and capabilities of the community.

Learning from this experience, the ADB-funded Participatory Forestry Project²⁰ was launched in 1993. This project works in almost all parts of the country to provide farmers with more "ownership" over the afforestation process. The FD conducts a Participatory Resource Assessment (PRA) prior to site selection and introduces participatory forestry activities only if local communities are capable of and interested in taking an active role in the afforestation process and if their participation has the potential to decrease current pressure on forested areas. The FD uses the following four agroforestry models to encourage the conversion of *non-forest lands to forests*: Homestead Development, Farmers' Woodlots, Protective Woodlots, and Miscellaneous Planting.

The Homestead Development model is encouraged on private lands which have been abandoned or under-developed. On such lands, the FD and the local community jointly decide which species to

²⁰ The food aid component of this project is funded by AusAid.

plant and the FD provides individuals with the seedlings. The FD also provides technical advice on maintaining these plants and on developing other means of income generation.

The Farmers' Woodlots model is pursued on barren state lands in the vicinity of forests. The FD makes an effort to select poor farmers who are engaged in illicit timber felling to participate in this activity. The targeted land area is divided into separate plots for each family and 25-year lease agreements are drawn up between the FD and the farmers. The leases are renewable if the land is managed satisfactorily. Farmers are allowed to plant and harvest any crop on the land on condition that a minimum of 1,000 seedling of a timber species per hectare are planted. They are entitled to all revenue generated from the land for the period of the lease. The FD also provides families with an additional incentive payment in the form of food coupons. The Farmers' Woodlots model was very successful in its first 2-3 years—revenue from the cash crops became farmers' main source of income and, as a result, they dramatically reduced their engagement in illicit felling. However, as the canopy cover from the growing timber species develops, production of cash crops is more difficult and income has started falling. It has become evident now that farmers will continue to stay away from illicit felling only if they can find another means of income generation.

The Protective Woodlots model works on state lands in sensitive areas like watersheds, landslide areas, or the coastal belt. Unlike Farmers' Woodlots activities, which are implemented by individual farmers, Protective Woodlots activities are implemented jointly by community groups. The activity is initiated by community groups who request FD assistance in tree planting. When a site is selected, the FD establishes and strengthens a local-level organisation to coordinate tree planting activities and resolve any conflicts that might arise. The trees that are planted under this model are usually multi-purpose tree species like mango, rambutan, bamboo, or rattan. The FD provides seedling and fertiliser and limited food aid to the villagers. Although the FD signs a 5-year agreement with the local-level organisation, usufruct rights to the products of these trees are not

clearly defined. There has been less demand for Protective Woodlots among village communities than there has been for Farmers' Woodlots.

The Miscellaneous Planting model is used on small areas of state lands in schools and offices or along roads. The FD provides the necessary guidance to community groups to engage in small-scale tree planting. This is accompanied by general awareness raising about deforestation and the value of forests.

With respect to all four models, the FD attempts to work with and strengthen existing community groups. Some of the groups that are involved in participatory forestry activities were constituted under SCOR, the Integrated Management of Major Irrigation Schemes (INMAS) programme, and the Mahaweli Development Programme. Motivators recruited from within the local community to serve as a liaison between FD officers and villagers have been very successful in mobilising the community and building the community's confidence in the FD. Field-level forest officers, on the other hand, have been slow to get out of their "policing" role into a facilitator's role. Even though this project is centered around community participation, there are two features of the project that should be noted. First, in many cases, management activities such as tree planting and harvesting are conducted *individually* and *not collectively*. This is collaborative in the sense that it is a partnership between the FD and the individual villagers or families. However, it is not collaborative in the sense that all these individuals join together as a "community" in a single initiative with the FD. Second, these participatory forestry activities are rarely carried out on degraded FD lands and almost never in actual forests. Therefore, it does not actually give communities any role in *managing the* resource but instead seeks to use the community to *create* such a resource. The FD thinking is still that it *can manage its own lands* effectively but that communities can play a role in creating new forests.

There is another co-management approach that the FD has begun using very recently: "informal agreements" with communities. In developing this approach, the FD has recognised the fact that, in

many forested areas in Sri Lanka, neighbouring communities do not have a very close relationship with the forest and do not rely on the forest for a large part of their livelihood. For this reason, the FD seeks to create a direct incentive for neighbouring communities to help protect forests from threats of felling and clearing, many of which are done with the communities' consent or collusion. The FD first meets with village groups and explains to them why this forest resource is important to the FD and the country. It then encourages these groups to identify some of their urgent needs in terms of infrastructure or services. The FD then makes a "deal" with the community--that it will bear the capital cost of one of these requirements (i.e. a school, tank, road, clinic), if the community agrees to protect the forests (i.e. to stop being agents for illicit timber fellers, to report illicit felling to forest officers). The community must also donate their labour for construction. This approach has been used for more than a year in 32 forest areas in 4 districts in the Sabaragamuwa and Southern regions.

The FD facilitates a monthly forum, chaired by the Beat Forest Officer, at which CBO leaders discuss the socioeconomic needs of the community. The FD, through its Forest Officers, facilitates the maintenance of the initial road, school, etc. and supplements this with other forms of socioeconomic assistance. In addition to the monthly meeting, a quarterly meeting is held at a district level, chaired by the District Forest Officer. This is a useful forum at which local community representatives can provide input into plans for district level FD activities and also comment on the performance of the Beat Forest Officers.

2. Irrigation Management Division of the Irrigation Department

The Irrigation Department (ID) is perhaps the institution with the lengthiest and most valuable experience with collaborative resource management in Sri Lanka. In the early 1980s, the government recognised that the Agriculture Ministry's efforts to integrate the delivery of irrigation, agricultural, and other services were hampered by the non-involvement of farmers in management decisions. Irrigation water was identified as "the most critical

and limiting resource in the production chain" and the ID found that equity in the distribution of irrigation water was a major concern for farmers (Ministry of Lands, 1984). In 1982, the Irrigation Management Division (IMD) initiated a programme in 25 major irrigation schemes to establish viable farmers organisations (FOs) that would represent farmer interests and enable them to participate in the management process. The initial success of this approach in the Gal Oya scheme provided the impetus to the development of the Integrated Management of Major Irrigation Schemes (INMAS) programme, which focused on the institutional strengthening of FOs with a view to building a high degree of management capability.

The INMAS programme has provided a means by which both major actors—farmers and government agencies—could pursue their own interests. On one hand, farmers' agricultural productivity was restricted due to problems of unreliable irrigation water supply and poor rapport with government officers. Therefore, the potential benefits from effective management of irrigation water were large and would accrue to a large proportion of settlers. On the other hand, the ID was required to implement the government's decision to recover operation and maintenance (O&M) costs of irrigation systems. Therefore, the involvement of farmers in planning and implementation of O&M and other activities and the improvement of farmer-officer relationships were important. In retrospect, it is evident that much of INMAS' success is due to the fact that it capitalised on this convergence of interests and was supported by policies and legislation that endorsed the collaborative management approach.

The INMAS programme is now implemented in 35 major irrigation schemes²¹ and covers a total land area of 157,000 hectares. Among the 35 irrigation schemes covered by INMAS are Padaviya and Tissawewa in the Anuradhapura District, Ridiyagama in the Hambantota District, and Kantale in the Trincomalee District. The IMD is the administering authority for the INMAS

²¹ Major irrigation schemes are defined as those with over 2,000 acres of irrigated land.

programme. Each scheme has a Project Manager and a Project Management Committee (PMC). The PMC formulates the cultivation calendar for the year, oversees equitable distribution of irrigation water, identifies training needs of FOs, and coordinates the provisions of credit, seeds, and other inputs. According to the Irrigation (Amendment) Act of 1994, more than 50% of the PMC must be constituted of FO representatives. The programme is also well integrated into the national and regional policy framework and has support from high levels of government. At the national level, the programme is guided by a Central Coordinating Committee for Irrigation Management which consists of relevant officials at the secretary and director levels. At the district level, the programme is monitored by a Sub-Committee of the District Agricultural Committee.

The IMD approach has been very *successful* in: (1) obtaining farmer participation in O&M activities; (2) establishing a sustainable, self-financing mechanism for O&M; (3) increasing agricultural production of subsidiary crops;²² and (4) obtaining legal recognition for FOs. The institutional structure for FOs is now firmly in place at several levels—field canal groups (FCGs) at the primary level, distributory canal organisations (DCOs) at the secondary level, and sub-PMCs and PMCs at the tertiary level. All groups are based on well-defined hydrological boundaries. Nearly 7,300 FCGs and over 700 DCOs have been established to date. They have contributed impressively to irrigation water management and O&M in the past decade. In 1994, the total monetary value of the *shramadana*²³ maintenance work done by FOs was Rs. 5.2 million. In 1995, this value was Rs. 4.3 million. Of the 1,160 distributory channels in the 35 irrigation schemes, 526 have been handed over to DCOs. Since FOs have body corporate status, they have been able to enter into legally-binding

²² *Paddy yields have dropped since the introduction of the INMAS programme. However, the higher level of income generated by cultivating subsidiary crops in the Yala season has more than offset the lower level of income generated by paddy in the Maha season.*

²³ *Shramadana, roughly translated, means "donation of labour." Shramadana activities are usually conducted in large groups.*

agreements with the ID to transfer management and use rights of these distributory channels. O&M for numerous other distributory channels are carried out by DCOs on a contract basis (*Programme of INMAS, 1996*). FOs have developed institutional mechanisms to allocate water and resolve conflicts that arise over water use or allocation. These conflicts are solved more because of the community's acceptance of and respect for the FO's leadership than as a result of the use of the FO's legal powers. Stronger and more demanding FOs have resulted in increased efficiency, transparency, and accountability in ID activities.

Although the IMD's experience with the INMAS programme has been largely successful, there is now some concern that population pressures and poor socioeconomic conditions in many irrigation schemes may undermine the sustainability of co-management activities. In the past, there was adequate land for each settler family to cultivate and a large proportion of the community stood to benefit from improved water management. Therefore, there was a strong incentive to participate in co-management activities. However, since the land allotted to settler families is not sufficiently large to accommodate the second and third generations, there is high unemployment in the community. Since the proportion of the community that stands to benefit from improved water management is decreasing (ie. earlier all settlers stood to benefit because they all had land to cultivate; now only those second and third generation settlers who have land to cultivate stand to benefit), participation in co-management activities is dwindling. The fact that improved water management has not been accompanied by significant increases in agricultural productivity or socioeconomic improvements also acts as a disincentive for participating in co-management activities.

3. International Union for the Conservation of Nature (IUCN/Sri Lanka)

IUCN, a strong supporter of co-management worldwide, has done a lot of work in Sri Lanka to strengthen the framework for co-management. As mentioned previously, IUCN has prepared management plans for nine conservation forests in

the Wet Zone. The seven most recent management plans, adopted in principle by the FD in 1995, include detailed strategies for the initiation of co-management in certain parts of these forests. Although none of these management plans have been implemented yet, IUCN (with GTZ funding) is pilot testing the co-management approach in five villages²⁴ adjacent to the Knuckles forest.

The PRA conducted prior to the selection of sites showed that the communities in these five villages used the forest for collection of food, fuelwood, building materials, etc. The PRA also identified the most urgent socioeconomic needs of the community. The thrust of the IUCN activity is to “wean communities off the forest.” This is done by providing assistance to help villagers improve their socioeconomic conditions. It is assumed that better socioeconomic conditions will reduce the need to use the forest and will, therefore, reduce pressure on the forests. In Etanwala, IUCN provided the village with a water tank that worked on the gravity principle to provide potable water to villagers. This was accompanied by awareness programmes which emphasised the vital link between forest quality and water availability. In many villages, temporary sheds constructed for events like weddings or funerals are made using poles cut in the forest. IUCN has provided villagers with a metal shed that can be disassembled and re-used for all their events. The metal shed has proved to be an easy and effective substitute for wooden sheds and has reduced the need for poles from the forest.

IUCN works to a large extent with existing CBOs such as Dumbara Sumithuro and Haritha Mithuro which work for the conservation of the Knuckles forest. Much of IUCN’s work in this area consists of awareness raising, mobilising participation in development activities, and providing substitutes for forest products. As such, the communities are not given a role in the management of any part of the forest. Rather, the project seeks to reduce their interactions with the forest.

²⁴ The five villagers are Kalugala, Nellikolawatta, Etanwala, Kivulewadiya, and Sulugune in the Kandy area.

E. DISCUSSION

The co-management efforts discussed in this chapter involve many different types of resources (from elephants in Kahalla Pallekele to the lagoon in Rekawa) and many different types of arrangements (from the nationally endorsed Project Management Committee approach in the ID’s major irrigation systems to the informal agreements between the FD and communities). The composition of the set of co-management actors also varied significantly among these efforts. In Huruluwewa, some 39,000 farmers throughout the watershed collaborate with IIMI and relevant government agencies. In Hikkaduwa, groups of hoteliers, restaurant owners, glass bottom boat owners, and fishermen collaborate with CCD, NARA, and local government. Sri Lanka’s limited experience with this new approach to resource management has demonstrated that there is *no single formula* for co-management. In fact, the most significant features of the co-management approach is its *flexibility* and its ability to bring together many sets of actors with divergent interests. In this section, we will discuss the lessons that can be learned from these Sri Lankan experiences.

In Chapter II co-management was defined as “the active engagement of communities and outside local beneficiaries in the collaborative management of *de facto* open access resources by local support institutions and central resource institutions.” According to this, co-management seems to encapsulate three distinct concepts. It is an arrangement in which: 1) the four sets of actors mentioned above have more or less *equal roles*; 2) these actors take an active role in the *management* of the resource; 3) *collective action* takes precedence over individual action.

In the Sri Lankan experiences discussed in this chapter, the *roles and responsibilities* of the four sets of co-management actors are *almost never distributed evenly*. In fact, some actors are never involved in co-management arrangements at all. The community is almost always at the center of co-management efforts while outside local beneficiaries often do not come into the co-management picture at all. For instance, TAF’s

projects in Kahalla Pallekele and Ritigala focus very heavily on mobilising the community to engage in project activities even though considerable damage may be caused by poachers, etc. The FD's "informal agreements" are made between the FD and the community, even though the community does not pose a great threat to the forest. In this case, the outside local beneficiaries--illicit fellers--may constitute a bigger threat but are excluded from co-management.

The heavy emphasis on the community is understandable and should not be considered a weakness in these approaches. The community is a visible and often cohesive group of actors that are relatively easy to define and, more importantly, easy to reach. Outside local beneficiaries--for example, in the case of a forest resource, illicit fellers--are often not easily defined or reached and, therefore, hard to incorporate into a project approach. It is unclear exactly how outside local beneficiaries such as illicit fellers can be engaged in resource management. The FD, in its Farmers' Woodlots approach, succeeds in the short-term in diverting people from illicit felling by giving them 25-year leases to plots of barren land so that they can engage in afforestation and the cultivation of cash crops. However, in this case, these farmers engage in their tree planting and cultivation activity on an individual basis and do not have to collaborate with a larger community. Also, they do not have any role in managing the forest resource itself.

Even though these initiatives are termed co-management or community-based resource management, the majority offer actors no opportunity to be involved in the actual *management* of the resource. For example, in Ritigala, the local communities cannot even legally step into the SNR let alone help to manage it. In Hikkaduwa, although stakeholders can use the sanctuary, within certain limits, the actual management of it is solely the responsibility of the DWLC. In the FD's Farmers' Woodlots model, as mentioned earlier, farmers manage their plots of formerly barren land but have no management role in the forest itself. The IUCN approach is to divert the community from using the forest resources. In this way, most co-management efforts in Sri Lanka

have emphasised *participation over management*. INMAS is one of the few examples of a stakeholder group actually playing an active role in the *management* of a resource.

Co-management efforts such as the projects in Ritigala and Kahalla Pallekele were designed to test various strategies to involve local communities in the management of their resources. In their first few years of operation, therefore, they have focused mainly on community mobilisation and awareness creation to build a foundation for joint action in the future. This approach has been successful in achieving a remarkable change of the community's attitude toward resource management issues. Before the project started, the community felt that elephant management and preservation of the SNR was the government's responsibility. After the work done by the WJMS coalition and the catalysts, the community feel some "ownership" over the resource issues and believe that they have a significant role to play in resolving them. They also are more aware of their rights and responsibilities with regard to the resource and demand better service from the DWLC. These outcomes in themselves contribute indirectly to better resource management, even though the community does not have a direct management role.

Although *collective effort* is one of the vital features of co-management, many of the Sri Lankan projects focus mostly on *individual activities*. The FD's Farmers' Woodlots model, although it is the centerpiece of their Participatory Forestry Project, provides plots of land to individual farmers who do their tree planting and cultivation independent of the larger community. This is quite unlike social forestry projects in many other parts of the world where entire communities obtain rights to parts of the forest which are then "communally" managed. Even in Ritigala and Kahalla Pallekele, though identification and planning of project activities is done by the community as a whole, many of the entrepreneurial activities (i.e. home garden development in Ritigala) are carried out on an individual basis. There are, of course, some activities (i.e. joint patrolling of chenas in Kahalla Pallekele) which are conducted collectively.

It is interesting to look at why these three features of co-management are so weakly fulfilled in a country that has a relatively strong framework for collaborative management. The nature of the *community-resource relationship* explains this partially. In Sri Lanka today, the commercial economy has penetrated almost every corner of the country and with the exception of fuelwood, communities fulfil most of their material needs through market transactions. Since most rural communities have "disengaged" from natural resources, they do not possess the traditional resource management skills that their ancestors did. Some co-management initiators in Sri Lanka have recognised this and tried to give communities a realistic role in the co-management process. This is clear in the FD's "informal agreements" approach, where the community makes a deal to stay away and keep outsiders away from the forest in return for a road, school, etc. This shows that even when the community-resource relationship is weak, communities can be important actors in co-management merely because of their proximity to the resource and their subsequent ability to act as "watchdogs."

The manner in which the community-resource relationship is addressed is often the key to a sustainable co-management arrangement. If the resource is vital to a community—if a large section of the community derives significant benefit from it—then they have an incentive for the community to manage this resource efficiently and sustainably. This incentive can be strengthened by ensuring that the community will be able to: 1) enjoy the benefits of sound management in the future; and 2) exclude outsiders from enjoying these benefits. In Hikkaduwa, glass bottom boat owners understand that the reef damage their boats cause will reduce their future income. They, therefore, have the incentive to limit and improve their use of the sanctuary. However, the fact that they cannot prevent new boat owners from obtaining permits erodes this incentive. In the case of the forests, the community does not rely heavily on the forest and has little incentive to protect it. The FD, therefore, provides a direct incentive—a school, road, etc.—to the community to protect the forest. These "informal agreements" will only work in the long term only if the total benefits to the community

from the school, road, etc. are greater than the opportunity cost of giving up colluding with timber fellers. In both these cases, if the community organisational structure is not cohesive enough and strong enough to influence individual decisions, it is likely that individuals would soon return to unsustainable resource use because the benefits accruing on an individual basis are unlikely to outweigh the opportunity cost of giving up resource use.

As discussed Chapter IV, *landlessness* associated with poverty is one of the major causes of resource degradation in this country. As successful as participatory activities may be, as a community's population expands, the ultimate need is land. For this reason, every co-management effort that seeks to be effective and sustainable *must address* this issue. The only co-management effort of significant longevity that has been considered in this report—the ID's INMAS programme—has found the land shortage issue an impediment to its sustainability. In the first several years, the INMAS approach was a great success in terms of farmer participation, increased reliability of water supply, and improved operation and maintenance. Currently, however, a large number of second and third generation settlers cannot be accommodated on the limited amount of irrigated land available. The settlers who are landless have no incentive to participate in co-management activities. This is one of the reasons for the marked decrease in participation in recent INMAS efforts.

As the landlessness issue is addressed, so must the *poverty* issue. Almost all co-management efforts discussed in this chapter link conservation and development objectives. Underlying this approach is the assumption that the socio-economic improvements generated by development activities will reduce pressure on the resource and consequently improve resource quality. In the cases of Kahalla Pallekele, Ritigala, and the villages adjacent to the Knuckles, co-management projects have had success in providing increased employment opportunities, improving access to services, and increasing incomes. However, there is no evidence that this has resulted in improvements in the quality of the resources concerned. The Sri Lankan experience seems to

suggest that even though *socio-economic improvement* does not always result in improved resource quality, it is almost always a strong *incentive* for stakeholders *to participate* and stay engaged in co-management activities. For instance, in the Farmers' Woodlots approach, farmers start losing interest in co-management efforts when their income from cash crops start to decrease. They have told FD mobilisers that if the income from cash crops cannot be sustained by another alternative, they would go back to illicit felling. In many INMAS villages, when farmers fail to see their successful water management work rewarded by increased income levels, they start losing interest in continuing their participation. Both the FD and the ID are now searching for ways to increase farmers' incomes and maintain the incentive to participate.

A lesson to be learned from the projects discussed is that *central resource institutions* can play a vital role in initiating, guiding, and garnering high-level support for co-management efforts. They can also play an important role in establishing a larger policy, legal, and technical framework for co-management and contributing to the sustainability and replicability of the effort. In the cases of Hikkaduwa and Rekawa, NARA has established a sound technical framework for SAM planning and the CCD has established a supportive policy and legal framework for SAM implementation. This overall framework has lent a great deal of weight to the co-management effort and has been an incentive for local support institutions such as the DS to whole-heartedly support these initiatives. Moreover, since the CCD has established firm "ownership" of the approach, it will be committed to replicating it at other locations. On the other hand, in the absence of a supportive DWLC framework for elephant management, TAF's success in reducing human elephant conflict in the Kahalla Pallekele area cannot have a positive impact on the elephant resource (because the elephants deterred from entering the project area will merely enter into conflict in neighbouring areas).

It is important also to keep in mind the TAF approach to participatory development--that policies do not always originate from above. TAF

seeks, through innovative projects like Ritigala and Kahalla Pallekele and others at Deniyawatte, Obeysekarapura, and Deniyawatte, to *create the demand for policy change from the bottom*. TAF has seen a marked change in the DWLC's attitude toward co-management since its projects began. The primary cause for the change is that DWLC now sees the community as a mature, demanding, and potentially useful group, not as threats to DWLC resources. Even though there has been no re-orientation from the center, the field-level officers are slowly beginning to incorporate community needs into their management activities and requesting community assistance whenever the need arises. Recently, DWLC requested the community's help in obtaining information on a herd of elephants in the Kahalla Pallekele area.

Another lesson to be learned from the Sri Lankan experience is that *catalysts* play a vital role in mobilising the community and other stakeholders to participate in co-management activities. In the case of both the FD and the ID activities, the co-management activities would not have been successful if the catalysts had not first built the communities' confidence in the government agencies. Catalysts in Ritigala and Kahalla Pallekele have been able to work as equals with the community to build a strong local foundation for co-management and to create "ownership" of and empowerment over the resource issues. On the other hand, the catalysts at Hikkaduwa and Rekawa are CRMP field staff positions recruited at a higher level. Co-management activities in Hikkaduwa and Rekawa are often initiated and led by these catalysts and the communities tend to show some degree of reliance on them. The same situation is also evident at the two SCOR sites.

A noticeable feature of many Sri Lankan co-management efforts is that they are based more on *assumptions* about the potential of community involvement than on solid information and good *resource assessment*. Two of the common assumptions made are that: 1) the community knows better than anyone else how to manage their resources; and 2) damage done to the resource by outsiders is done with the collusion of the community. Too much faith in these assumptions can lead to efforts that put "too many eggs" in the

community "basket" and fail to consider and address the underlying causes of resource degradation. Threats to resources usually originate from far beyond the community—often from policies in sectors such as agriculture, land, industrial development, or trade.

Of the projects discussed in this chapter, only SCOR and CRMP considered these issues through the preparation of scientific assessments of the resource problems. Although the FD and IUCN conduct PRAs prior to site selection, it is doubtful

whether this is adequate to identify the origin and extent of damage to the resource and to develop a good monitoring system. Since many co-management projects will not be able to spend the time and expense on comprehensive assessments, existing assessments such as the wetland reports produced by the Dutch-funded Wetlands Project and the nine conservation forest management plans, should be used where possible to supplement PRAs.

VI. CONCLUSIONS AND RECOMMENDATIONS

The paper draws from the experiences of co-management in Sri Lanka and internationally to identify several major lessons that should be considered when making future decisions regarding support for co-management projects. These conclusions and recommendations are presented below.

Co-management is Both Viable and Necessary for Management of Sri Lanka's Natural Resources

In the face of limited budgets for resource management, government resource managers around the world have come to recognise that engaging resource users at the local level may be the only effective means of ensuring the sustainable management of resources. This is especially true in Sri Lanka, where the state has neither the funds nor the staff to effectively manage the 82.3% of the land area it owns. Significant progress has been achieved in Sri Lanka in improving the environment for collaboration between the community and other stakeholders, most notably in several experimental co-management activities (many have been discussed in the previous chapter) and the efforts by a few government institutions to refocus attention toward local resource users. As a result of these efforts, it is now clear that collaboration between the community and other stakeholders, or co-management, is a *viable* option for achieving more sustainable management of environmental resources. In the face of expected further reductions in government resource management budgets and constantly increasing pressure on resources, co-management is not only an interesting but a necessary option for Sri Lanka.

In spite of its potential benefits, co-management should not be blithely considered a panacea for resource management problems. Although local communities should always be consulted concerning the management of resources in their vicinity, it is not always appropriate for them to be "actively" engaged in a formal co-management process. This might be true in the case of a resource which is of considerable importance to the nation and which justifies direct management by

the relevant government institution. As Panayotou and Ashton argue, these resources should "be accorded full protection and effective enforcement of ownership by the state. This does not preclude a role for the private sector and local communities, but such a role needs to be strictly regulated and closely monitored" (1992: 211). The decision about whether or not to employ a co-management approach should be linked to a careful understanding of the community-resource relationship. In most cases, co-management activities should be coupled with enforcement.

A Clear Understanding of the Community-Resource Relationship is Essential to Co-management Project Design

Inadequate attention has been paid in Sri Lanka to the relationship between rural communities and the resources which need to be better managed. It is often assumed not only that the community has a vested interest in sustainable management of resources but also that it knows best how to manage its resources. This is not always the case. For instance, in many areas close to forests, communities have *limited interaction* with and *little interest* in the forest. Co-management project design must include a careful assessment of this relationship, because the nature of the relationship can have significant bearing on the ultimate success of the co-management effort. If, for example, a resource generates no or minimal benefits for a community, then it is unlikely that engaging that community in a co-management process will be sustainable. In this instance, it may be more effective to try the direct incentive approach used by the FD in its "informal agreements" with communities. The greater the community's interaction with the resource and the higher the proportion of the community that gains or loses from that interaction, the more likely is the success of co-management projects.

Evidence from Sri Lanka makes it clear that rural communities' relationship with land-based resources has more to do with a simple desire to *own land* than with a reliance on the output from the resource. Where resources are under threat

from encroachment, and indeed this includes many protected areas, the response should include a host of policy measures designed to resolve the land question.

Examination of the community-resource relationship thus requires co-management project designers to make a careful and *realistic assessment* of the social, cultural and economic benefits and costs which accrue to a community from the resource of interest. In addition, it requires a close examination of whether the community has the capacity and know-how to manage the resource. Co-management efforts in Sri Lanka and around the world have paid insufficient attention to the need for this analysis, and research within Sri Lanka should thus be directed to examining this relationship between communities and the resources they might manage.

Since an Explicit Objective of Co-management is to Improve the Resource, Resource Assessments and Monitoring Systems Must Be Included in Project Design

Without an understanding of the conditions and trends of the resources to be managed, it is not possible to know whether co-management projects are effective. Experiences from outside Sri Lanka have shown that most co-management activities are launched without such resource assessments. Several co-management experiences in Sri Lanka suggest that adequately broad *resource assessments* have not been conducted, primarily because implementors did not have the financial and technical resources at their disposal to carry out such assessments. One of the lessons emerging from TAF's successful community organisation work at Kahalla Pallekele is that the resource problem of elephant incursions cannot be solved without a better understanding of their movements and behaviour.

Resource assessments can indeed be expensive if they are exhaustive, but they need be neither. The response to potentially expensive resource assessments should not be to forsake them altogether but to find cost effective means of

carrying them out. It can be done.²⁵ Three options are worthy of consideration. First, national technical institutions can develop economies of scale if they are engaged to carry out similar assessments in different sites. In large part because of its experiences in SAM planning, NARA, for example, has now developed an expertise in certain coastal resource assessments. With time, other central resource institutions can develop parallel expertise in other technical areas.

Second, "sectoral" resource assessments can generate much of the basic knowledge required to understand a resource problem, leaving limited data collection to be done at a particular site. This process is underway for resources such as wetlands, where the Wetlands Conservation Project has conducted comprehensive data collection efforts for all accessible wetlands during recent years. A co-management project for one of these wetland sites could therefore undertake a relatively cheap resource assessment using the basic data from the Project. The management plans prepared by IUCN for the seven Wet Zone forests is another possible source of data for resource assessments.

Third and finally, resource assessments can be made more cost effective by making them a training ground for Sri Lankan graduate students in the natural sciences. The government might suggest or even strongly recommend that co-management funders dedicate funds to graduate students and their professors to conduct resource assessments.

Development of resource assessments must be linked to simple and cost effective *monitoring* systems. Since resource changes take a longer time to be visible, many co-management projects have emphasised the measurement of "level of participation" in co-management activities rather than attempting to measure changes in the resource itself. For instance, the Ritigala and Kahalla Pallekele projects use levels of participation and

²⁵ *There exists a considerable body of literature and experiences on appropriate and cost effective environmental and socio-economic monitoring systems. See, for example, World Bank (1996b), Marks (1996), and Valadez and Bamberger (1994).*

improvements in socioeconomic conditions as indicators of performance. While this information is useful and interesting, it does not effectively indicate the projects' progress toward the goal of improved resource management. Although measurement of definitive change in resource quality often takes years to be visible, indicators of change are often visible in the short-run. The objectives of co-management include not only improvement in the lives of the community but improved management of a resource. Without monitoring systems to tell us whether the resource is becoming better managed, it is impossible to know whether co-management is working.

The Impact of "Outside Local Beneficiaries" on Resource Quality and Management Has Been Underestimated

As mentioned earlier, most co-management approaches in Sri Lanka have focused on the community as the primary stakeholder. Yet it is evident that rural communities often do not have a strong relationship with the resource and, therefore, do not qualify as primary stakeholders. Moreover, in many cases of resource degradation, the group defined as "outside local beneficiaries" are the *cause of degradation* rather than the community. Wells and Brandon (1992) note that an unwillingness to recognise the importance of these outside stakeholders was the cause of failure of many ICDP projects. A similar unwillingness to recognise the role of these parties appears to be present in Sri Lanka. Apart from the CRMP efforts in Rekawa and Hikkaduwa, the language used in policy documents in Sri Lanka to date has emphasised incorporation of the "community" in resource management, while outside local beneficiaries are rarely mentioned. In keeping with the language used by the CRMP and the CCD, the term "collaborative" rather than "community-based" resource management should be consistently used in Sri Lanka. The term "collaborative" allows for a *broadening of the co-management concept* to take the primary emphasis off the community. In addition to changing the terminology to encompass outside local beneficiaries, there is an urgent need to design and test various approaches to bring this set of actors into co-management.

The Causal Link Between Alternative Income Generation Activities and Their Impact on Resource Management Has Been Unclear

There is little evidence from Sri Lanka, or indeed from elsewhere around the world, to show that introduction by projects of alternative income generation activities at project sites results in long-term *reduction of pressure* on resources. Although it is assumed that such activities will be a sufficient incentive for community members to stop overusing resources, such assumptions have often underestimated the impact of outsiders on the resource (see above) and the true opportunity cost to villagers of giving up use of the resource. In part, this is because alternative income generation activities introduced in co-management projects have focused on part-time income enhancing activities for a small number of villagers rather than full time employment. This has been the case with most attempts to market non-timber forest products or introduce new products (bee-keeping, mat-weaving, etc.). Nevertheless, where a broad cross-section of the community can observe real gains from resource management, as in the case of the mini-hydro power plant at Upper Nilwala or in ecotourism projects such as the Annapurna project in Nepal, the likelihood of their engaging in sustainable resource management is increased. The experience of TAF's and IUCN's activities suggest that, while alternative income generating activities are often an incentive for communities to stay involved in project activities, this involvement does not necessarily translate into better resource management. The power of better socioeconomic conditions as an incentive to stay involved in co-management activities is illustrated by the INMAS case. As communities realised that improved water management was not resulting in better socioeconomic conditions, the incentive to engage in co-management activities began declining.

In conserving protected area resources, regional poles of economic development have a greater likelihood of reducing resource pressure than do the localised income generation activities of co-management projects. When families who once survived off resource consumption from protected areas are offered significant alternative income

sources (e.g., full time jobs in factories), their consumption of resources from protected areas will likely decline. Local resource management efforts must therefore be incorporated into larger national and regional policy and development initiatives.

Where a resource is of critical national importance (e.g., Sinharaja Forest) and the likelihood of local resource users being "lured" away from resource degradation through alternative income generating activities is unclear or not likely, then direct incentives for resource conservation ought to be considered. Since direct incentive agreements do not require intense project presence in the community, they are likely to be less expensive to maintain in the long run than multi-objective co-management projects. The *direct incentive* model, which has been used in the past two years by the FD, ought to be further explored on an experimental basis.

Co-management Project Designers Must Clarify Whether the Resource or the Community is the Primary Focus

Co-management projects in Sri Lanka have suffered from a lack of clarity about their primary focus. Where the community-relationship is close, the resource is bountiful, and a large proportion of the community depends on the resource for its livelihood, then resource improvements will probably make the community better off. Such is the case in India, where income from "common property resources accounted for 14 and 23 percent of the income of poor households in seven states and grazing on communally owned lands accounted for as much as 84 percent of poor people's livestock fodder" (World Bank, 1992: 143). Although there is no solid evidence to prove it at this time, Sri Lanka's unique historical and cultural circumstances make it unlikely that the benefits to the poor from natural resources in Sri Lanka are as great as in India. Thus if projects in Sri Lanka are successful in improving resource quality, it does not follow necessarily that the community will benefit also.

In many of the co-management efforts discussed in the previous chapter, goals of resource management and socioeconomic development are interwoven on

the *assumption* that one will lead to the other. This is certainly the case in the TAF and IUCN efforts. It is important, however, to keep in mind that these are two separate goals. If socioeconomic development is the primary objective, then this should be defined clearly and addressed explicitly. If improved resource management is the primary objective, then projects should not be compelled to undertake extensive community development activities, unless those activities can be linked to improved resource management.

Community Participation is a Necessary but Not Sufficient Condition for Sustainable Resource Management

Whether *communities* have a large stake in the sustained management of resources in their vicinity or not, they *must be engaged* in management process. Considerable attention has been paid to encouraging these participatory processes in Sri Lanka, and they have met with a great deal of success. In both Ritigala and Kahalla Pallekele, for example, the communities now have a clearer idea of their potential for resolving their own resource management problems. In addition, they have learned to make local government respond better to their needs. The Memorandum of Understanding between RITICOE and the DWLC is ample evidence of this increased participation by the communities. In much the same way, the co-management actors in Rekawa, Hikkaduwa, Nilwala and Huruluwewa recognise that the communities must be made active participants in the resource management process.

Although improved *participation* is essential to resource management, co-management planners must recognise that participation is *not sufficient* for ensuring sustainable resource management. Along with participation must go the "negative" incentive of enforcement and penalties. Although increased participation cannot substitute for enforcement, it can help villagers accept and understand the need for enforcement (and encourage villagers to help enforcement institutions protect the resource from outside threats). This is happening successfully in Ritigala as a result of RITICOE's work. What co-management brings to resource management is not just participation of the

community, but the active involvement of the community in the monitoring and enforcement of collaboratively developed management plans, which are the real focus.

The Institutional and Policy Framework for Co-management Has Improved in Recent Years, but Must be Further Improved if Co-management is to Become Widely Adopted

Although co-management has so far been undertaken, in most cases on a pilot basis, it is evident that this approach has tremendous potential to improve the effectiveness and sustainability of resource management in Sri Lanka. It is now time, therefore, that the Government prepared a more *comprehensive policy and technical framework* for collaborative resource management. The FSMP, the NFP, and the soon-to-be-released CZMP include strong policy support for co-management. It is now essential that the Biodiversity Action Plan also include strengthening and deepening of these earlier efforts. It is also clear that the absence of a policy of involving communities and other stakeholders in the management of protected areas and wildlife has become a serious constraint to sustainable management. It is crucial that the DWLC begin to seriously consider incorporating co-management into its policies and plans.

Supportive policies are merely dead letters if implementing agencies do not have the capacity and the commitment to put them into action. In the case of the forestry sector, although the FSMP provides an excellent framework for co-management, the FD is neither prepared nor willing to implement these plans. The national institutional capacity to support co-management has reached the most advanced stage in the management of coastal resources (by the CCD, NARA and other collaborating institutions) and irrigation water (by the IMD of the ID). Other central resource institutions have much to gain from building on their successes.

Even though it is crucial that co-management arrangements have the support of central resource institutions (and access to their technical and financial resources), these projects do not have to

be initiated and led by these institutions. Much more attention has to be paid in the future to building the capacity of provincial and local governments and of NGOs to share some of this responsibility.

The Legal Framework for Co-management is Inadequate and Demands Priority Attention

Presently, the government owns and manages some 82% of the Sri Lankan land base and all of its inland and coastal water bodies. Although future co-management projects will focus on these resources, virtually all *legal ownership* and *use* rights over these resources are in the hands of the state. If co-management is to succeed as a viable and replicable option for improving resource management, then the package of rights accruing to communities should be formally modified in cases where the community-resource relationship is strong. While transfer of title to these resources is not presently a viable option, communities must be granted more extensive use rights over them. In order to do this, some legal reform is necessary to enable communities to be recognised as corporate bodies that can enter into agreements with the state and other parties. Precedent for this can be found in the legal recognition given to FOs by the Agrarian Services (Amendment) Act of 1991. A greater portion of resources must also be transferred from state ownership and management to leasehold management or even private community management.

Noteworthy progress is being made on the legal issues in the forestry sector. A Task Force on Forestry Legislation is currently drafting a new Forestry Act which is expected to grant use rights for non-timber forest products to communities under fixed term leases for certain forest categories. These legal developments are an important step forward for co-management, but much more remains to be done. Evidence from Asia shows that government sponsored community forestry programs that grant annulable use rights do not provide adequate incentives for sustainable resource management. The use rights (even if not the resource itself) that are granted must be privately held by communities or individuals and

not annulable if they are to encourage sustainable resource management (Lynch and Talbott, 1995). In the near term in Sri Lanka, efforts should be made, perhaps under special permission of the responsible resource management institution, to grant and test stronger use rights to resources for communities. Yet these efforts should be carried out with caution, since in an environment where illegal encroachment often leads to legal land rights, any test of more permanent land rights might create intractable problems.

In its present form, the leases proposed under the draft Forestry Act do not allow for communities to exclude outsiders from the resources they may manage. Granting a community the right to use a degraded or degrading resource under fixed terms and conditions will not be enough to ensure sustainable management of the resource if they are not given the power to keep out those outside direct beneficiaries who may be causing the majority of the damage.

While the legal framework for transfer of use rights to communities under co-management is developing in the forestry and coastal sector, it is all but non-existent in other sectors. For park lands and coastal/wetland resources in particular, there are few options for the formal transfer of use rights to communities which can increase their incentive for sustainable resource management.

The Best Institutional Arrangement for Supporting Co-management is a Collaborative Partnership Between NGOs and Government Institutions

In general, the institutional framework for co-management calls for partnerships between NGOs and government institutions. Projects implemented by NGOs have the advantage of being more sensitive to the needs of local communities and more capable of developing appropriate responses to the communities' problems. NGOs do not, however, have at their disposal either the technical expertise required to design co-management projects or the resources to conduct these projects on a scale that can have a significant impact on resource management at a national level. Furthermore, the best work of NGOs can be

rendered unsuccessful if government does not create a supportive policy and legislative environment.

To be successful, therefore, co-management project instigators should try to form effective partnerships between NGOs and government institutions, so that the NGOs can provide the link to and understanding of the community and government agencies can provide the link to funding (for schools, roads, hospitals, etc.) and can facilitate replicability and sustainability.

Lessons learned from pilot activities in Sri Lanka are showing that the *sequencing* of involving NGOs and government institutions is an important determinant of sustained community involvement. For instance, if the government gets involved too early, then the community assumes that the government will do all the work, and so their participation is less. If the NGO begins its pre-co-management work prior to government involvement (as TAF did in Ritigala and Kahalla Pallekele) and if the community stakeholder can therefore develop a clear perception of itself and its goals, the prospects for more active participation in the co-management process are greater.

Selection of Sites for Future Co-management Projects Should be Made Using Pre-determined Rather than Ad Hoc Criteria

The study concludes that the co-management identification process should be sectoral in scale and should select *pre-identified criteria* which would contribute to project success. If the objective is to effectively engage communities in the resource management process, then those "communities that still retain a sense of community of ownership" and those "protected areas where effective management is already in place" should be given high priority (Nanayakkara, 1996: 39-40). Socioeconomic criterion should include sites with relatively low, or at least stable population densities," since high population densities mean that the likelihood of successful protection is low (Wells and Brandon, 1992: 63). To gain economies of scale in this identification process, national technical ministries should take the lead in

identifying the criteria and the resulting high priority sites. To begin rationalising the co-management efforts, the Biodiversity Action Plan should clearly state the ecosystems types and possibly sites where co-management efforts should be given serious consideration.

Along with these and other criteria should go an assessment of the benefits and costs of past co-

management efforts. Pilot efforts in Sri Lanka have varied widely in the cost per beneficiary and in the value of benefits. Selection of future co-management efforts should be preceded by an analysis of the costs and benefits not only of past attempts at co-management, but also of more traditional control-oriented resource management options and direct incentive agreements.

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