***Evaluating Eden* Series no 8**

EVALUATING EDEN:

EXPLORING THE MYTHS AND REALITIES OF COMMUNITY-BASED WILDLIFE MANAGEMENT

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Executive Summary

Why the *Evaluating Eden* Project?

Today, protected area approaches to wildlife conservation are under siege, because:

- they have often failed in sustaining the wildlife populations they were designed to protect;
- they have usually failed to involve or benefit those who bear most of the costs of their establishment;
- they are rarely financially-sustainable.

Alternatives are therefore sought. CWM seems to be a godsend and has been pounced on by governments and donors alike since it appears to promise to improve rural livelihoods, conserve the environment and promote economic growth all in one neat and tidy package. But, as before, we are in the midst of much muddled thinking. Researchers and practitioners are weak on the practicalities of how to turn vague notions of 'community', 'wildlife' and 'management' – all perceived as 'generally good things' - into reality. There exists the danger that one dominant but simplistic and flawed approach will be supplanted with another.

The *Evaluating Eden* project aims to address three overall research questions:

- What has CWM achieved for wildlife and for people?
- How do social, political, economic and environmental factors influence the efficacy of CWM?
- What are the key characteristics of successful CWM and how can these be spread?

We interpret community-based wildlife management as *the regulated use of wildlife populations and ecosystems by local 'stakeholders'*. Local stakeholders may be a village, or group of villages, an individual, or group of individuals with a shared interest in the resource. The defining factor, is not how the community is defined, but the fact that stewardship over wildlife resides at the local rather than the state level. Our definition of CWM encompasses or overlaps with a number of similar terms and approaches including community conservation and collaborative management.

The origins of Community-based wildlife management (CWM)

Different cultures have different attitudes towards, and relationships with, wildlife and these differences are reflected in the different wildlife management practices employed. In the West , a system of state management of wildlife prevails following the centralisation of ownership and control of land and wildlife. In other parts of the world community-based systems for wildlife management and conservation have existed for centuries.

Over the last 20 years, as well as a recognition that over-extended state departments have insufficient resources for wildlife conservation, there has been a growing realisation of the importance of understanding the needs and perspectives of local people, of interactive communication, and of strengthening local institutional capacity. This realisation influenced a shift in international conservation policy (summarised in the Southern Africa report). Some now

well known projects and programmes based on participatory approaches to wildlife management were initiated in Africa in the 1980s, e.g. the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe, and the Luangwa Integrated Rural Development Project (LIRDP) and the Administrative Management Design (ADMADE) for Game Management Areas - both in Zambia. These have provided both inspiration and models for a wide range of participatory wildlife management projects and initiatives that have subsequently been started around the world.

Economic Impacts

A wide range of financial and economic benefits associated with CWM can be identified, depending on the type of initiative concerned. These range from direct financial revenues from sale of products and leasing of hunting rights to subsistence products through more indirect benefits such as employment and spin-off activities to benefits in kind such as subsistence products and livelihood diversification. Significant revenues can result from sale or leasing of hunting concessions – typically associated with initiatives in Southern Africa. Revenues from the sale of wildlife products can also be significant. but there is great variation between initiatives and over time. The highest prices are generally associated with products that are traded on international markets such as ivory, vicuña fibre and live iguanas.

However, looking at gross benefits can be misleading as they may be totally offset by the costs involved to communities of managing wildlife. Increases in revenue from CWM, for example from sale of wildlife products rarely comes without costs . It can require labour inputs to guard the resource, investment in equipment and buying in of technical expertise. It is therefore necessary to examine the range of costs involved in CWM and consider the overall cost benefit balance. Costs are particularly influenced by the type of CWM arrangement involved. Direct costs, such as purchase of materials and equipment are more likely to be incurred by communities that have full rights and responsibilities over wildlife. In contrast initiatives focused on protected area outreach may involve few direct costs for communities but indirect costs - particularly the opportunity cost of land - may be important.

The key question of whether benefits exceed costs proves to be rather elusive as computed costs are rarely complete, most frequently excluding opportunity cost of land. It is also necessary to consider who benefits and who bears the cost as these may not always be the same. In fact there are few cases where financial benefits unequivocally exceed costs. Communities themselves, however, appear in many cases to have decided that the combined benefits of CWM are greater than the costs. This is strongly expressed especially in initiatives by the communities themselves, e.g. in India, where the mostly 'intangible' costs (labour, time, etc.) invested by people seem to be worth the mostly 'tangible' benefits (biomass, livelihood security, employment, etc.) that result from it. This also points to the need for outside analysts to consider the community's own perceptions of costs and benefits, which may not necessarily match the views and analyses of outsiders.

Social Impacts

As would be expected, the Evaluating Eden case studies showed that CWM has both positive and negative effects on the social dynamics of communities. Our analysis of the case studies would appear to show that there are more positive effects than negative. However it is impossible to weigh up the relative significance of each type of effect – how does one compare conflict with cultural identity or corruption with capacity building? The positive social impacts of CWM can be largely grouped into three broad categories: institutional impacts; impacts on individual, household or community "status" eg through empowerment, security of tenure, access to resources etc; and cultural impacts.

In a large number of the case studies examined new institutions for CWM had been developed or existing institutions had been strengthened. One of the main reasons behind the development of new institutions or the strengthening of existing institutions has been the lack of capacity of traditional organisations to both manage natural resources and effectively represent and "control" individuals and different interest groups within the community or where such capacity existed, it is no longer as valid in changed circumstances.. Institutional development and strengthening has therefore often gone hand in hand with capacity building and training. There has also been increasing recognition of the need for alliances and linkages and networks between different institutions for successful natural resource management. In most of the case studies, alliances between groupings at the local, national and international levels have strengthened the initiative.

Status impacts include: recognition, often by government; political empowerment and increased involvement in rural politics by communities; communities taking control of initiatives and actively making decisions that affect their own destinies; social recognition of marginalised or weak groups, notably women; communities obtaining rights over resources that had previously been denied to them.

The cultural dimension of CWM is emphasised in a number of case studies, where simply being involved in wildlife monitoring or management has allowed indigenous communities to draw on and "rediscover" traditional ecological knowledge and management practices. This increased use of traditional knowledge in conservation planning and management, as well as its growing validity in the eyes of the scientific community has had a significant impact on cultural pride and identity.

CWM is not a panacea for social change. A number of the case studies examined in the Evaluating Eden project highlighted significant negative social impacts that appeared to be a direct result of a CWM initiative. The most common of these were conflict, weakening of traditional authority and institutions and corruption. In more cases it was evident that CWM was failing to address some underlying issues including lack of responsibility for resource management, lack of security of tenure and lack of direct participation.

Environmental Impacts

The premise on which preservationist or “fortress” conservation is based is that wildlife needs to be protected from people and that without such protection species will be over-utilised, or will be out-competed by livestock, and wildlife populations will no longer remain viable. The Evaluating Eden case studies however paint a different picture. In a large number of case studies examined wildlife numbers were found to either have increased, to have stabilised following earlier declines, or to have been maintained.

The majority of CWM initiatives are focussed not on a single species but on ecosystem management. However, even where species conservation is not the sole purpose of a CWM initiative, wider habitat protection activities can nevertheless have significant effect on wildlife populations, and in a number of cases wildlife species have returned to areas that were previously degraded.
A number of CWM initiatives have also made a positive contribution to conservation by increasing the amount, or diversity, of wildlife habitat available. Many of the initiatives reviewed have highlighted changes in the attitudes and practices of communities and conservation managers.

There are a number of significant weaknesses observed which appear to limit the viability of CWM as an effective agent for conservation. The most common of these is continued poaching or use at unsustainable levels. In many cases this reflects a problem that CWM has failed to address or that is beyond the scope of the initiative.

Factors Influencing the Success or Failure of CWM

There are a number of factors that influence the success or failure of CWM.. These factors can be divided into those that determine whether or not CWM is likely to evolve in the first place and those which determine whether or not an initiative will succeed in the longer term; some obviously influence both. The importance of **context** in determining the “shape” of CWM cannot be over-stressed. This includes the influence of past and current conservation policy and practice, macroeconomic trends and globalisation, shocks and risks such as climate and conflict. We should also remember that CWM is often only one component of livelihood strategies . There may be a multitude of criteria involved in people’s decisions about livelihood strategies all of which have the potential to influence the outcome of a CWM initiative.

An overriding factor determining whether CWM evolves at all is the **nature of wildlife assets**. The following characteristics appear to favour CWM:

- Clear and defensible boundaries;
- Manageable scale;
- Relative scarcity;
- Substantial value;
- Relative proximity to communities;
- Predictability and ease of monitoring;
- Seasonality in tune with livelihoods;
- Ease of utilisation.

As well as the specific characteristics of wildlife (species, habitats, ecosystems) involved in CWM, the **characteristics of the community and its institutions** are equally important in determining its success or failure. The following conditions and attributes of community groups, which appear to facilitate CWM, have been derived from the case studies:

- Ability to claim and secure tenure;
- Small-scale (social not spatial);
- Demand for, and dependence on, wildlife assets;
- Cultural significance of wildlife;
- Stakeholder identification and group demarcation;
- Institutions built on existing motivation;
- Representativeness and legitimacy;
- Adaptability and resilience;
- Effective rules, mutual obligations and sanctions;
- Balance between customary and statutory law;
- Negotiated goals;
- Conflict-resolution capability;
- Equity in distribution of benefits and social justice;
- Ability to negotiate with neighbours;
- Political efficacy and space to build community-government relationships;
- Capacity for layered alliances;
- Confidence to coordinate external institutions.

In addition to the natural and social capital that is available for CWM, individuals – within communities, conservation agencies or wherever – possess **knowledge and skills** – which can have a major influence on the success or failure of CWM initiatives. The following appear to be the most critical:

- Balance of scientific and indigenous knowledge;
- Versatile leadership;
- Numeracy and literacy.

Successful CWM also requires a certain amount of physical assets (such as infrastructure and equipment) and financial assets, collectively known as **produced capital**. The availability of produced capital is often determined by external factors, notably government policies on infrastructure provision and rural credit facilities or donor assistance in the purchase of capital equipment, machinery and vehicles. The viability of some CWM initiatives may be therefore overly dependent on external decisions. Having a strategy for developing finance and infrastructure together with systems for maintaining them are therefore critical to override these external influences.

Factors Influencing the Longer-Term Viability of CWM

While many of the assets or capital described above are necessary not just for the evolution of CWM, but also for its longer term viability, there are a number of additional factors which mainly come into play only later in the life of the CWM initiative, rather than from the outset. These can often have a major influence over the long term success of CWM. One of the most critical is **the nature of benefits (and costs) over time**. In order for benefits from CWM to provide continued incentives for wildlife management and for changes in community behaviour to protect the natural resource base, the following is required:

- Honesty about the real costs and benefits;
- A focus on non-financial as well as financial benefits;
- Benefits received commensurate with conservation achieved;
- Direct community control over revenues and initiatives.

Other external factors also play a part – CWM does not occur in a vacuum but within wider contexts of political processes, national policies, international forces and market trends. **Decentralisation** is the proclaimed way forward for natural resource management in many countries, but in the contexts of community inequity and feeble local institutions can result in the transfer of political and social power from the state to a few locally influential individuals or groups.

- Effective tenure needs to be enabled by secure and flexible law;
- Devolution should be to the lowest unit of effective proprietorship.

National wildlife policy *per se* is rarely the main influence on wildlife and wildlife stakeholders. Bigger effects are often produced by **policies, institutions and markets** that determine land use, the spread of farming and settlement. Many of these influences are in turn shaped by international processes and market movements. Structural adjustment policies and economic liberalisation have tended to put intense pressure on ecosystems and thus have implications for the success or failure of CWM. Benefit flows of CWM are heavily influenced by markets conditions which can be extremely variable over time – especially where international markets are concerned. Long term viability is therefore likely to be dependent on the ability of CWM to:

- Engage with extra-sectoral influences through strategic frameworks; and
- Absorb market fluctuations.

The case studies reveal a number of recurring themes in the **processes of policy making and implementing** which have supported CWM. These include:

- A forum and participation process to set national priorities;
- Strategic information and knowledge systems;
- Support for innovators and development of policy communities;
- Policy instruments which improve the policy process.

Many CWM "projects" are dependent on **donor support** and, as such, are unlikely to be viable once that support is withdrawn. Analysis of the real costs and effects of donor support should be factored into initial decision-making and effective donor exit strategies built into the project design. Donor support appears to be most effective for certain types of initiatives including:

- Financing for joint ventures, land trusts and conservancies;
- Projects linking policy processes with on-the-ground practice;
- Support for formal policy reform.

International forces and initiatives present a further set of influences on the practice, and the prospects, of CWM. Globalisation can at times run contrary to forces for local control and decentralisation, and intergovernmental agreements which seek to secure global benefits from wildlife can sometimes challenge national or local systems of governance. At the very least, good communication between all levels from local to international is essential to ensure compatibility in the production of local, national and global values while multilateral environmental agreements need informing about good CWM and need to be better recognised in key trade for a. These and other key ill need to be tackled in the near future if wildlife management that is beneficial for both people and wildlife is going to be enabled through the world trading and financial system.

Does CWM Work?

We contend that CWM can "work", since there is a range of examples of CWM muddling along quite successfully. But CWM can also fail miserably, and there are many contexts in which it would be pointless to try it. CWM is a broad notion in which can be found good or bad examples depending on where you start looking from, and why you want to look. *Does CWM work?* is thus not a very useful question; a more useful one is *under what conditions does CWM work?* But here too there are difficulties - the number and diversity of factors that can influence success or failure, and the interplay between them, makes it impossible to prescribe specific conditions under which CWM will or will not work. Context is all-important, and you cannot generalise. However from our case studies (which we do not claim are anything but context-specific) we have identified a number of *attributes* which appear to be characteristic of various successful initiatives. We have also identified some common *obstacles* to achieving success - weaknesses of the CWM initiative itself or constraints stemming from other factors. Finally there appear to be some approaches and *strategies* which help overcome these obstacles and increase the chances of success.

Acknowledgements

This report draws on the work of a large number of people around the world who have been involved in IIED's *Evaluating Eden* project over the period 1996 to 1999. While the regional coordinators have drawn on a wide range of sources for information, case studies and thematic papers – all of whom are acknowledged in the individual regional reports upon which this volume is based – those coordinators deserve an additional mention here for their hard work in pulling this project together over the last three years. We therefore wish to thank especially: Elie Hakizumwami, Souleymane Zeba and Jo Abbot (West and Central Africa); Lucy Emerton and Ed Barrow (East Africa); the Southern Africa Sustainable Use Specialist Group and Christo Fabricius (Southern Africa); Ashish Kothari, Neema Pathak and Farhad Vania (South Asia); Tony Sebastian, Ross Hughes and Colin Poole (South East Asia); Isabel Gutierrez and Alejandro Imbach (Central America); Sergio Mazzucchelli, Gabriella Lichtenstein and Bernardo Ortiz (South America); Leslie Treseder and Robert Hudson (Canada) and Jocelyn Davies, Elspeth Young and Helen Ross (Australia).

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Contents

1. **Introduction**

1.1 What this report is about

This report presents the findings of a study into whether community-based wildlife management (CWM) works and, if so, under what conditions. It evolved from a previous study in 1994 by IIED which reviewed mainly African wildlife management literature and CWM initiatives and analysed top-down and participatory approaches. The study was published as "*Whose Eden? An Overview of Community Approaches to Wildlife Management*". *Whose Eden?* highlighted the fact that most donors accept CWM as the 'right' approach, but that this support is often based on untested assumptions and in response to a) the realisation that most countries lack the resources to enforce conservation laws; b) a generally increasing recognition that top-down approaches are morally unacceptable; c) a search for economic development options that would not result in biodiversity loss. However, the study also noted that there was very little empirical evidence demonstrating whether, in fact, such initiatives have succeeded in achieving their goals and that research was urgently required on the environmental, social and economic impacts of community wildlife management. For example, has the abundance of wildlife increased in a particular area as a result of a CWM initiative? Have household economies improved and can this be attributed to a CWM initiative? The *Evaluating Eden* research programme was established to move beyond the literature, to extend the geographical scope of *Whose Eden?* and to provide a global perspective on the impacts and achievements of CWM.

This report provides an overview to a series of regional analyses, case studies and theme papers on CWM that have been prepared by the *Evaluating Eden* research group. It attempts to draw common lessons from the diversity of case studies that make up this project and to compare and contrast the impacts and achievements of CWM around the world.

The first part of this report sets the scene for CWM, providing background material on its evolution, development and current status worldwide. The remainder of this chapter examines the context for CWM and hence, the *Evaluating Eden* project itself. Chapter 2 describes the project in more detail: its process, participants and methods. Chapter 3 provides the background for CWM, exploring the relationship between people and wildlife over time and examining what is actually meant and understood by the terms 'community', 'wildlife' and 'management'. In Chapter 4 we examine how CWM has evolved in the different regions of the world and its current status.

The report then moves on to examine what CWM has actually achieved for people and wildlife. Chapters 5, 6, and 7 are based on a review and analysis of the case studies conducted as part of the *Evaluating Eden* project: Chapter 5 examines the economic impacts; Chapter 6 reviews the social dimension and Chapter 7 questions whether CWM is a viable tool for conservation, and if so, the conditions that permit the effective use of CWM.

Chapter 8 attempts to address the question *"What makes CWM work?"* identifying some of the factors that explain, or influence, the positive and negative effects of CWM described in the preceding three chapters. Chapter 9 concludes the report by summarising the key characteristics

of successful CWM initiatives, obstacles or constraints to success and strategies which can help to overcome those obstacles and to spread success.

As noted above, this report provides an overview to a series of in-depth regional analyses (Box 1.1) and the reader is referred to these reports for a more detailed examination of the key issues surrounding CWM in each of the regions.

Box 1.1: The *Evaluating Eden* Regional Report Series

No 1 **Sustaining Eden: Indigenous community wildlife management in Australia**. Jocelyn Davies, Karen Higginbottom, Denise Noack, Helen Ross and Elspeth Young.

No 2 **Northern Eden: Community-based wildlife management in Canada**. Leslie Treseder, Jamie Honda-McNeil, Mina Berkes, Fikret Berkes, Joe Dragon, Claudia Notzke, Tanja Schramm, Robert Hudson

No 3 **Where Communities Care: Community-based wildlife and ecosystem management in South Asia.** Ashish Kothari, Neema Pathak and Farhad Vania

No 4 **Promoting Partnerships: Managing wildlife resources in Central and West Africa** Jo Abbot, Faith G. Ananze, Nico Barning, Phil Burnham, Emmanuel de Merode, Andrew Dunn, Emmanuel Fuchi, Elie Hakizumwami, Ced Hesse, Robert Mwinyihali, Massalatchi Mahaman Sani, David Thomas, Pippa Trench and Richard Tshombe

No. 5 **Rhetoric or Reality? A review of community conservation policy and practice in East Africa**. Ed Barrow, Helen Gichohi and Mark Infield

No 6 **Community Wildlife Management in Southern Africa: Challenging the assumptions of Eden** Christo Fabricius, Eddie Koch and Hector Magome

No 7 **Community Wildlife Management in Latin America: A review of experience in Central and South America** Alejandro Imbach, Isabel Gutierrez, Gabriella Lichtenstein, Sergio Mazzuchelli and Fernando Oribe.

1.2 Why the 'CWM package' needs to be unpacked

Romantic literary evocations of 'Eden', 'Paradise', 'Utopia' and 'Wilderness' have a long history in the hearts and minds of those making conservation policy. Particularly when brought into play amidst the destructive social and ecological conditions of colonial rule, these myths produced powerful responses in the form of draconian wildlife management regimes. The rationale went something like this: Once upon a time people lived in harmony with nature, but this broke down as people became numerous, needy and greedy. Environmental and social calamity will result unless dramatic action is taken by creating people-free wildlife reserves, controlling use of wildlife products and generally ordering people around.

Variations on this story have served wildlife protectionists well and enabled them to expand the territory and resources (including donor cash) under their control. Undoubtedly often well-motivated, such conservation policies and practices have helped in many cases to stave off impending destruction of natural habitats and wildlife species. However, today protected area approaches to wildlife conservation are under siege, because:

- they have often failed in sustaining the wildlife populations they were designed to protect;
- they have usually failed to involve or benefit those who bear most of the costs of their establishment;
- they are rarely financially-sustainable.

Alternatives are therefore sought. CWM seemed to offer a practical way forward, appearing to promise to improve rural livelihoods, conserve the environment and promote economic growth all in one neat and tidy package. After some initial hesitancy, many governments and donors have started to take it up. But, as before, we are in the midst of much muddled thinking. Researchers and practitioners are weak on the practicalities of how to turn vague notions of 'community', 'wildlife' and 'management' – all perceived as 'generally good things' - into reality. There exists the danger that one flawed approach will be supplanted by another.

Thus, the origins of CWM and the debate which surrounds it in any one context need to be unpacked. Frequently a minefield of governance and power issues is uncovered; situations are found where the community benefits of CWM are over-extolled by its advocates; where communities are divided in the process of overexploiting wildlife and/or converting its habitat to agriculture or degraded rangeland. In such contexts, CWM options are constrained but governments may still feel pressured to adopt community approaches because of the welter of post-Rio policy imperatives descending upon them from above. For the reasons outlined above, they want to be seen as good, politically-correct, people-sensitive, and perhaps these motives, often well founded, and applauded by northern environmentalists, are simply impractical in the many political and social environments.

In some places however, CWM is at the centre of demands for local empowerment, as a history of resistance is today being used to galvanise action. In some parts of South Asia for example, a growing grassroots movement has brought CWM centre-stage as a major modern political issue. This movement draws inspiration from past resistance of communities to the imposition of unjust natural resource policies by the state, such as when villagers were killed protesting against the acquisition of their forests by the British in the early part of the 20th century in Uttar Pradesh, India. The tribal uprising in eastern India, now a full blown political struggle for a separate state of Jharkhand (literally, "land of trees"), started as a protest against conversion of natural forests into plantations by the colonial Forest Department and the general take-over of natural resources by the state. In parts of South East Asia and Melanesia local people can pose considerable threat to the operations of modern loggers - converting this, if need be, into acts of sabotage, intimidation of company personnel or production stoppages. In South Africa, communities at Dwesa on the Eastern Cape seaboard are militantly pushing for joint management agreements and a collaborative management planning process, partly because they feel that the Provincial government is mismanaging the protected area. However, a focus on resistance in other contexts may romanticise the creativity of the human spirit in refusing to be dominated by large systems of power. It may also underplay the role of local power differences. What is notable in

most of South East Asia, for example, is how little impact community protest and action has had. In the space of a few decades, vast areas of forest resources have been removed, and mostly without a whimper of protest being heard at the national or international level.

Government pragmatists are also involved, trying to turn conventional protection into CWM. Indeed, with some innovative thinking, conventional conservation programmes can be changed to benefit communities. For example, in Nepal the *National Parks and Wildlife Conservation Act* has been amended to allow for 30-50 per cent of tourism revenue generated by the protected areas of the terai (plains) to be given back to local communities. Attempts have also been made to empower decentralised institutions with devolution of some controls to user groups.

The old is not yet invalid and the new has not yet been coherently argued, much less proven. Just as the old ways of fortress conservation are experiencing problems because the instruments used are, in many cases, too blunt, CWM in many cases is still quintessential idealism, lacking the robustness and application required for use as a development tool. Moving beyond the rhetoric to provide practical and flexible solutions for very different circumstances in different places and times is not a quick process – a longer history of 'mainstreamed' CWM will be needed before we can really judge its success. The conditions under which CWM is being experimented with range from very high to very low human population densities, low-rainfall deserts to high-rainfall rainforests, liberal democracies to tightly-controlled autocracies, a shortage of external funds to very high levels of donor funding, thousands of square kilometres of land to small holdings, and virtual control by government to being entirely self-managed. Much more experimentation will be required with as much space given to learning from failure as trumpeting success.

2 IIED's *Evaluating Eden* Project

2.1 Approach

Evaluating Eden was initiated to take forward the debate on community wildlife management initiated by *Whose Eden?*(IIED, 1994), by widening the geographical focus and looking beyond the existing literature for evidence of impacts. The project looks at both externally-driven and community-initiated examples and attempts to evaluate the achievements of CWM, which have been subject to criticism and questioning in recent years - particularly in terms of the sustainability of consumptive wildlife use, benefit sharing mechanisms and the actual size of benefits generated (eg. Inamdar et al 1999; Hulme & Murphree 1999):

"There have been few examples of long term success of community-based initiatives as these have a high incidence of degeneration through time. The assumptions underlying the programmes, specifically that improved incomes will improve attitudes towards wildlife require systematic research and validation." (Boggs 1999)

The *Evaluating Eden* project aims to address three overall research questions:

- What has CWM achieved for wildlife and for people?
- How do social, political, economic and environmental factors influence the efficacy of CWM?
- What are the key characteristics of successful CWM and how can these be spread?

It was envisaged that the initiative would be undertaken in three phases - a global review of literature, the preparation of six case studies and the synthesis of findings. However, this approach changed following the first meeting of the Project Advisory Committee.[1] The Committee agreed that it would be more appropriate to strengthen the collaborative approach and to decentralise the review of international experience in CWM. Thus, it was agreed that the initiative would take the form of a series of regional reviews, supplemented with a larger number of case studies, 'caselets' and thematic papers, to be undertaken by collaborating institutions and/or teams, with greater emphasis on networking and information sharing.

The first phase of the project began with IIED commissioning desk-based reviews of the status of CWM in eight regions: West Africa, Central Africa, East Africa, Southern Africa, South Asia, South East Asia, Central America and South America. In addition two country reviews were carried out in Australia and Canada, providing an additional and valuable perspective to the project. Attempts at fundraising for a European review were unsuccessful so this region is omitted from the project. IIED also prepared a series of thematic papers in this phase of the project covering topics such as economics of CWM (Hearne 1997), community involvement in tourism (Ashley and Roe 1999), policy processes (Mayers and Fabricius 1997) and participation

[1] The Project Advisory Committee (PAC) includes representatives of both funding partners, and representatives from partner organisations in the north and south alike, and was established to provide periodic guidance for the design and management of the *Evaluating Eden* initiative.

in protected area management (Pimbert and Pretty 1997) which acted as stimuli and thought provokers for the regional review team. IIED also reviewed progress in participatory monitoring and evaluation (PM & E), applying the methodology to one of the case study sites (see Abbot and Guijt 1997, Abbot et al 1999).

Inputs from Canada were limited to a review of experience in the four main types of indigenous wildlife use in the country: subsistence hunting, commercial hunting, game ranching and community-based tourism. Similarly the Australia report was limited to a desk-based study, although this included a thorough analysis of 26 case studies (Table 2.1). The other regions all produced regional reviews and then went on to explore some of the issues raised in these reviews in a series of case studies based on original fieldwork. A meeting of the project partners in late 1997 agreed a set of key issues that needed to be covered in this second phase which included, *inter alia*: trends in wildlife populations and habitat; stakeholder roles and power relations; nature of costs and benefits; distribution of costs and benefits; issues of livelihood security; and cultural impacts. It was also acknowledged that there were a number of common and region-specific driving factors that influence the achievements and progress of CWM initiatives that the case studies would need to take into account. These included land rights and resource tenure; institutional and technical capacity; external influences; and community dynamics. These issues and factors apply, to varying degrees, to both externally-driven 'projects' and informal initiatives that have arisen at the community level, and the *Evaluating Eden* project includes a mix of these. The final selection of case studies was made according to their ability to address a range of the above issues as well as on their regional or local significance (Box 2.1).

> Within the context of wide geographical, socio-political and cultural diversity within South East Asia, case studies were selected from one sub-region – Indochina (comprising the countries of Laos, Cambodia and Vietnam), where wildlife plays a particularly prominent role in the livelihoods of many rural communities. Case studies were selected to explore three important issues facing the people, and policy-makers of the region – wildlife trade; the involvement of local people (often ethnic minorities) in the establishment and management of protected areas; and the lessons from other natural resource management approaches, such as community fisheries management.

Regional workshops were held by a number of teams – South Asia, South and Central America, Southern Africa – in order to discuss the methodology for the case studies, and by others – West and Central Africa, Southern Africa – to review the case study results and to coordinate compilation of the regional reports. The case study results were then analysed by the regional teams and used to update, inform and supplement the desk-based Phase 1 reviews that each had prepared.

The final phase of the project has entailed the review and analysis of the full complement of case studies and regional reports by IIED and the compilation of this overview volume. In the process, many papers were presented at small meetings, workshops and symposia to get feedback from fellow researchers and practitioners, and to disseminate interim research results.

2.1.1 Measuring the 'success' of CWM

What do we mean by 'success'? On whose criteria should success be judged? Community measures of success are the obvious answer, but are elusive in reporting on CWM. In Hushey Valley in Pakistan, Ibex populations are closely monitored by village wildlife guides, whilst some of the Indian cases describe villagers' own indicators for success and failure, with sensitive monitoring systems blending with those of outside experts. The Australian report states quite categorically that *"indigenous people and their organisations should have prime responsibility for evaluating the achievements and impacts of their wildlife use and management"* since this is more likely to be *"accepted as valid by indigenous wildlife users and managers than any outside assessment"*. The report goes on to argue that *"evaluation by 'outsiders' risks being misdirected"* as such outsiders often misinterpret or are completely ignorant of the social and cultural values of wildlife and how these influence indigenous wildlife management practices. External evaluations may also be clouded by gender blindness, negative stereotypes, racist attitudes and intolerance. They may also concentrate on financial costs and benefits to the exclusion of CWM contributions to other aspects of local livelihoods including subsistence and cultural tradition.

However, supporters and funders of CWM projects are inevitably likely to want to conduct their own evaluations, based on their own objectives and criteria for success – which might be quite different from those of the communities and individuals actually involved in the project. Whilst such evaluations may be perfectly valid against the objectives they set themselves, it remains important to note that the conclusions may be completely different from the conclusions reached by indigenous or participatory evaluations.

The Southern Africa report notes that the point in time at which an evaluation is undertaken has a significant impact on the results produced: *"Community wildlife management initiatives, like all development projects, are dynamic and go through cycles of achievement or underachievement and success or failure… Any attempt at evaluating their success should thus be sensitive to temporal variations in these two dimensions - in fact, to evaluate a community wildlife management initiative based on its accomplishment at a particular point in time, in snapshot fashion, can be misleading and uninformative. In the* Evaluating Eden *project it has been realised that the most important lessons are those which assist us in understanding why an initiative displays an 'upward' swing toward positive achievements for both people and wildlife, versus a 'downward' swing, towards negative achievements. Evaluating the process of community wildlife management is thus more informative than asserting to measure their 'ultimate' success or failure".*

The *Evaluating Eden* project focuses on social, environmental and economic 'impacts' of CWM, and attempts to address success in each of these broad perspectives. However because of the limitations of evaluation discussed above we do not attempt to draw a definitive blueprint for successful CWM, but rather to review the lessons learned and to identify the factors that affect the perceived success or failure of projects and on which the initiatives reported.

Table 2.1 Case studies examined in the Australian review

INDIGENOUS CWM PROJECTS/ACTIVITIES

Miyapanu (Sea Turtle) research, Arnhem land, NT
Community Dugong management plan, Boigu Island, Torres Strait
MaSTERS (Marine Study for Torres Strait Environmental Resources Strategy)
Community rangers (various organisations)
Central Land Council land and resource management initiatives
Northern Land Council 'Caring for Country' strategy
Cape York Land Council/ Balkanu Cape York Development Corporation land and resource management activities
Kowanyama Land and Natural Resource Office
Anangu Pitjantjatjara land management program
Dhimerru Land Management Aboriginal Corporation
Bawinanga Aboriginal Corporation: land and resource management activities

CO-MANAGEMENT PROJECTS

Uluru-Kata Tjuta National Park
Kakadu National Park

PARTICIPATORY PROJECTS

Great Barrier Reef Marine Park Dugong (*Dugong dugon*) and marine Turtle species management
Australian Fisheries Management Authority catch monitoring, Torres Strait
Monitoring subsistence wildlife use, far north Queensland
Black-footed Rock Wallaby (*Petrogale lateralis*) management, arid Western Australia
Management of Mala (*Lagorchestes hirsutus*) , Northern Territory
Survey and management of Bilby (*Macrotis* sp), Northern Territory
Anangu Pitjantjatjara Lands biological survey,

'TOP DOWN' PROJECTS

Management of commercial Muttonbird (*Puffinis tenuirostris*) harvest, Tasmania,
Management of Crocodile (*Crocodylus* spp) harvest, Northern Territory
Feral vertebrate control

GOVERNMENT PROGRAMMES FACILITATING INDIGENOUS CWM

Aboriginal Rural Resources Initiative (ARRI)
Contract Employment Program for Aboriginals in Natural and Cultural Resource Management (CEPANCRM)
Indigenous Protected Areas (IPA)

Box 2.1: *Evaluating Eden* Case Study Locations	
West and Central Africa Democratic Republic of Congo: Okapi Wildlife Reserve and Domaine de Chasse Azande (Garamba National Park) Cameroon: Kilum-Ijim Forest Project Nigeria: Gashaka Gumti National Park Niger: Transition zone to the West Region Biosphere Reserve **Southern Africa** Dwesa, Eastern Cape coast, South Africa, Mkambathi, Wild Coast, South Africa Makuleke, Northern Province (adjacent to the Kruger National Park), South Africa Madikwe, North-West Province, South Africa The Okavango Delta, Botswana The CAMPFIRE initiative, Zimbabwe; Conservancies on communal land, Namibia **South Asia** Mendha Village, Maharashtra, India Jardhar village, Uttar Pradesh, India Bhaonta-Kolyala villages, Rajasthan, India Kokkare Bellur Pelicanry, Karnataka, India Annapurna Conservation Area, Nepal Hushey Valley, Pakistan Rekawa Lagoon Area, Sri Lanka	**East Africa** Western Serengeti, Tanzania Mount Kenya, Kenya Lake Mburo, Uganda **South East Asia** Wildlife Hunting, Rattanakiri, Cambodia Community management of mangroves in Ho Chi Minh City, Vietnam Community fisheries management, Laos. Local involvement in protected area management and monitoring, Laos. **Central America** Management of Iguanas, Nicaragua Turtle egg harvesting, Ostional, Costa Rica **South America** Vicuña fibre harvesting, Peru, Mamirau Sustainable Development Reserve, Brazil Community-based ecotourism, Ecuador Conservation of the Blue-throated Macaw, Bolivia

2.2 Methods

The various regional teams adopted a variety of methodologies and processes in the preparation of their regional reviews and in their case study research. Regional review methods included questionnaires, interviews, literature reviews, project visits and identification of country contacts and reviewers. The majority of case studies were undertaken through collection of primary data from participatory research, interviews and questionnaires. However, some of the more well-known cases (for example CAMPFIRE) had already been extremely well documented and therefore a number of case studies were, for reasons of efficiency, timing and/or funding compiled though review and analysis of existing data or by reflection upon and building on previous experience of case study authors (South East Asia).

2.3 Definitions

When the proposal for the *Evaluating Eden* project was developed (IIED 1995) the following definitions were used to define the scope of the project:

- *Community*: a grouping of people associated in spatial, social, cultural or economic terms which occupy, have access to, or have a legitimate interest in, a particular local geographic area.

- *Wildlife*: land-based, non-domesticated animals (marine fauna are excluded) which are, or could be, used or valued in any way by people to provide meat, hides, bone, trophies and ivory, and cultural items. Wild plants are excluded. However, animals will need to be considered as part of wider resource systems.

However, in the very early stages of the project it was recognised that there are considerable differences in regional understandings of these terms and that the definitions developed in the project proposal did not necessarily reflect local reality. For example, we were told that in South Asia it was impossible to separate wildlife management from ecosystem management and that it would be impractical and unhelpful to consider one without the other. Similarly, the term 'community' is used in some regions as an expression of locality (eg. Central America) and in others to describe groups of resources users (eg. South Asia, Central Africa). The *Evaluating Eden* project did not therefore attempt to apply a rigid definition of terms but rather left the research teams to interpret them as they applied to their particular region.

Box 2.2: Examples of research approaches used by regional teams

"As far as possible, participatory methods were adopted for the survey in South Asia. The country and regional overviews were conducted by the core survey team in association with partners in each country, using primary fieldwork, interviews with over 200 individuals/groups from various sectors, and secondary literature running into several hundred documents. The country overviews were also sent to several dozen people in the region for comments. Case studies were conducted by teams in each country. They used primarily informal methods, with participation from local communities, NGOs, and government officials to the extent possible; ecological assessments were carried out using standard formal techniques such as transects." Ashish Kothari

"The Southern African team started their second phase with a mini workshop where additional key issues relevant to Southern Africa were identified and potential case studies were highlighted. Most of the cases were studied by collecting primary data through a combination of participatory research, interviews and questionnaires, to gain an in-depth understanding of the underlying, context-specific factors that affected CWM. Two exceptions were CAMPFIRE and the conservancies in Namibia, where it was felt that the objectives of the project would be better served by summarising the wealth of existing data and information about these two initiatives. The [report] editors specifically aimed to go beyond the obvious in their analysis, by identifying gaps, focusing on new insights that have emerged and highlighting challenges to conventional wisdom and assumptions about CWM." Christo Fabricius

"In Central America the Phase I methodology was based on direct inspection of projects, programmes, local initiatives and key contacts throughout the region. First a questionnaire was prepared and tested in Costa Rica, resulting in a final document that was used in all countries. At the same time, a list of key contacts was prepared and these were informed of the review and its purpose and asked for available information on the CWM projects in their countries. The Phase II methodology used was based on a direct analysis of each selected case study (through interviews and special investigations) and on the analysis of a vast number of unpublished investigative reports." Isabel

2.3.1 Defining Community

Much has been written in the academic literature on the meaning of 'community'' which Agarwal (1997) suggests can be categorised into three groups: community as a spatial unit, community as a social structure and community as a set of shared norms. Gilmour and Fisher (1992) suggest that a community should be defined as a set of people with a mutually recognised interest in the resources of a particular area rather than as people living in that area. A community therefore represents users of a resource rather than a homogenous resident unit. In the South Asia report the use of the word overlaps with both of these understandings, defining community as *"a socially and geographically defined group of people living near, or dependent on, species/ecosystems which are sought to be conserved"*.

In the Southern Africa report the term community is viewed within the context of community-based wildlife management as being *"a figment of the imagination of project managers and donors seeking quick fixes. The common belief amongst donors and project managers is that it saves time to group people together, because of the simplicity of working with fewer groups"*. Because of the many problems related to heterogeneity and rifts between people occupying the same geographic area, Southern African researchers have begun to question the notion of community as a geographic entity. A community in the Southern African context is defined as a group of people with a self-defined collective identity. Thus there exist *"communities of interest"* (people who have defined themselves as belonging together because of sharing the same interests, or pursuing the same livelihood strategies). Kepe *et al.* (1999). identified seven livelihood clusters or communities of interest in the same village at Mkambati. At Madikwe, Magome *et al.* (1999) pinpointed the 'lumping' of people with diverging problems and powers into a single 'community', for project management purposes, as the single most important cause of on-going conflicts and delays. At Addo Elephant National Park, South Africa, the majority of the community of Nomatamsanqua adjacent to the park had immigrated during the past five years, and the community is receiving a steady influx of between 500 and 600 newcomers annually (Rhodes ESP 1999). The community is constantly being re-defined, leadership structures are fluid and dynamic and it is extremely difficult to build lasting relationships between the park and neighbouring communities. In Namibia, Jones (1999) found that communities who were supposed to belong to the same conservancy (according to official records) ended up redefining themselves as two separate communities and once this had been achieved, many of the conflicts over conservancy membership disappeared.

The Central America report defines community as *"People who share a space - village, town, farm, forest - and who share some social and cultural characteristics"*. Except for native Americans, who live in their ancestral lands (an important but minority group in the region), all rural communities include recent arrivals. This situation is particularly valid along the margins of natural areas (protected or not), where most CWM projects are carried out. In most of these areas, people have arrived within the last 50 years. In this context, a deeper analysis of the meaning of 'community' in cultural, traditional, and similar terms is difficult.

IIED (1994) also notes that *"what may appear to be a community on the ground (ie in spatial, social and cultural terms) may in fact be deeply divided in relation to individuals', institutions' and households' interests in, and control over, different kinds of wildlife"*. As recognised in the South Asia report, communities can also be fragmented by social, political, or economic differences, some of which can deny the opportunity to real resource users to participate in decision-making. Communities can also be in a state of flux in regions of conflict or post-conflict such as the Democratic Republic of Congo, or Cambodia. In parts of these countries, people often depend heavily on access to wild resources for nutrition, shelter and to generate income. Not surprisingly perhaps, conflicts over resource access can be common and attempts to introduce 'community'-based resource management in such areas often meet with failure. This means that a 'community' may not have the potential to come together as a unit to manage wildlife but rather that this activity may be confined to individuals, households or small groups with common interests (fitting Gilmour and Fisher's definition of a community as a group of resources users).

> In Niger, the Baban Rafi forest has long been a major resource for Fulani transhumant herders, while settled villagers use the forest for NTFPs, such as fuelwood, and farmland. A study in 1991 indicated that the agropastoral population in the forest was growing faster than village populations as increasing numbers of former transhumant herders have settled in the area to farm (Otto & Elbow, 1994). Consideration of the 'local community' around this forest, typical of many wildlife resources throughout the Sahel, would thus need to include groups representing the different production systems, as well as recognise the diversity within each of these production systems.

The West and Central Africa report points out that many communities defy definitions based on spatial or social criteria, since many people are often transient. They suggest that 'community' is better understood as a number of common interest groups between whom management of wildlife resources must be negotiated.

The above nuances of the term 'community' notwithstanding, several case studies also suggest that entire settlements and groups of users, cutting across internal divisions, can also unite to achieve conservation. The notion of 'community' is therefore extremely dynamic, and does not lend itself to easy generalisations. However, in summary we can make the following observations:

- communities are fluid and constantly redefine themselves;
- different livelihood groups or communities of interest exist within the same geographically-defined community;
- it appears to be more useful to use resource management groupings or 'clusters' rather than geographical entities to define communities.

2.3.2 Defining wildlife

As mentioned above it was quickly recognised that the *Evaluating Eden* project needed to move beyond the rather narrow definition of wildlife suggested in the project proposal if it was to make a meaningful contribution to the CWM debate. The South Asia team adopted a definition of the terms to include *"all taxa of plants and animals, residing on land, water and air, and which are not*

cultivated, or domesticated". This was important also because communities are dependent much more on non-animal resources for subsistence, and these can be important habitats for wild animals. This overlaps with the Central America definition of wildlife as *"all those species of plants and/or animals that are not domesticated"*. Like South Asia, in South East Asia, wildlife was defined to include wild fisheries resources, since these play such a crucial role in the rural economies of many parts of the region. Furthermore, community fisheries management experience in the region offers lessons of potential value for the management of terrestrial wildlife (see Baird, 2000).

In most other regions the term also became wide-ranging, encompassing both plant and animal species and their habitats. In West and Central Africa *"all the case studies show that a broad range of both plant and animal resources contribute to local livelihoods in the region. Bushmeat is a key resource for subsistence and income generation in….the more tropical forest regions….but forest resources… and pastoral grazing … rank highly as valued natural resources. Given the importance of both plant and animal resources we have chosen the term wildlife resources to encompass wildlife and the habitats on which [it] depends."* In Southern Africa, wildlife is likewise defined as wild plants and animals, but here another factor has been considered: land and its ownership, and the struggle for recognition and legitimacy. In Southern Africa, CWM is seen as a process, with people, policies, institutions, land and natural resources as equally important components. In all Southern African case studies it was impossible to separate land, plants, animals and ecosystems.

For the purposes of this report therefore we therefore use the term 'wildlife' to describe animal and plant resources and their habitats.

2.3.3 Defining Management

The term wildlife 'management' is used by various authors to refer to different levels of social interactions with wildlife. The West and Central Africa report uses the term in the context of wildlife resources as *"the application of rules and regulations to govern the offtake of wildlife resources".* Similarly, in Central America 'management' refers to the levels of human influence on the normal life cycle of species. These levels vary from total control (domestication) to minimum intervention (hunting or extraction), with some intermediate levels (captive breeding, protection) Both these understandings distinguish wildlife management from the wider category of 'wildlife use' – the defining factor being that management implies some form of deliberate control over use. Management differs from 'conservation', which was defined in the South Asia report as *"the protection, and/or sustainable use, of species or ecosystems, which ensures their long term survival and viability*". While wildlife management is clearly used to achieve the objectives of conservation, conservation is not necessarily the outcome of all wildlife management strategies, and indeed in some cases is in direct conflict with other forms of wildlife management. For example, in Australia the government wildlife management strategy to eradicate or reduce feral animals such as rabbits is at odds with indigenous peoples' desires to conserve these species as a part of their 'country'. In East Africa, hunting is seen to be incompatible with the government's conservation policy and is banned in national parks.

2.3.4 Defining Community-based Wildlife Management

In the light of the preceding discussion we interpret community-based wildlife management as the regulated use of wildlife populations and ecosystems by local 'stakeholders'. Local stakeholders may be a village, or group of villages; an individual, or group of individuals with a shared interest in the resource. The important factor is not how the community is defined, but the fact that stewardship over wildlife resides at the local rather than the state level.

The term 'community-based' is now probably a misnomer as it was recognised early in the *Evaluating Eden* process that sustainable management of wildlife resources involves the participation of a number of stakeholders. Hasler (1999) points out that during the evolution of the CAMPFIRE initiative, it became apparent that 'co-management' rather than 'community-based management' had become the critical focus of the programme. Similarly the case studies conducted under the West and Central Africa component of *Evaluating Eden* emphasise that *"communities are only one of a number of actors involved in wildlife management"*. For the purposes of this report we retain the term 'community-based wildlife management' (CWM) as the focus of the *Evaluating Eden* project, with the important caveat, however, that it is not by, with or for the community alone.

Our definition of CWM encompasses or overlaps with a number of similar terms and approaches:

Community-based conservation is defined by Western and Wright (1994) as conservation *"by, for and with the local community"*. This concept has since evolved into 'community conservation' defined generically by Barrow and Murphree (1999) as *"a broad spectrum of new management arrangements by people who are not agents of the state, but who, by virtue of their collective location and activities are critically placed to shape the present and future status of these resources, so as to enhance the conservation of natural resources and the well-being of local people and communities"*. They identify three categories of community conservation that have emerged in Africa:

- *Protected area outreach*: seeks to enhance the biological integrity of parks by working to educate and benefit local communities and enhance the role of a protected area in local planning (eg Integrated Conservation and Development projects – ICDPs).
- *Collaborative management*: seeks to create agreements between local communities or groups of resource users and conservation authorities for negotiated access to natural resources which are usually under some form of statutory authority.
- *Community-Based Natural Resource Management (CBNRM):* the sustainable management of natural resources through returning control over, or responsible authority for these resources to the community.

While this understanding of community conservation overlaps considerably with our concept of CWM we prefer the term 'management' to 'conservation' because of the preservationist notions that are still associated with the latter. As discussed above, conservation is only one of several outcomes that might arise as a result of wildlife management. 'Conservation' also tends to be associated more with protected areas, while CWM can equally take place on communal or private land as well as in protected areas.

IUCN uses the term collaborative management slightly differently from Barrow and Murphree (and notes that it can also be termed co-management or joint management) to describe *"a partnership among different stakeholders for the management of a territory of set of resources"*. Collaborative management *"entails a conscious and official distribution of responsibility, with the formal vesting of some authority".* It differs from community-based management *"because it recognises that it is not generally possible nor desirable to vest all management authority in the community. The state should and will always retain some responsibility, if only for the provision of an overall policy framework for conservation and management"* (Renard 1997). This definition concurs with our understanding of CWM as negotiating partnerships for resource management, although again the approach appears to be inclined more to protected areas than to communal land (although Borrini-Feyerabend 1996 states that it can apply to non-protected areas and to all types of natural resources). The approach is typified by community forestry in Nepal and joint forest management in India, where the state has entered into arrangements with local people with regard to customary access rights to forest resources in lieu of regeneration and protection responsibilities.

In South Asia, it was also clear that CWM could include a range of situations from totally community-controlled and managed (*de facto* or *de jure*), to those controlled by the state or NGOs, but with substantial community involvement and a whole number of situations in between. Even within a community there was differential involvement. It was therefore necessary to distinguish between those primarily involved with the CWM initiative (the 'primary' stakeholders) and those which are somewhat less central (the 'secondary' and 'tertiary' stakeholders). Management practices need to be adopted such that all relevant stakeholders are involved, but decision-making and the primary share of benefits should rest with the primary stakeholders who always include local communities but can also include the state, NGOs, or the private sector

CWM, in the context of this project, occurs within and around protected areas and on communal or private land outside of protected areas. It can be consumptive (eg. trophy hunting) or non-consumptive (eg. photo-tourism), subsistence (eg. non-timber forest product collection) or commercial (eg. trade in wildlife or wildlife products), traditional (eg. protection of sacred landscapes) or non-traditional (eg. game ranching). There are numerous ways that different types of CWM can be categorised:

- by the type of 'community' – individuals, through groups, to whole community;
- by the type of community involvement – passive to active, outsider-driven to insider-driven and partnerships;
- by the type of wildlife;
- by the type of activity;
- by the type of wildlife intervention/management.

For the West and Central Africa report a useful typology of CWM was developed along four axes:[2]

1. *Initiation*: community wildlife initiatives can be classified according to the role of outsiders in their initiation, ie. as designed: the result of planning and implementation orchestrated from

2 This typology has been developed from Zeba's (1998) four categories of methods used in designing community wildlife management projects: technocratic, ICDP, participatory and decentralised.

the outside; or discovered: based on community resource management systems that are already in place (Seymour 1994). Elements of both design and discovery can co-exist within community wildlife initiatives.

2. *Participation*: initiatives can be assessed according to a framework developed by Paul (1987) which breaks participation into four types which can co-exist: information sharing, consultation, decision-making and initiating action. As with many typologies of participation, this framework assumes an externally-driven project with differing levels of responsibility by insiders (community members) and outsiders (project/government staff) (Guijt 1998). Community wildlife initiatives that have developed without such external support have been classified as self-mobilised.
3. *Decentralisation*: where initiatives capitalise on decentralisation opportunities, including delegation whereby functions are transferred to lower administrative levels; devolution whereby authority, responsibility and financial control is transferred from central government to lower levels of social organisation; and *de facto* whereby local management systems replace dysfunctional state systems (de Merode 1999).
4. *Integrated conservation and development*: where a development package is linked to the conservation of natural resources. This can be in the form of compensation where development is offered to offset resource restrictions; alternatives whereby a development package aims to reduce pressure on natural resources by increasing the value of livelihoods derived from land outside the site valued for biodiversity; and enhancement which seeks to increase the value of the natural resources and thus provide an economic incentive for conservation.

In the Southern Africa report, initiatives were classified according to their positions along a gradient of a number of criteria:

- The reason for the initiative's establishment (mainly conservation, a mixture of politics and conservation, or mainly politics and development);
- How access is controlled (mainly by the state on the one side to entirely by the community on the other);
- The level of participation (no participation on the one side, to community-driven on the other);
- The type of land tenure (freehold on the one side to communal on the other);
- The level of community cohesion (large, divided and diverse to small on the one side, to homogeneous and cohesive on the other);
- The extent of donor support (high on the one side to low on the other);
- The revenue-generating potential at the locality (low on the one side to high on the other).

For the purposes of this report however, we do not attempt to apply a blanket typology to the diverse range of case studies that were examined. Table 2.2 simply lists the diversity of CWM initiatives examined in the *Evaluating Eden* project according to the type of intervention/management. The list is not exhaustive but provides an illustration of the range of activities that can be included under the banner of CWM.

Table 2.2: A diversity of approaches to CWM

Type of Approach	Examples

Strict protection	Community game guards (Namibia) Protection of Macaws (Cofan community, Ecuador) Protection of nesting sites (Kokkare Bellur, India)
Ecosystem restoration and / or conservation	Forest regeneration (Bhaonta-Kolyara Arvari catchment, India) Forest conservation (Mendha (Lekha) and Jardhargaon, India Gashaka Gumti National Park (Nigeria) Mamiraua Sustainable Development Reserve (Brazil)
Consumptive use	Sustainable plant use (Mendha (Lekha) and Jardhargaon, India;. Mkambathi, South Africa) Sport/trophy hunting (CAMPFIRE, Zimbabwe; Sankuyo, Botswana; Madikwe, South Africa; Hushey Valley, Pakistan) Wildlife trade (Rattanakiri, Cambodia) Game ranching (Northern Territories, Canada) Turtle egg harvesting (Ostional, Costa Rica) Community fisheries (Laos PDR; Rekawa, Sri Lanka) Collection of NTFPs (Dwesa, South Africa) Captive breeding of Iguanas for pet trade (Nicaragua)
Non-consumptive use	Vicuña fibre harvesting (Peru) Non-consumptive tourism (Western Serengeti, Tanzania; Annapurna, Nepal) Sale of guano (Kokkare Bellur, India)
Genetic resource use	Kani tribe, (India)

3 Wildlife, People and CWM

3.1 Wildlife and People

The relationship between people and wildlife dates back to the evolution of humankind – stone age rock paintings depict scenes of hunting and of species important for humans - and it is clear that wildlife has long been an important part of the culture of many of the world's peoples. However human beings have also been associated with the increasing number of extinctions of wildlife species – initially as a result of human settlement and cultivation in previously uninhabited areas, and more recently (over the last 2000 years) as a result of overexploitation, habitat destruction and species introduction (Swanson 1997).

Despite our common origins wildlife is now viewed in different ways by different people and cultures. The Judaeo-Christian doctrine of much of the Western world dictates that man is separate from, and master of, the environment and all living things, whereas many other cultures tend to view themselves far more as an integral part of the environment (Suchet 1998). However, important exceptions to such generalised interpretations should also be noted: for example, the great civilisations of East and South East Asia, particularly those of the lowlands and plains, were developed by converting the forests and wetlands of much of the region into fertile agricultural land. Wildlife was domesticated, hunted and traded, and its habitat substantially altered and reduced. In so doing, 'wildlife' was partitioned from the agriculturalists who came to dominate the lowlands of the region. The Khymers, who controlled the Angkor empire between the 9th and 13th centuries, are a classic example, developing an agrarian society based predominantly on rice growing. In the ruins of the former capital of the Angkor Kingdom, depictions of wildlife are a notable feature of the reliefs and stone carvings found on the walls of the temple complex, but the wildlife they represent is largely part of the mythology of the underworld rather than wildlife coexisting with humans.

However, wildlife remains a source of cultural identity for many indigenous people and wildlife resources may be valued in cultural, spiritual, ecological and economic terms. For example, the Australian report notes that *"crocodiles might be valued simultaneously for their spiritual significance, as a familiar component of the landscape whose behaviour indicates seasonal change; as food and as a source of cash income"*. Within these cultures also, wildlife and natural resources are viewed differently; for some they are valuable resources to be preserved for their own sake or for future human use; for others they are sources of industrial raw material; and for yet others they are items of cultural identity.

These differences in attitudes to wildlife are reflected in the different wildlife management practices employed. In the West a system of state management of wildlife prevails following the centralisation of ownership and control of land and wildlife. For example in the UK political force was used to appropriate land and resources through the enclosure of common land while the *Waltham Black Act* of 1723 *"centralised control and ownership of wildlife with the elite and outlawed access to common forestry resources to any but the propertied classes, creating the*

concept of king's game" (Neumann 1998). Such enclosures also occurred in pre-colonial times outside Europe – for example in some parts of South Asia where forests were requisitioned by the ruling elites rulers for hunting reserves. In South Africa and in Zimbabwe, the Kruger and Matopos National Parks respectively became symbols of white colonial rule and white national identity (Caruthers 1994). Many Western ecologists started seeing themselves as 'saviours of Eden' by promoting the establishment of protected areas devoid of humans in Africa (Anderson & Grove 1987). Centralised approaches to wildlife management were then adopted by colonial administrators throughout the world, and in many cases, the state-management of wildlife continues to this day.

Several non-Western cultures have traditionally approached wildlife management from a very different set of motives. The Australian report notes for example, that traditional indigenous wildlife management is underpinned by spiritual affiliations to 'country' which includes land, water, wildlife and other natural resources. *"Spiritual affiliations accord both rights and responsibilities, including custodial responsibilities for keeping the land healthy and its species abundant"*. Traditional owners of country must be consulted about its use, but they must also consult family and neighbours when making important decisions (eg access to neighbours' country in times of resource scarcity). Aboriginal people also have spiritual or totemic links to animal and plant species that act to regulate hunting pressure. For example in Yarralin country in the Northern Territory if a flying fox totem person dies *"all flying foxes become taboo as food, and it is only with the passage of time and the permission of other flying fox people that they may be hunted again"* (Rose 1992 cited in the Australian report).

Similarly, in Canada community-based territories and rules are thought to have been the primary mechanism for resource management. The James Bay Cree, for example, have a system of community territories that are further divided into family hunting territories. Only members of the family, or people invited by them, are permitted to trap furs on this land although any community member can hunt or fish for subsistence purposes. Violations of general rules of hunting, fishing and trapping are dealt with under customary law and enforced by social sanction (Berkes and Berkes 1999).

There is evidence of similar community-based systems for wildlife management and conservation throughout the world. The Southern Africa report notes that *"Although not well documented, there is some evidence that elaborate wildlife resource management systems prevailed among indigenous African people before the arrival of European colonists. Examples include the royal hunting preserves of the amaZulu and amaSwazi people, and the kgotla system of land management practised by the Batswana people. According to some writers, the productive systems of most African societies in the pre-colonial period rested heavily on the abundance of natural and wildlife resources that surrounded them. As a result, people in Africa generally revered nature and incorporated it into their worldview. Most of their political systems included a set of rules and procedures designed to regulate the use and management of natural resources."* In South Asia, records of official conservation date back to the 3rd century BC, while conservation by communities is probably even older. Even today there are numerous examples of communities following traditional conservation practices or adapting them to new conditions, such as the protection given to trees and wild animals by the Bishnoi sect in western India; strict regulations on resource collection in many parts of South Asia; and widespread sacred groves or tanks or grasslands in India, etc.

This is not to say that conservation has always been a conscious objective of indigenous communities – the coincidence of species extinction with human migration since the evolution of *Homo sapiens* has been marked (Swanson 1997) and is associated with over-exploitation, species introduction and habitat conversion to agriculture – nor to imply that traditional practices always benefit conservation. In East Cameroon, for example, 29 species were found to be entirely or partially prohibited *"to avoid loss of the child by pregnant women or disease or deformation of the newborn"* (Takforyan, 1996). However, the taboo only applies to the consumer, not to the hunter who is free to sell or give tabooed species to someone not affected by taboo. In an area where 60-80 per cent of game shot is for sale, the significance of such taboos in terms of wildlife management pales (Takforyan, 1996). However, traditionally, cultural regimes regulating hunting pressure and resource use, or protecting sacred landscapes and species, coupled with relatively low population densities have meant that in general terms pre-industrial indigenous communities were able to maintain a sustainable relationship with wildlife and the environment.

Today, the relationship between people and wildlife can be both positive and negative in terms of the benefits it generates and the costs it inflicts. Wildlife is hunted, trapped or gathered for food, fur, hides, fibre, bones, eggs, building materials etc on either a commercial or subsistence basis. The dietary contribution of bush foods can be very significant in some areas. For example, in one area in the Northern Territory of Australia it was estimated that bush foods provided 46 per cent of energy intake and 81 per cent of protein (Altman 1987 cited in Australian report). The economic contribution of bush foods can be equally important (in the same area the market replacement price of subsistence production represented 64 per cent of total income). In Canada's Northwestern Territories, it is estimated that wildlife adds about 10 per cent to indigenous communities' incomes, and the average Inuit consumes about 200kg per year of wildlife meat. Hunters in the Arctic earned between CDN$10,000 and 15,000 from hunting, while the replacement value of bushmeat to Inuit households is estimated to be more than $7,000 per annum. Overall in the Canadian north, the value of bushmeat accounts for approximately one-third of the entire cash economy and easily exceeds income from any other single source (Berkes and Berkes 1999).

> Within communities around the Korup National Park in Cameroon, hunting provided the single most important source of cash income for the majority of village households and for the village as a whole, contributing 56% of total village income (hunting and trapping combined, Infield, 1988). Over 80% of biomass offtake from the national park consisted of terrestrial mammals. In the Conkouati area in Congo, hunters sell 80% of their catch. The average household income was estimated to be 1,250,000 FCFA of which 64% came from fisheries; 16% from agriculture and 20% from hunting (Paris, in Hakizumwami, 1998).

Wildlife can also represent significant cost to local communities in terms of injury or loss of human life, damage to crops and livestock, depletion of subsistence resources etc. In northern Cameroon for example, the elephant population in the Waza National Park threatens local lives and livelihoods

> In South East Asia, some species of forest wildlife inflict substantial damage on crops, particularly in marginal areas where forests have been recently converted to agricultural land. In Vietnam, where the numbers of forest elephants have been depleted to the point of national extinction, the small numbers of remaining elephants occasionally cause substantial damage to crops. Human fatalities have also occurred frequently. Five people were killed in August 1999 by a small group of displaced forest elephants in Binh Tuan Province, southern Vietnam. Understandably, this leads to intense conflicts between farmers and conservation agencies.

and the community are keen to see their movements and growing numbers contained. In addition, since for the past few decades the 'Western' model of separating humans from wildlife has been adopted, this has meant (among other impacts) cordoning off large areas of common property for protected areas. This practice has had the unfortunate consequence of alienating local communities from their own surrounds, curtailing their access to essential survival/livelihood resources, increasing animal-people conflicts, and reducing public support for conservation.

In some cases this 'separation' of people from wildlife has been exacerbated by demographic and political factors too. In a number South East Asian countries, for example, mass migrations of people away from densely-populated areas and their resettlement in marginal areas (which are often rich in wildlife), have led to conflicts with indigenous resource users, and have also led to the loss of wildlife habitats. In some cases, these migrations have been spontaneous; in others they are driven by political imperatives. Examples include the planned and 'spontaneous' mass resettlements from the densely-populated Red River Delta in northern Vietnam to more sparsely-populated upland areas in central and southern Vietnam (Huynh Thu Ba et al, 1998); and state and donor-supported transmigration projects in Indonesia which have often undermined indigenous approaches to forest and wildlife management. In both examples, these population movements have accelerated the loss of forest cover as new migrants clear forest for agricultural land, but without the depth of traditional knowledge used for centuries by indigenous groups.

3.2 The Evolution of CWM

In late 19th century America, the view that wild areas should be set aside for human enjoyment and fulfilment was strongly argued by John Muir and laid the basis for the national parks system in the United States and for the pattern of conservation globally (Colchester 1994). The spread of the national park concept around the world was also associated with the premise that humans and 'wilderness' areas are not compatible and should be kept separate: *" A National Park must remain a primordial wilderness to be effective. No men, not even native ones, should live inside its borders"* (Grzimek cited in Adams and McShane 1992); by the 1970s this vision of protected areas had come to dominate the global conservation movement (Colchester 1994).

In Europe (and also to some extent in parts of South Asia such as India's princely states), although the concept of royal game and royal forests served to benefit the propertied classes at the expense of the poor, it did not completely outlaw traditional rights of use and access; rather, it laid down an additional 'layer' of special rights. However, the colonisation of the South by European powers in the 18th and 19th centuries and the accompanying spread of conservation practice, did not bring with it this respect for traditional rights (Colchester 1994). The model for wildlife conservation that was globally adopted was based on the American approach with local people's traditional rights of use and access classed as poaching and encroachment (Colchester 1994). This approach was bolstered in the post-colonial era by a belief in state direction of the economy; in governments as major employers; and in political ideologies favouring public ownership and control of potentially productive resources.

Pimbert and Pretty (1995) estimate that there are now around 8,500 protected areas in the world of which over 1500 are national parks based on the United States model of human displacement and exclusion, enforcement though wildlife legislation and the assumption of ownership of wildlife resources by the state. Whilst this approach has sometimes ensured the survival of populations of certain species and ecosystems and contributed to the generation of foreign exchange earnings though international tourism, it has often had a critical impact on the food security and the livelihoods and cultures of local people. The lack of attention to human needs and aspirations, traditional knowledge and management systems has in some cases resulted in increased encroachment and poaching, as well as sabotage to wild habitat (Ghai 1995; Kothari et. al. 1995; 1996). This trend, in turn, reinforced the (commonly advocated) protectionist argument that local people do not have the knowledge, the will or the training to undertake sustainable wildlife management (IIED 1995). As human populations continued to grow rapidly, demands on remaining resources increased, leading to increasing environmental degradation and further conflict. *"Social conflicts have grown in and around many protected areas and conservation goals themselves have frequently been threatened"* (Ghai 1995).

On the other hand, it must be acknowledged that some protected areas play an important part in sustaining resources on which local people depend and from which they benefit, protecting water catchments for the benefit of downstream water users, and preventing the destruction of forest resources through logging and conversion to industrial tree crops -such changes in land use, often delivering a much narrower range of employment and economic benefits.

Over the last 20 years, as well as a recognition that over-extended state departments have insufficient resources for wildlife conservation, there has been a growing realisation of the importance of understanding the needs and perspectives of local people, of interactive communication, and of strengthening local institutional capacity. This realisation influenced a shift in international conservation policy (summarised in the Southern Africa report). In 1980 IUCN published its World Conservation Strategy which stressed the importance of linking protected area management with the economic activities of local communities. This approach was further emphasised at the 1982 World Congress on National Parks in Bali which called for increased support for communities through education programmes, revenue-sharing schemes, participation in the management of reserves, and the creation of appropriate development schemes near protected areas. In 1985 the World Wildlife Fund launched its Wildlife and Human Needs Programme, consisting of some 20 projects in developing countries that attempted to combine conservation and development, and in 1986 the World Bank's policy on wildlands recognised that the protection of natural areas must be integrated into regional economic planning.

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More recently, the Convention on Biological Diversity which arose out of the 1992 UN Conference on Environment an Development in Rio de Janeiro emphasised three equally important objectives: conservation, sustainable use of biodiversity resources and fair and equitable sharing of benefits with local indigenous people, thus placing community involvement in wildlife conservation and management firmly on the international agenda:

"People are rediscovering the value of wild resources and with this have come new options for linking conservation with development. Economists treat people as rational decision-makers by employing the concept of opportunity costs. Conservation has begun to view people in a similar way by acknowledging

that the cost of foregoing certain land-use options must be compensated for by the provision of an equivalent benefit." (Makombe 1994)

Some now well-known projects and programmes based on participatory approaches to wildlife management were initiated in Africa in the 1980s, eg. the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe, and the Luangwa Integrated Rural Development Project (LIRDP) and the Administrative Management Design (ADMADE) for Game Management Areas - both in Zambia. These have provided both inspiration and models for a wide range of participatory wildlife management projects and initiatives that have subsequently been started around the world.

The aims of such initiatives are summarised by Crane (1991) cited in the Southern Africa report:

- To obtain the voluntary participation of communities in a flexible programme which incorporates long-term solutions to problems arising from the use of natural resources.

- To introduce a new system of group ownership and territorial rights to natural wildlife resources for the communities resident in the target areas. The management of these resources should be placed under the custody and control of resident peoples.

- To provide appropriate institutions under which resources can be legitimately managed and exploited by local people for their own direct benefit. These benefits can take the form of income, employment and production of venison.

- To provide technical and financial assistance to communities which join the programme to enable them to realise their objectives.

The focus was not merely the wise management of natural resources. As important, if not more so, was the need for community development, local self-government and the creation of local institutions for the management of common property resources (Crane 1991).

As these, and similar principles, became embraced by governments, donors, NGOs, and conservation agencies, community-based approaches became the dominant conservation and development paradigm of the 1990s. In Lao PDR, recognition of the heavy rural dependence on forest products has led to a commitment by both donors and government to adopt inclusive approaches to protected area establishment and management. In South Asia too, many of the above reasons have been cited for the increasing shift away from top-down, centralised conservation practices to more participatory ones such as community and joint forest management, ecodevelopment, etc. However, asimportant stimuli for this shift have been powerful initiatives of local natural resource management and self-governance by many communities, especially in India. Also critical has been the increasing resistance to imposition of 'destructive development' projects by the state or by private corporations which threaten the natural resources on which the livelihoods and culture of communities depend. This resistance has its roots in the struggles against state imposition centuries back, eg. in the fight against deforestation by the king, waged by the Bishnoi sect in western India over 300 years ago, or the resistance to deforestation by the British colonial government in the Himalayan foothills

(precursor to India's famous Chipko movement). In general, the last few years have seen increasing mass movements against commercial and industrial projects such as intensive aquaculture, big dams and factories, trawler fishing; coupled with a powerful drive towards decentralised governance structures. All this has resulted in significant legal and policy shifts in favour of CWM

In a recent comparative study of community-based approaches to conservation in Africa, Hulme and Murphree (1999) identify a *"new conservation"* that has moved beyond simply devolution of authority from the state to the community to a new concept of conservation that is centred on sustainable utilisation rather than preservation (or *"fortress conservation"*) and that allows market forces to determine the value of a particular habitat or species. This market mantra is not so new. Experience of inefficient enterprise management by governments, coupled with poor delivery of services, increasing public sector debt, corruption and rent-seeking, and the lack of accountability to the citizenry, led to the new mantra of privatisation, deregulation, and decentralisation. This doctrine became manifest in the transition of former centrally-planned economies to market-based economies; in structural adjustment programmes promoted by international lending institutions which led many national governments to reduce public sector expenditures and price distortions; and the increasing globalisation of the world's economy, with trade and capital liberalisation and currency reform. In the wildlife sector there have been varying degrees of privatisation: from merely exposing state-owned wildlife bodies to commercial pressures; to encouraging an enterprise culture in these bodies; to corporatising government wildlife bodies, so as to form, for example, parastatals, which are freer than government bodies to act in the ways they deem suitable; to complete transfer to the private sector.

There are, however, problems with the market mantra. The market is the main way in which products are distributed. But regulation and common social norms such as trust are required for the most basic operation of markets. Recently, there has been a growing recognition, or rediscovery, that the market suffers from three key failings:

1. Key environmental goods and services do not enter the market. Markets for non-timber forest products (NTFPs) or biodiversity are often non-existent or ineffective, so the private sector does not recognise them.
2. Environmental costs are largely ignored. Markets do not automatically internalise environmental costs and often shift these costs on to others.
3. Distribution of wealth through the market is rarely fair. The pattern of private investment is often very patchy and does not address the needs and priorities of the weakest members of society. Bigger players tend to be favoured whenever markets are developed, although smaller players may find temporary niches in the process of market development. This is the case with NTFPs and ecotourism.

Recently, donors, governments, NGOs and others have increasingly recognised that sustainable management is about political negotiations between stakeholders (including communities, governments, NGOs, international conservation agencies, the private sector) rather than one stakeholder taking control – whether it is the community or the state, or indeed the market (see West and Central Africa report, Dubois 1997, Agarwal 1997). The West and Central Africa report suggests therefore that 'collaborative' rather than 'community-based' wildlife management better describes the current state of play.

4 CWM around the world

CWM has evolved at different rates and in different forms around the world. This chapter summarises the historical development and current status of CWM in the different regions covered by the *Evaluating Eden* project.

4.1 Central and West Africa – Diversity and Decentralisation

Central and West Africa covers a vast area with a correspondingly wide array of agro-climatic conditions: from coastal plain and inland delta to desert and highland tropical forest. This variety is reflected in the range of habitats and wildlife found throughout the region. Mean annual rainfall from north to south ranges from less than 150mm, to 4,500mm in parts of the dense humid forest zone. West Africa stretches from the desert north to the high forests of the coastal countries of Ghana and Cote d'Ivoire. In between lies the vast Sahelian region which supports dryland forest and the Soudano-Sahelian zone with its savannah woodland mosaics. The inland delta of the Niger and Congo river basins create their own unique habitats. The southern and coastal region of West Africa and Central Africa, in particular, are considered of global importance for their biodiversity and ecological functions. Central Africa supports more than 60 per cent of Africa's biodiversity, due largely to the immense forest estate which contains more than 50 per cent of Africa's forest species. Central Africa's ecosystems include tropical moist forest (representing about 80 per cent of the dense forests remaining in Africa, and the second largest in the world after the Amazon), dry and evergreen forests, afro-montane forests, seasonally inundated forests and savannahs, woodland savannahs, dry woodlands, papyrus and peat bogs, the Congo river system, lakes and lagoons. (Hakizumwami, 1998).

In addition to its diverse wildlife and habitats, the region also supports a large and heterogeneous mix of 'communities', incorporating a range of different groups and interests according to wealth, access to land, authority, gender, age etc. In Central and West Africa, this heterogeneity is accentuated by a long history of mobility among populations, which continues to this day (Sharpe, 1998; Davies, 1995). Throughout the region, vast numbers of people are constantly on the move, in search of seasonal labour or, in the case of fisherfolk and pastoralists, as required by their production system. This mobility affects the relationship an individual or household may have with the wider world, which may in turn reflect or promote differences in wealth and status (Sharpe, 1998).

The region's vast rural population, together with their governments in many areas, depends on a declining natural resource base. Wildlife use and conversion of forests to agricultural land, together with large-scale commercial activities (eg. logging, mining, oil exploitation, and plantations), have all taken their toll on wildlife populations and biodiversity in general. For example, the Elephant has been in decline over the last 100 - 200 years in West Africa (Benoit, 1997) while forest cover across Central and West Africa has declined radically over the last 50 years. Wildlife-poor areas in the drier regions have a more diffuse economic value in terms of markets, but support a larger rural population than wildlife-rich areas to the south. In contrast, wildlife resources in the more humid areas tend to have a more discrete national or international

market value, which can be more easily captured by individuals or groups. This creates very different social and economic conditions, particularly with respect to levels of competition over resource access and exploitation.

The support for community wildlife management in Central and West Africa and the potential role of local communities in wildlife management has been driven by two factors:

1. a decline in the resource base;
2. changes in national and international socio-policies, recognising the role of wildlife in the rural economy and local livelihoods (Western & Wright, 1994; Ndiaye, 1997).

Government bodies have failed to protect wildlife resources adequately through coercive measures (Alieu, 1998), and there are growing demands to address the continued poverty throughout much of Africa.

Most countries in the region have inherited a legal system established by former European colonies, which centralised land rights and ownership of wildlife in the hands of the state. This situation persists today. In many parts of the region, rights to use wildlife are seriously curtailed by the state; throughout Central Africa, wildlife hunting is officially banned unless specifically permitted by licence (Hakizumwami, 1998). In some countries, traditional hunting rights may be recognised within modern law, but hunting for commercial purposes is generally considered illegal unless officially licensed. In reality, modern (*de jure*) laws are often subordinate to customary management regimes, due to the lack of capacity of the state to enforce regulations, in which case management is guided by customary law. For example, the widespread practice of selling bushmeat throughout the region demonstrates the general lack of regard for wildlife legislation and the lack of capacity for governments to impose it.

Since the 1980s, much of the region has been involved in a process of decentralisation, fuelled at least in part by the fiscal demands of international agencies and calls for greater democratisation. This process is pressurising governments to adapt legislation and increase the rights of local communities and private organisations to manage wildlife resources and has been an important driving force behind the support for community management of natural resources. In West Africa in particular, the shift towards greater community involvement in wildlife management has been assisted by national decentralisation programmes. These have been supported (in cases driven) by other programmes and agendas, such as structural adjustment. However, the degree to which genuine decentralisation is taking place is not consistent across the region. Cameroon has introduced legislation for community forests, but the process is complex (Pénélon, 1996) and corruption among those responsible for allocation of timber concessions has resulted in areas being allocated twice or even more (Phil Burnham, pers. comm.). It takes at least a year to register a community forest, whereas a timber concession may be allocated within a few weeks (Pénélon, 1996).

The role of the donor community in influencing the development of community wildlife management in the region is fundamental, both directly in their support of international conventions, and indirectly in the drive towards decentralisation and good governance (Brandon & Wells, 1992; Gibson & Marks, 1995). Donors have tended to accept the view that wildlife resources play a fundamental role in supporting local livelihoods (as evidenced by the number of community wildlife projects in this region and elsewhere) and this has greatly increased the degree of funding available to conservation efforts in the region. These funds have effectively

allowed community wildlife management to compete with other wildlife resource management strategies throughout the region (Sharpe, 1998). The majority of formal CWM initiatives as recognised by the state tend to be donor-funded initiatives in wildlife management around protected areas. However, the support for policies, national and international, that demand greater local participation and equity in natural resource management has led to increasing donor support for local-level CWM initiatives and the emergence of local NGOs.

Whilst the vast majority of initiatives described as CWM do not fulfil the conditions of being by and with and for the community (Murphree 1996), a range of levels of community participation within wildlife management operates in the region. Such a range is, arguably, desirable, given the region's institutional, social, ecological, legal and political diversity. At one extreme is CWM around protected areas and at the other community management of wildlife resources in the absence of external intervention[3], although the majority of initiatives identified by the *Evaluating Eden* project (see Hakizumwami 1998, Zeba 1998), lie somewhere in between. In these cases, the extent of community participation in defining wildlife management varies, but as a general rule, communities can make management decisions only on the condition that they contribute to conservation objectives.
Even if it were possible to identify a 'community' as a recognisable entity, communities are just one of a number of key groups with a stake in wildlife utilisation. Other groups include the private sector; the government; the conservation lobby; and the donor community. The extent to which communities participate in all aspects of wildlife management, from decision-making, to regulating, to sharing in both the costs and benefits of wildlife management, depends ultimately on the balance of power between the different stakeholders and the relative value placed on a resource by those groups.

4.2 East Africa – From Protected Area Outreach to Partnership

The East African region is one of great biological richness. A range of climatic and geographical characteristics give rise to habitats ranging from coral reefs to miombo woodlands, and afro-montane forests to deserts. The semi-arid areas support spectacular wildlife populations for which Kenya and Tanzania are famous internationally. The spread of agriculture into these area has taken up space formerly available to wildlife, and has resulted in habitat change and the truncation of important ecosystems. Such closure threatens the well-being of these spectacular populations and the ecosystems themselves. There are many other threats to the region's biodiversity, including the requirement to satisfy the needs of rural communities that are growing at over 3.5 per cent per annum. The management of this rapid growth represents one of the most important challenges East Africa faces.. It is in this context of competing demands and the requirement to balance the achievement of regional food security and the conservation of biodiversity and functioning ecosystems, that community conservation seeks to play a significant role, both in terms of actively contributing to rural livelihood needs as well as contributing to conservation objectives.

3 These extremes are not necessarily mutually exclusive.

Community conservation is a relatively 'new' phenomenon in East Africa (see Barrow and Murphree 1999 for a detailed discussion on a practical framework for community conservation) in the sense that it is only now being adopted by conservation authorities, NGOs and others as the long term method to involve local people in taking more responsibility for their natural resources on a sustainable basis. However, it is an old approach when one considers that societies in East Africa historically lived to a greater or lesser degree, in harmony with their natural resources when population levels were low. Since the onset of the colonial era this has changed with a more preservationist and law enforcement approach to conservation. It is only over the past 10 years that there has been a concerted institutional effort to redress this imbalance. Advocacy of community-based conservation has been driven by several perceptions:

- the importance of areas outside direct state control for biodiversity conservation;
- the inability of the state agencies to manage conservation areas;
- the potential for cost-effective local management, using informal social pressure and sanction, and drawing on detailed local knowledge of ecological dynamics; and
- local communities' enhanced motivation to conserve natural resources when conservation is of direct economic benefit to them.

Much of the early community conservation work was instigated, undertaken and implemented by NGOs, both local and international. These efforts were based on the premise that community conservation was good for communities and good for conservation, and based on the emerging evidence that preservation and law enforcement alone were not solving conservation problems. Pressures were put on conservation authorities to embrace this more enabling approach. Partnerships between conservation authorities and NGOs seemed to provide the right mix of conservation value, flexibility and community experience to allow this. As community conservation started to achieve some success, donors started to fund activities, and continued strong pressure from donors and international NGOs has been an important factor in the subsequent development of community conservation.

The three East Africa countries have developed community conservation policies and practice in different ways. As a result there is a wide diversity of projects and structures for community conservation in the region. Protected area outreach programmes, primarily in relation to savannah national parks, have been the dominant model adopted in East Africa. Less attention was given to forest parks, wetland and marine systems, although this is now changing. The impact of outreach has been uneven, and many difficult conflict issues remain. Research has indicated that the effort made by the park authorities to work with communities and to provide support to their development projects has had a positive impact on community attitudes towards the park and conservation. This shift from hostility to friendliness and partnership has created opportunities for other community conservation arrangements with communities, thereby increasing potential benefit flows and contributions to rural livelihoods. From the protected area outreach focus, arrangements for collaborative management and community-based conservation have evolved in recognition that community conservation is more than outreach, but has to relate to livelihoods and sustainable use. With the increasing focus on decentralisation and on creating local level conservation responsibility, community-based conservation activities are now evolving quite rapidly.

However, despite the good intentions of institutions concerned with community conservation, it is unclear whether there has been any real handing over of ownership and responsibility for natural resources and their management to local communities. The reasons for this are complex. Government authorities, both conservation and at district levels, may remain unconvinced of the desirability of allowing true partnerships with communities.

There also remain real obstacles to the sound management of natural resources. The continuing weakness of government institutions, hampered by low wages and corruption, is an important factor, and this is exacerbated by structural adjustment. The lack of land use planning and ongoing uncertainty over land tenure is also important. Changes in policies and practices affecting the management, and assumptions of the rights and responsibilities over natural resources by communities and local governments cannot be achieved in the absence of a re-examination of tenure issues. Secure tenure over land and natural resources, including wildlife and trees, or clear rights to their use is of crucial importance if rural people are to manage their resources. As a result ownership, control of and access to land and resources is becoming the single most contentious issue in East Africa. The capacity of communities to accept the role that community conservation programmes and donor projects would have them play is also a constraint. In several areas, community institutions are strong enough to take responsibility. In other areas they are not. It is clear that an essential activity is strengthening community institutions, and this can probably be best achieved by working outside the conservation authorities, so they can manage responsibilities for natural resources, and can place sufficient pressure on the authorities to be granted responsibility in the first place. Various forms of partnership are crucial to long term success.

The region is now poised for progress in community conservation. A number of significant policies are in place, and have been given added impetus and focus by declining government budgets and structural adjustment polices forcing retrenchment. Community arrangements for the management of natural resources are now a necessity, not a luxury.

4.3 Southern Africa – Pioneers, Politics and the Pressure for Land Reform

In Southern Africa, a variety of factors have played a key role in shifting conservation policy and practice away from state-controlled protectionism and towards CWM. These include:

- **The pressure to promote development by using wildlife in rural areas**. This took a variety of forms but it is generally agreed that Zimbabwe's CAMPFIRE programme played a pioneering role. Similar programmes were started in Zambia in the Luangwa Valley and on conservancies on communal land in Namibia. In South Africa, the principles of integrating development with conservation were implemented, ironically, in some of the then independent homelands: the Mtethomusha Game Reserve in KaNgwane and the Pilanesberg and Madikwe Game Reserves in Bophutatswana (where state resources were used to create new protected areas, unlike the programmes in other countries where wildlife based development programmes were based on communal land).
- **A lack of resources for law enforcement** inside protected areas and the desire to conserve wildlife populations outside protected areas. This dynamic was evident throughout

the sub-region, and was the original impetus for CAMPFIRE, the early Namibian conservancies and the move away from centralised government control and the allocation of tourism concessions to communities in Botswana. The steep decline in numbers of habitat-specific, slow-breeding and conspicuous species such as black rhinoceros, elephant and sable antelope was becoming evident and conservationists started fearing that they were losing the battle. A number of initiatives, for example the community game guard system driven by the NGO IRDNC in Namibia, demonstrated that communities could indeed contribute to curbing illegal activities. In other cases in South Africa, conservation agencies have been able to expand the size of protected wildlife estate by entering into negotiations with local residents and agreeing 'contract parks' where communal land is incorporated into game reserves for conservation and development purposes.

- **Pressure for land reform**. During the early and mid-1990s many communities began lobbying for land reform and began organising to claim back title to land in protected areas from which they were removed in colonial and apartheid times. The Makuleke Region of the Kruger National Park, the Riemvasmaak land claim against the Augrabies National Park, the San Bushman land claim in the Kalahari Gemsbok Park and the Mdluli land settlement in the southern parts of the Kruger Park are all examples of this popular pressure for integrated wildlife and development programmes to become an important aspect of land reform. In some cases this pressure for reform took the form of invasions of reserves and plundering of natural resources as a symbolic act of defiance. Subversiveness remains the only way for many landless communities to increase their power and level the playing field.
- **Political expediency and a recognition by governments that rural voters are important**. In Zimbabwe the government soon started claiming responsibility for the successes of CAMPFIRE and simultaneously gave its district councils an increasingly controlling role in the programme. In Zambia, the Luangwa Integrated Rural Development Project (LIRDP) gained the acceptance of President Kenneth Kaunda on the basis of its political benefits. The Madikwe Game Reserve in the Northern Province of South Africa was initially established to fast-track development in the former 'homeland' of Bophutatswana, in line with the South African politics of the late 1980s. More recently, the Makuleke land claim, by which a portion of land inside the Kruger National Park was transferred to a community, showed that the politics of land reform played an important role in expediting the claim. In Namibia communal conservancies were established following the example of successful conservancies on white-owned freehold land (Jones 1999), in part because of an attempt by the post-apartheid Namibian government to redress the imbalances of the past.

The model that has emerged entails:

- Allowing communities access to natural resources from which they previously had been barred.
- Sharing revenue from the use of natural resources (through a variety of ways that include hunting or consumptive use, tourism or non-consumptive use along with various forms of harvesting resources such as thatch grass and firewood) with communities.
- Making conservation pay for costs of wildlife management as well as community development programmes.
- Involving communities in decision making.
- Recognising communities' historical rights of tenure to resources and land.

Dialogue and participation are now the expected norm in Southern Africa, and the expectations amongst communities and politicians are high. Recent evidence, however, suggests that there are serious flaws in the way the CWM model is being applied and implemented. Many obstacles still need to be overcome, for example:

- Different role players have incongruent goals;
- Project managers use the same strategies in very different contexts;
- Achievements fluctuate within a short space of time, but initiatives are still evaluated and judged in 'snap-shot' fashion;
- Communities are complex and change constantly but project cycles do not take this into account;
- Local knowledge is often imperfect, because of people's historical alienation from nature;
- Well-meaning preservationists create problems by limiting local people's ability to market certain resources such as elephant products;
- A sense of custodianship is in many instances absent amongst local communities;
- Local governance is in many instances extremely weak;
- Donors insist on investing in the building of new institutions, which invariably become centres of conflict in communities;
- The financial benefits of CWM are over-estimated and consequently over-sold to communities and donors;
- Non-financial benefits are underestimated but may eventually become the main impetus for CWM in many instances.

4.4 South Asia – Natural Resource Management Come Full Circle

CWM in South Asia is, in a sense, natural resource management come full circle. From a traditional regime of community management based on customary practices and knowledge, to one in which the state and/or private sector forces took over common property, to one in which the community has once again come to play a major role; that in a nutshell describes the process of evolution of modern-day CWM in this region.

All the countries of the region have gone through a history of state take-over of common property resources. Though this had started happening with the increasing dominance of centralised rulers centuries back, it was greatly consolidated during the colonial regimes that held sway in most countries of the region. Even after these countries gained independence, centralised resource management regimes continued, and in some cases were even further strengthened. The resulting alienation of local communities from their own resource base, coupled with inappropriate economic and development policies, tremendous increase in demand for natural resources, erosion of traditions and practices of conservation, and other factors, have been responsible for the massive decline in wildlife and wildlife habitats all across the region. State-led conservation policies, focusing on legal enforcement and the declaration of supposedly human-free protected areas, have helped to a limited extent to stem this rot, but have created further problems of alienation amongst local populations.

A number of factors have led, in the last few decades, to the realisation that state institutions are not capable of conserving or sustainably managing resources on their own, and that people's participation is essential. These include:

- Continuing decline in wildlife species and habitats, despite a plethora of laws and policies and substantial state spending on conservation;
- Continued step-motherly treatment of conservation agencies by governments, with seriously deficient humanpower and resources compared to other line agencies and departments;
- Weak official mandate for conservation agencies, especially in the face of conflicts between commercial/industrial development and conservation;
- Increasing hostility, or at best increasing indifference, amongst the public towards conservation programmes, especially created by a conservation model which did not take into account community needs, customs, and rights;
- Manifestation of such hostility and indifference in the form of public support to poaching, wood theft, and other 'illegal' activities, or demands for 'denotification' of protected areas to favour the entry of industry and commerce;
- Increasing grassroots agitation for a decentralised polity, for greater voice in local and national decision-making regarding natural resources, and for recognition of traditional rights to these resources.
- Erosion in the survival and livelihood resource base of communities, prompting efforts at regeneration and conservation.

This realisation has also been influenced by the slowly growing evidence of communities being able to conserve wildlife and ecosystems, with or without state support. This evidence comes from a series of interesting initiatives taken by various stakeholders, from communities to NGOs to government officials. These initiatives are of various kinds: regeneration of degraded forest lands by village communities claiming *de facto* control over them; protection of sacred landscapes (hundreds, possibly thousands, in India); conservation of intact resource catchments by communities; government officers initiating joint or community forest management programmes (now spread over several million hectares in India and Nepal); fisherfolk and NGOs saving marine habitats and species (eg. struggles against trawling in Sri Lanka and India), sustainable trophy hunting; medicinal plant use as a community enterprise programme; cultural protection of breeding grounds of threatened species; management of ecotourism by local people; conservation and sustainable use of marine aquatic resources; resistance to ecologically destructive development projects and commercial activities; and so on.

These and other initiatives have helped to influence changes in policy (including legal regimes) governing natural resources in all countries of the region, with significant changes taking place in forest policy in Nepal and India, coastal policy in Sri Lanka, wildlife policy in Nepal, and so on. Even though these changes are mostly yet in process, communities and NGOs and even some government officials have already attempted to implement decentralised wildlife/habitat management models. A significant boost to this is likely to come from recent legislative measures to decentralise governance in Nepal and India, though the precise manner in which this would influence conservation of wildlife and ecosystems is not yet clear.

In particular, forest policy across the region has been influenced by the successful programmes of community forestry in Nepal's hills and joint forest management across India; marine/coastal policy has been influenced by the few successful community-based conservation programmes in Sri Lanka; policy with regard to certain wild species has been influenced by the projects concerning regulated animal hunting in Pakistan and Nepal, or medicinal plants in most countries; and so on.

Significant policy and legal changes are now taking place in all countries of the region, and even though these changes are mostly yet in process, communities and NGOs and even some government officials have already attempted to implement decentralised wildlife/habitat management models.

An assessment of several CWM initiatives shows the following ingredients of a successful process:

- Building on local community/institutional structures, traditional and/or new.
- Building on local community knowledge systems and customary practices, relevant to conservation and resource management.
- Incorporating strong local leadership, preferably with a second generation or line developing simultaneously.
- Using conscious regulations based on local and larger ecological constraints, and on understanding of ecological impacts of CWM.
- Clearly identifying primary stakeholders, such as those most dependent on the resource, for purposes of identifying stakeholders for decision-making and benefit-sharing purposes.
- Providing full access to the community to information regarding policies and programmes affecting the CWM initiative.
- Integrating an ability and willingness to tackle external forces of development, commerce, and politics.
- Providing clear linkages between local actors and national and international supporters and facilitators (within and outside government), without a debilitating dependence on them.
- Taking appropriate national policy and legal measures to facilitate CWM, including space for customary law, positive macro-economic incentives, facilitating role of government agencies, and others.
- Undertaking constant monitoring and evaluation, by internal and external persons, of the ecological, social, economic, and political aspects of the CWM initiative; development of local indicators for this.
- Internally generating core funding requirements, even if initially dependent on external sources.
- Continuous capacity-building for all stakeholders.

Though well under way, CWM in South Asia continues to face serious hurdles. These include resistance from entrenched bureaucracies (such that even in the famous Joint Forest Management programme in India, true sharing of powers is rare); reduced capacity in communities to manage natural resources; inequities in decision-making and benefit-sharing at all levels; destructive economic and developmental policies; and difficulties in creating livelihood

security for communities. The next few years of CWM in South Asia will have to contend with these challenges if it is to become a sustainable and long-term trend.

4.5 South East Asia – Timber, Trade and Tourism

Commercial logging and conversion of tropical forests to other uses (for example, for agriculture, plantations and hydropower) has long been the dominant trend affecting the availability and distribution of wildlife resources throughout South East Asia. In general, other human uses of forest resources, such as wildlife trapping, hunting and shifting cultivation, have had less impact on wildlife. There are, however, some important exceptions. Hunting, and not habitat loss, is the main 'threat' to the viability of many mammal and bird populations in Laos, as it is in some other parts of Indochina and even in Sarawak, East Malaysia. In some parts of northern Vietnam, it would appear that shifting cultivation and not logging has been the major cause of forest loss.

Logging and forest conversion have also led to secondary and pervasive impacts on wildlife. Logging roads often 'open up' forested areas to higher levels of hunting (often by non-indigenous groups) and make markets for wildlife trade more accessible. Diminishing forest cover confines shifting cultivators to ever smaller areas of forest leading to shorter fallow times, and more intensive (and often unsustainable) resource exploitation.

Markets for wildlife and wildlife products also strongly influence wildlife use, even at the local level. Despite recent economic troubles, the last two decades have seen expanded influence of regional and international markets in relation to forest and wildlife management. Growing market demand from China alone plays a particularly significant role, but the role of domestic market demand is also extremely important in many countries of the region.

Conflicts and mass migrations are recent features of a considerable proportion of South East Asia, including Indonesia, Vietnam, Cambodia and Laos and the Philippines. Social disruption caused by such conflict and mass migration of peoples (either through state-sponsored resettlement schemes, as in Indonesia and Vietnam, or through 'spontaneous' movements from land scarce areas) has also played an important part in influencing patterns of resource use, including wildlife. Such changes have often undermined the fundamental premises on which community-based approaches to resource management are often based – settled populations, homogeneous community and ethnic composition, established resource tenure systems and institutional structures at the local level. At the village level, the sense of 'community' is often particularly weak or even absent in post-conflict areas, such as parts of Cambodia. Local institutions such as village committees, savings and credit groups, and village co-operatives are often completely absent.

Against this backdrop of major land use and economic change, and sometimes social disruption, conservation planners have tended to rely on the establishment and management of protected areas. Indeed, Cambodia, Laos and Brunei have some of the highest proportions of land area designated as 'protected' anywhere in the world. Whilst the shortcomings of protected areas are

now reasonably well known within the region, the potential benefits that community-based approaches might bring are less recognised. With the notable exception of wildlife harvesting by (rapidly disappearing) indigenous forest users, there are few (if any) examples where CWM can be shown to have brought long-term benefits to either people or wildlife resources, much less both, and there have been few attempts to harness market values as part of a sustainable use strategy. Indeed, there are examples where legal and trade restrictions have removed economic incentives of potential conservation value (see for example, Mackinnon, 1998).

Long-established traditional uses of wildlife by indigenous groups occurred historically throughout much of the region and forest wildlife continues to contribute an important source of protein and revenue for many that live in and around the forests of the region. This is particularly so in Indochina and parts of Indonesia and Papua New Guinea. In most parts of the region, these activities have been much curtailed by recent land use changes, forest loss and by social and demographic changes.

More recently, wildlife management activities that have involved or been driven by local stakeholders have reflected this rapidly changing context. Firstly, there has been emphasis on finding domestic and international markets for wildlife through exploiting its potential for trade (either as live animals or as skins, bones and trophies etc.) and tourism. China comprises an enormous and growing market for wildlife products, and fuels wildlife trade and capture throughout the region - particularly in Laos, Cambodia and Vietnam. Whilst reliable information (for example, data that disaggregates capture impacts from those caused by forest loss or other forms of hunting) on the impacts of trade on many species is rather poor, information on the value of this trade for livelihood support is almost absent. Information that relates to certain species indicates that wildlife trade is likely to be unsustainable, especially for larger mammal species. Wildlife-related tourism comprised a growing sector prior to the regional economic crisis. Examples were particularly common in Indonesia, Malaysia and Thailand. Rather few initiatives are ‘community managed’ and most are driven by large private sector companies or state agencies.

Secondly, considerable efforts are being made to involve stakeholders in protected area management and to link biodiversity conservation with development activities (for example, through so called Integrated Conservation and Development Projects). These efforts are pushed by external actors, particularly international conservation organisations and donors.
Laos has gone further than most countries of the region and enshrined co-management as a fundamental component of its National Biodiversity Conservation Areas (NBCA) system.

4.6 Central America – New Arrivals and Subsistence Activities

While most of Central America has a tropical climate, its altitudinal range and two distinctive rainfall regimes generate a variety of ecological zones and ecosystems, which give rise to the astonishing biodiversity of the region. A broad division can be made between the Pacific Basin, which is characterised by dry tropical forests, and the Caribbean basin which is mostly rainforest. The higher population density in the Pacific basin has meant considerable environmental

degradation such that remnants of the dry primary tropical forests can only be found in a small number of protected areas.

The combination of high levels of environmental degradation and high population density results in increasing poverty and a poor quality of life for most of the rural population. Other factors such as structural adjustment and globalisation have also been important. The shrinking of the public sector has brought with it a significant reduction in social services such as health, education, child care, etc, leaving the poor with low salaries and fewer services. This situation is exacerbated by the crisis of traditional crops (sugar cane, cotton, etc) which are now imported at lower prices.

Throughout the region there has been a high level of mixing between indigenous people and European colonisers. In Costa Rica, Panama, Belize and the Dominican Republic indigenous people constitute less than 10 per cent of the population. Moreover, most rural communities other than those of indigenous groups, are relatively new having been formed only in the last 50 years. Thus, traditional knowledge of wildlife management, acquired through centuries of co-evolution between human beings and their environment, is present in only a handful of isolated areas.

In all countries wildlife is considered to be public property and its exploitation is therefore regulated only in special cases. But most of the species commonly exploited are listed in one of the CITES appendices, and thus are subject to government regulation.

There are a small number of CWM initiatives located on long-term concessions (mostly in Guatemala and Nicaragua), while in Costa Rica and Panama a number of small landowners are involved in CWM. Most people involved in CWM are landless, occupying government lands under various protected and unprotected regimes. CWM is a popular activity throughout the region but is rarely the main activity of local families, who usually regard it as a means to generate much needed income to supplement subsistence farming.

The most commonly exploited species in the dry areas are Garrobos (*Ctenosaura similis*)[4], Iguanas (*Iguana iguana*) and Sea Turtles. But most of the more valuable species in terms of sources of animal protein for the local communities, have almost disappeared from these areas. In the rainforest areas the range of species is wider, reflecting both a higher level of species richness and a much better level of ecosystem conservation. Animal species exploited in these areas include white-tailed deer (*Odocoileus virginianus*), bush pigs (*Tayassu tajacu*), tepezcuintle or paca (*Agouti paca*)[5], iguana (*Iguana iguana*) and crocodiles (*Caiman crocodilus*). Plant species include several non-timber resources and some valuable timber species (*Swietenia spp, Cedrela spp., Cordia sp*., among others).

Most traditional uses are for subsistence (meat, eggs, leather, fuelwood, construction wood, fibres, and medicinal plants), but the surplus is usually sold in the local markets. There are also traditional uses purely for cash generation, such as crocodile hunting for hides and more recently the gathering of shrimp larvae.

4 An Iguana-like animal common in coastal areas of Central America.

5 A medium-sized rodent common in tropical forests.

Government involvement is generally minimal, if not non-existent, at the field level. In short, it is clear that governments are not the driving forces behind CWM processes in the region. This situation is consistent with the processes of structural adjustment and modernisation that are taking place in the countries within the region. These processes have considerably reduced the structure and efficiency of the public sector, particularly in the environmental sector. At the same time, democratisation and the ending of civil wars in the region and internationally the end of the Cold War, has resulted in an increase in the number of NGOs and civil society organisations. These organisations now promote and participate in almost every aspect of life in the region, including wildlife conservation and CWM. At present NGOs and externally-funded projects are the driving forces behind CWM. Participation, empowerment, and a clear mandate to withdraw once the process reaches a certain degree of consolidation are now their priorities.

CWM does not appear to be posing a significant threat to wildlife species in the Central American region, particularly when compared with other processes such as deforestation (estimated at more than 200,000 hectares per year), widespread use of pesticides for export crops, etc. What is really threatening wild populations of different species is the extraction of wildlife for commercial purposes (for export or internal markets) with no regulation, permits or control.

In recent years two new markets have emerged: pets and tourism. Most of the activities aimed at the pet market are poorly regulated and could not be classified as managed or sustainable. In almost every country of the region, many new initiatives are underway to conserve and improve wildlife populations as a way to attract tourism, focusing on activities such whale watching and bird watching.

Nevertheless, given the characteristics of wildlife in the region, it is hard to imagine a scenario where CWM would play a key role in rural development. In a few cases, such as the community management of turtle eggs in Ostional, it has been a central activity; while in others, such as the captive breeding of black iguanas, it has a significant economic importance at certain times of the year. It is more likely that CWM will continue to play a complementary role in the economy of rural families living in remote areas. However, it is clear that CWM could be a useful mechanism for conserving wildlife in the region, as it provides several incentives for rural Central American communities.

4.7 South America – Conquests and Colonisation

The great latitudinal span of South America, which stretches from 10º north to 55º south, provides one of the most diverse environmental ranges on the planet, offering tropical, subtropical and temperate climates. The wide climatic variability is further enhanced by the great Andes range along the western edge of the continent, which reaches altitudes of more than 6.000 metres above sea level. These factors all result in high environmental heterogeneity, such that almost every natural habitat in the world is found within the region's borders.

Pre-Hispanic indigenous societies achieved high levels of population density. Many of them, in particular the Incas, were notable for their sophisticated knowledge about the natural resources of

the territories under their control which they managed to increase and diversify production. The value of wildlife in the evolution of native cultures on the continent is indisputable as a source of protein, hides, ornaments, medicines, ritual and magical objects amongst others, as well as forming part of the dynamic and complex man-nature relationship.

The Conquest deprived the indigenous people of their land and the right to use resources, while European colonisation brought with it the intensive production of foodstuffs based on introduced plant and animal species, thus transforming the economy, modes of production, power relationships, and the way that the inhabitants of this continent related to their environment. The Spanish and Portuguese envisioned Latin America as an immense deposit of very valuable raw materials, some of them quite exotic and attractive for the European bourgeois, thus generating an extensive export industry of wild products which continued right up to this century.

By the end of the 19th century, an extractive assault began on the most remote parts of the continent in search of wildlife resources, especially rubber. From the 1930s until the late 1970s, tens of millions of skins, live parrots, macaws and songbirds for the pet trade, and primates for the pet and biomedical markets, left South America for Europe, North America and Japan.

Compared to the severe extraction pressure put on the highly priced wildlife species earlier this century, commercial exploitation is no longer the major threat to the continent's fauna. Currently, the serious threat to most species comes from the destruction of their habitat. This is mostly due to an expansion of the agricultural frontier through spontaneous colonisation, or by commercial firms practising extensive monoculture agriculture and livestock raising for export. Petroleum and mining extraction, logging, urban development, large-scale infrastructure projects, planting of illegal crops, and the pollution and desiccation of water bodies and wetlands, are also important causes of habitat loss.

The extensive exploitation of wildlife in past history led many countries of the region to implement conservation policies that discouraged and prevented wildlife use and management. Other conservation policy focused on the creation of national parks, where flora and fauna could be protected. Years later, reality shows that both approaches, prohibition of use through laws, and isolation of nature from human influence in certain zones, have been ineffective in the face of the social forces of poverty, lack of government authority, presence and legitimacy, and many other complex social, economic, cultural and political factors.

Throughout, there has been policy and financial support for developing captive breeding facilities, an activity that is viewed by governments as easier to control and manage than harvesting from the wild. However, this captive breeding approach has serious limitations in offering a viable sustainable alternative for local communities.

There are other cases where government policies have focused on use management strategies where the state promotes and encourages resource use to benefit needy rural communities, such as vicuña breeding in Peru, and fox hunting in Argentina. The Ecuadorian government has opened the door for co-managing parts of protected areas with indigenous communities through the signing of agreements in which rights and duties are explicitly established for the use and protection of the resources of the area.

National policies also favour the non-consumptive use of wildlife by fostering ecotourism. In some cases, the government indirectly promotes nature-oriented tourism by supporting tourism in protected areas or other attractive places as policies in the tourism sector. Increasing numbers of communities are benefiting, but the inequitable distribution of these benefits continues, with most of the money staying with tour operators. The Cofan ecotourism project in Ecuador, however, provides an example of how such initiatives can bring tangible benefits to communities.

The future of CWM in the region with respect to public policy will be heavily influenced by the following issues:

- Most countries of the region are markedly deficient in zoning and setting land-use norms that take into account the ecological characteristics and environmental potential of different areas.

- Although several countries have generated processes of participation and decentralisation of governmental action through major changes in political structures and reinforcement of indigenous and other ethnic minorities movements, obstacles to local's involvement in wildlife resource management and decision-making nevertheless still exist.

- Governments greatly undervalue wildlife. In general, agencies responsible for administering wildlife resources report to other resource management agencies. Because of the lack of any economic rationale behind the wildlife management issues, it is not surprising that other activities such as livestock or forestry are granted a much greater importance.

- There is clearly a lack of capacity to enforce current legislation. This is especially true in those territories located in remote areas, too far from the urban and commercial centres.

4.8 Canada – Comprehensive Claims and Co-Management

Most of Canada's population is concentrated in the southern parts of the country that border the United States of America. To the north of these areas lie the vast, sparsely populated boreal and arctic ecoregions. To varying degrees, large free-roaming wildlife populations have and continue to support northern Aboriginal communities within these regions by providing food as well as economic, social and cultural enhancement. The driving force behind CWM in Canada has been the 'comprehensive claims' process whereby the government has formally acknowledged Aboriginal rights to previously unsettled or unsurrendered land or resources. The history of Aboriginal rights provides the legal and historical context for the present co-management system and sets the stage for understanding key issues, current trends and potential future directions.

European 'discovery' of what is now Canada was formalised through treaties with numerous Indian nations already occupying the land. These treaties served to resolve land ownership, clarified issues related to resource use and shared lands, as well as shaping commercial and military activity between European governments and Aboriginal peoples. One of the most

significant documents in the history of Canadian Aboriginal rights is the Royal Proclamation of 1763 issued by King George III of England which reserved lands as native hunting grounds and specified that public meetings and Aboriginal consent was required for acquisition of land for European settlement. By the mid-1800s however, the spirit and intent of the Royal Proclamation were beginning to fade in the light of the practical needs of colonial growth. The *British North American Act* (BNA) of 1867 gave the Federal Government of Canada responsibility for Aboriginal peoples and the lands reserved for them, while the *Indian Act* of 1876 made Indian people virtual wards of the state and prohibited them from leaving their reservation lands without written permission.

However, nearly 100 years later a number of court cases marked the beginning of a new era of government policy on Aboriginal issues. For example, in 1973 the Federal Government unveiled a land claims policy under which the government was prepared to negotiate compensation for native peoples in return for their traditional interests in the land. This policy referred to the Royal Proclamation of 1763, and recognised the loss of the traditional Aboriginal way of life, including traditional land use and occupancy. Since then the Government of Canada has concluded numerous comprehensive land claims which have legislated Aboriginal access to lands and resources and to broader decision-making processes. Comprehensive claims have resulted in the establishment of wildlife co-management regimes which include legislated access to wildlife resources and shared decision making.

The impetus for co-management of wildlife in Canada also developed outside of the comprehensive claims process. Many single species co-management initiatives emerged in response to real or perceived wildlife management crises, especially when conventional government approaches were shown to be inadequate in dealing with declining wildlife populations. One of the earliest and most successful examples of this is the Beverly-Qamanirjuaq Caribou Management Board, established in 1982 in response to a widely perceived crisis in management of the barren ground caribou. In this case, information obtained from native user knowledge, combined with refined scientific survey techniques, was inconsistent with the dominant, and later determined to be incorrect, scientific perceptions of a dramatic decrease in herd sizes.

Many of the small, remote Canadian Aboriginal communities now have mixed economies based on a combination of subsistence activities, wage employment, private enterprise and government transfer payments. Subsistence hunting remains a vital part of the northern mixed economy and the land-based economy has not been replaced by a modern wage economy. Increasingly, subsistence hunters that were technically defined as 'unemployed' are now recognised as being important for the economy of small northern Canadian communities. In view of the continued importance of the traditional economy, many indigenous groups have asked for a more active role in resource management. Conflicts however, remain between community-based resource management and government management. These conflicts are to some extent cultural and philosophical in nature but they also relate to land and resource claims and involve the economics of resource ownership. Control over these resources has become a symbol of self-government for many Aboriginal groups, as well as a strategy for social and cultural revitalisation.

Commercial harvesting of wildlife, typically reindeer/caribou (*Rangifer tarandus*) and musk oxen (*Ovibos moschatus*), has become increasingly important to the mixed economies of northern

Canada over the last two decades. Collaborative efforts between the private sector, Aboriginal organisations and local communities strive for commercial hunting goals which include economic self-reliance; increased employment opportunities that incorporate traditional ways of living; enhanced local use and investment of profits; and the sustainable development and use of the wildlife resources. Over the last two decades also, Canada has seen a growth in game ranching, including Aboriginal game ranching which has increased due to an overall revival in traditional values among Canada's Aboriginal people. With the exception of reindeer, Aboriginal communities tend to ranch native species, especially wapiti (elk) and bison. Operations are typically low-input and extensive with a minimum of interference with the animals.

Aboriginal communities are also becoming increasingly involved wildlife based tourism. Although non consumptive wildlife tourism is a fairly recent development in the region, sport hunting has a longer tradition and is the most lucrative in terms of annual revenue. Because non-resident big game hunters are required to hire a licensed outfitter, Aboriginal people are well positioned to benefit from these opportunities. In fact, local Hunter and Trapper Associations/Committees (HTAs or HTCs) are the only organisations that can act as outfitters and provide guides for game such as musk oxen, grizzly bear and polar bear.

Wildlife co-management is assured in Canada's northern Territories where it is the dominant paradigm established through the comprehensive claims process. Increasingly, Aboriginal people are recognising the potential for career opportunities in this field while more government jurisdictions are examining policies relating to co-management. This is in contrast to the southern Provinces where co-management faces many hurdles within a complex political landscape. Although co-management is not a panacea, it is clear that some form of co-management will be essential to ensure the sustainability of wildlife populations and their habitats in northern Canada.

4.9 Australia – Caring for Country

In Australia, wildlife is the property of the Crown and wildlife management is dominated by top-down regulatory mechanisms. These mechanisms are highly protectionist with most species protected by statute. Traditional wildlife and habitat management practices were banned soon after colonisation in the 18th and 19th centuries because of their conflict with imported European farming practices.

Australia's wildlife has been massively impacted during the past two centuries of European invasion and settlement of the continent and its adjacent islands. This has had, and continues to have, huge impacts on indigenous people's use and management of wildlife.

Customary indigenous wildlife management regimes incorporate practices to regulate wildlife use and promote and monitor abundance. These regimes are remarkably resilient and often continue to provide a foundation for contemporary indigenous peoples to manage their uses of wildlife. The ways in which these regimes exert influence may not be apparent to 'outsiders'. However demographic changes and disruptions to indigenous peoples' connections to their traditional country have eroded customary authority structures in many places. In addition, the

extent of ecological degradation and non-indigenous exploitation of natural resources is such that indigenous peoples cannot rely solely on customary regimes to ensure sustainable management of wildlife and other natural resources in contemporary contexts, even where these regimes may be effective in managing indigenous wildlife use. Scientists and indigenous groups are working together in some instances to understand and address causes of wildlife decline. However their understandings of causal factors are commonly very different

The indigenous population of Australia consists of a diversity of Aboriginal and Torres Strait Islander peoples who now comprise about 2 per cent of the total population. Their tenure is recognised by governments over about 14 per cent of the Australian land area. Although indigenous people in Australia are integrated into cash economies through the social security system, employment, particularly within communities and government, and enterprise activities, they continue to carry out traditional hunting and gathering, harvesting many native wildlife species and also several feral species for subsistence. This harvest is carried out for cultural, social and economic reasons. Maintaining wildlife and habitat for subsistence harvest is a key motivation behind many indigenous CWM initiatives.

Indigenous people's access to wildlife varies greatly across Australia, related to the extent to which modern land uses have dispossessed people from their traditional country and impacted on wildlife resources. Indigenous access to wildlife for subsistence harvest is greatest in both legal and practical terms in the tropical savannahs and marine areas of northern Australia. Comparatively large areas of land in these regions have been returned to indigenous ownership under land rights legislation. Further, these resource rich areas are comparatively little disturbed compared to arid and semi arid rangelands and the south east of Australia. These factors account for the high contribution to indigenous economy and nutrition from use of bush foods (plants and animals) recorded from some northern Australian indigenous groups. In coastal northern areas, marine subsistence production, including harvest of turtles and dugong, as well as fish, is also commonly high. Though there are some exceptions, harvest levels are generally lower in more arid and more closely settled regions.

Subsistence use is ostensibly regulated by governments under legislation that varies considerably between different States/Territories. However, governments typically have little information on the extent or nature of indigenous subsistence harvests and government regulation is typically quite ineffective in managing them. Very little research has been undertaken on the rate of indigenous subsistence harvesting and its implications for sustainability. In practice this means that in most cases the only management of indigenous wildlife use is that effected by indigenous people themselves. The most active research concerns harvest of marine turtles and dugong in Torres Strait, the Great Barrier Reef region of northern Queensland, and north-east Northern Territory.

Current CWM initiatives by indigenous groups include the maintenance of customary subsistence harvesting and traditional resource management activities, repair of degraded environments, endangered species recovery, commercial wildlife harvesting, regional strategic planning for indigenous control over natural resource use and management and natural resource based tourism activities. Indigenous landholders are also active in other land-based enterprises, notably cattle and sheep pastoralism, and there is considerable mining activity on indigenous owned land.

Australian CWM initiatives include:

- **Indigenous CWM initiatives**: These are projects/activities initiated and managed by indigenous communities or regional indigenous organisations including integrated planning and management of natural resources on lands and adjacent marine areas under indigenous and leasehold ownership; research into species management, community rangers, community involvement in wildlife or cultural tourism, trophy hunting, feral animal control, and game ranching. While initiated and controlled by indigenous groups, these projects typically also employ non-indigenous project staff, and all incorporate scientific information and management tools in conjunction with traditional knowledge and authority structures.
- **Co-management projects**: Co-management projects are based on an ostensibly equitable partnership between government and Aboriginal groups. The two co-management projects examined as case studies (Uluru and Kakadu) are both national parks where co-management is effected through a partnership between the Commonwealth government and Aboriginal traditional land owners. Co-management arrangements are concluded or in negotiation for about 30 protected areas in Australia but progress in negotiations is very slow in most cases, typically due to funding constraints and lack of political will on the part of State governments. While Australia is a world leader in co-management of protected areas, there are no Australian examples of co-management regimes for wildlife species, unlike the situation in other countries such as Canada. For indigenous groups, co-management of protected areas is a compromise in lieu of unencumbered ownership of land. Important goals for co-managed national parks include social justice, equity and indigenous political empowerment as well as biodiversity conservation and provision of recreation/tourism opportunities. Although wildlife management is an important consideration in co-managed parks, most management effort is directed at tourist use.
- **Participatory projects**: Indigenous people are involved with governments in a wide variety of wildlife and natural resource management projects that were initiated by governments or research scientists. The extent and nature of indigenous participation in these projects varies from 'functional participation' (participation in aspects of project implementation but not in project design) and 'participation for material incentives' (typically employment), to the evolution of truly collaborative partnership approaches. Indigenous interest in these projects is often due to the cultural value of the wildlife and associated resources.
- '**Top-down' projects**: Management of commercial native wildlife harvests presents a classic case of 'top down' management of indigenous wildlife use because even though indigenous people are significant players in some commercial harvests, they have no role in the way the harvest is regulated and otherwise managed by governments. Legal restrictions on commercial harvest are designed to ensure ecological sustainability, hygienic harvesting and marketing, and animal welfare. No account is taken of distinctive indigenous rights and interests in the species harvested. Nevertheless where indigenous groups are engaged in commercial wildlife harvesting, notably in the case of crocodiles and muttonbirds, the harvesting enterprises themselves are community managed and controlled. Relatively few Australian native terrestrial vertebrates are sufficiently abundant to withstand large scale harvest. Exceptions are some of the larger kangaroos, whose populations have benefited from land use changes since colonisation. However, the commercial kangaroo harvest, currently the largest scale commercial use of Australian native wildlife, has negligible indigenous involvement.

- **Government programmes facilitating indigenous CWM**: Over the past decade three Commonwealth government programmes have been specifically directed at facilitating aspects of indigenous CWM. Two past programmes were designed to meet government objectives for improved indigenous employment outcomes and establishment of indigenous owned business enterprises, goals which also have strong indigenous community support. The third, Indigenous Protected Areas, which is still current, is designed to meet government objectives to establish a comprehensive, adequate and representative national protected area system and also to address some other aspects of the National Strategy for the Conservation of Biological Diversity related to the involvement of indigenous peoples in conservation management. All three programmes were developed and implemented with considerable indigenous involvement and have supported the evolution of indigenous CWM and co-management of protected areas.

Compared to many other countries, Australia is in a strong position to support the development of effective community-based wildlife management because of factors such as political stability, strong national economy and scientific expertise. These factors have enabled the increasing prominence of CWM approaches amongst the non-indigenous population through the national 'landcare' movement which attracts government support including technical advice, the provision of facilitators and grant funding for the direct costs of projects by community groups. However there are few mechanisms which effectively recognise the distinctive ecological, cultural and economic characteristics of indigenous people's natural resource management aspirations and strategies. As a result of this, and of historic processes of colonisation and marginalisation, which are responsible for the current low socio-economic status of indigenous people, they have difficulty in accessing equitable support for natural resource management from 'mainstream' sources. At the same time they also bring considerable strengths into CWM through their strong links to country and their distinctive ecological understandings and world views.

5: What has CWM Achieved for People and for Wildlife? Economic Impacts

Economic impacts of CWM can be considered at a number of levels, local, national, and international. Here the emphasis is primarily on the local level and the impact on people's livelihoods. Factors at national and international levels, such as market structures and regulatory frameworks can, however, also influence the magnitude of costs and benefits that accrue to different groups. The key issue is whether CWM provides clearly perceived financial and economic benefits to local people that are sufficient to compensate them for any costs incurred. Such benefits must also be sustained into the future. Only if this is the case is there any possibility that they will provide some incentive for wildlife conservation. It is also important to consider how benefits and costs are distributed within the community and between the community and other stakeholders. If certain key groups who are making sacrifices or carrying costs are excluded from receiving benefits then this will work against the success of CWM.

However, some of the benefits from CWM may be enjoyed by groups outside of the community who are directly participating in the initiative. Biodiversity benefits can be considered global in scope, watershed protection may benefit groups downstream at some distance from the community and neighbouring communities may be positively affected by wildlife management. Similarly, costs of CWM may not all be borne by the community. While it is outside the scope of the *Evaluating Eden* project to analyse and estimate all the various kinds of benefits and costs beyond the local level, it is important to establish who is deriving benefit or bearing costs outside the community, as this has implications for the financial sustainability of CWM and the potential for success.

This chapter concentrates on benefits and costs that are financial in nature, have indirect financial implications such as employment or that can be converted fairly readily into monetary terms such as subsistence products. This necessarily excludes a number of important social impacts, such as changing attitudes to wildlife and conservation, which are not easily translated into monetary terms. However, these are the subjects of Chapters 6 and 7.

Drawing primarily from the case studies of CWM carried out in Phase 2 of the project, this chapter addresses the following key issues:

- What are the various types of financial and economic costs and benefits associated with CWM at the local level?
- Do benefits exceed costs?
- Can net benefits be sustained?
- How are costs and benefits shared within the community or at the local level?

5.1 Financial and economic benefits of CWM

A wide range of benefits associated with CWM can be identified, depending on the type of initiative concerned. These range from direct financial revenues from sale of products and leasing of hunting rights to subsistence products and more indirect forms of benefit stemming from improvement in ecosystem services. The various types of benefit that are most relevant at the local level are shown below, together with examples of case studies where they have been identified.

Table 5.1 Benefits of CWM at the Community Level

Type of Benefit	**Case Study Examples**
Direct financial	
Sale/lease of rights Hunting quotas, tourism concessions, land leases	*Southern Africa*: CAMPFIRE, Makuleke, Madikwe, Richtersveld National Park, Conservancies, Sankuyo *East Africa*: Serengeti *Southern Africa*: Sankuyo, Conservancies, CAMPFIRE *South Asia*: Hushey
Sale of wildlife-related services, eg. tourism, independently or through joint ventures	*West Africa*: Niger *Southern Africa*: Sankuyo, Conservancies *South Asia*: Kokkare Bellur; Annapurna *South America*: Cofan
Sale of wildlife products, eg. meat, skins, eggs, fibre, ivory, live animals, fish, medicinal and other plants, guano	*Central Africa*: Garamba *Southern Africa*: CAMPFIRE, Conservancies, Sankuyo *South Asia*: Rekawa, Mendha (Lekha), Jardhargaon, Kokkare Bellur *Central America*: Ostional, Iguanas *South America*: Vicuñas, Mamiraua,
Revenues passed on to communities: • Government support to community projects • Bed night levies from neighbouring tourism operators • Multi-stakeholder support to village conservation funds	*East Africa*: Lake Mburo, Serengeti *Southern Africa*: Conservancies *South Asia*: Hushey, Rekawa, Annapurna, Mendha (Lekha)
Benefits in Kind	
Wildlife products for subsistence use	*Southern Africa*: Dwesa, Conservancies, Mkambathi *East Africa*: Lake Mburo, Mt. Kenya *Central Africa*: Kilum-Ijim *South Asia*: Bhaonta-Kolyala, Jardhargaon, Mendha (Lekha), Annapurna, Hushey, Kokkare Bellur *Central America*: Ostional *South America*: Mamiraua, Cofan
Indirect Financial	
Employment	*Southern Africa*: Madikwe, Conservancies, Sankuyo

	West Africa: Niger *South Asia:* Kokkare Bellur, Jardhargaon, Hushey, Mendha (Lekha), Annapurna
Capacity building and training Greater potential for future income generation	*Southern Africa*: Makuleke, Madikwe, Sankuyo *South Asia*: Annapurna, Kokkare Bellur, Hushey, Mendha (Lekha) *Central America*: Iguanas, Jardhargaon, Kokkare Bellur
Spin-off activities Sale of goods e.g. food and services for private tourism operators	*Southern Africa*: Conservancies *West Africa*: Niger *East Africa*: Serengeti *South Asia*: Annapurna *South America*: Cofan
Increased agricultural productivity as a result of water harvesting and forest protection	*South Asia*: Bhaonta-Kolyala, Jardhargaon
Livelihood Diversification	
Reduced risk profile Seasonal income smoothing	*Southern Africa*: Mkambathi, Dwesa, Conservancies *South Asia*: Rekawa *Central America*: Iguanas
Increased Developmental Inputs	*West Africa*: Niger Biosphere Reserve *Southern Africa*: Dwesa, Makuleke, Sankuyo, CAMPFIRE *South Asia*: Annapurna, Rekawa, Mendha (Lekha), Bhaonta-Kolyala *SE Asia*: Ratanakiri

5.1.1Direct Financial Benefits

5.1.1.1Sale or Leasing of Hunting Rights

Significant revenues in absolute terms can result from sale or leasing of hunting concessions. This is typically associated with initiatives in Southern Africa, such as:

- CAMPFIRE in Zimbabwe, where roughly 90 per cent of the US$9.4m revenue since 1989 has been derived from the lease of sport hunting quotas.
- The Nyae Nyae Community in Namibia which concluded a trophy hunting agreement worth US$30,000 over two years (Hasler, 1999;Jones, 1999).
- Substantial revenues also occurred from Ibex trophy hunting in Hushey Valley, Pakistan (Raja 1999).

However, it is necessary to consider these in terms of the number of beneficiaries. When viewed on this basis, the benefits may in many instances not be so significant. This varies greatly across case studies, and depends on the unit value of the resource and the number of households laying claim to the endowments. For example, the average maximum possible household benefit (including shared benefits) from CAMPFIRE across Zimbabwe in 1996 was Z$100 per annum, or less than US$ 5.00. The value of benefits needs to however be compared against people's options and other local income opportunities. For example, in 1989 a household dividend of

Z$200 was paid from CAMPFIRE revenue to each household in the Masoka District. This sounds like a pittance until one realises that it represents a 56 per cent increase on household income from the other form of land use at Masoka, cotton (Murphree 1999).

5.1.1.2 Sale of Tourism Services

The provision of tourism services by communities, either independently or through partnerships with private companies, has been developing rapidly in most regions. It is capable of generating considerable income for communities but much depends on the nature of their involvement. Some positive examples exist, such as the Torra conservancy in Namibia which received over US$35,000 between 1996 and 98 through a joint venture with a photographic safari company involving development of an upmarket tourist lodge (Jones 1999). At Annapurna Conservation Area, Nepal, some villages are now handling the entire tourism influx, receiving substantial benefits from revenues (Wells 1994; see also South Asia report.) The Cofan ecotourism project in Ecuador, which involves a joint venture with a national tour operator, Transturi, generates US$15,000 in profit for the 10 community members involved, as well as employment for a large number of the community, and is considered successful by the community (Ortiz, 1999). In contrast many of the ecotourism projects in South America are considered to have generated benefits primarily for the tour operators (Ortiz et al 1997). It should also be borne in mind that tourism-led development projects have long life cycles and rarely provide short-term benefits. Magome et al. (1999) predicted a two per cent per annum return on investment at Madikwe, which means that the project will take 30 years to produce meaningful benefits to communities.

5.1.1.3 Sale of wildlife products

Revenues received by communities from harvesting and sale of wildlife products can be positively affected by CWM initiatives in a number of ways:

- Allowing communities access, or facilitating their access, to marketable wildlife resources.
- Increasing yields or productivity through resource management planning and introduction of rules on harvesting.[1]
- Increasing the prices obtained for wildlife resources through more direct marketing, and processing of raw materials (eg. medicinal plants).
- Reducing vulnerability of communities to exploitation by intermediaries by virtue of their legal status or more formal status as suppliers.
- Reducing competition from outside interests for the resource.
- Preventing environmentally degrading activities which might threaten wildlife resources.

Most CWM initiatives will involve at least one, if not all, of these routes to increasing the value of wildlife-based output for communities. Rekawa Lagoon in Sri Lanka provides a good example of the various ways in which CWM can protect wildlife revenues and increase them (Box 5.1).

1 In some cases resource management may have the opposite effect in the short term as it will aim to reduce overharvesting in order to ensure availability in the future.

Box 5.1 Multiple benefits of CWM

In the Rekawa Lagoon, Sri Lanka, a fishermen's cooperative society was formed in response to a threat of intensive aquaculture farms being established. The society campaigned against these as well as other environmentally degrading activities already in place or under consideration. A prawn restocking exercise enhanced the resource and resulted in a higher total catch. The society established rules for when prawns could be caught to ensure that harvest took place only when they had reached a more commercial size. In this way everyone could potentially benefit as the overall value of the catch was increased. The RLFCS also took measures to improve marketing by buying a freezer for local storage of the catch and selling directly to consumers and hotels at higher prices than before. Community conservation of mangroves and the lagoon ensured that habitat health was maintained. (Ekaratne et al 1999)

Revenues from sale of wildlife products can be significant but there is great variation between initiatives and over time. The highest prices are generally associated with products that are traded on international markets, such as ivory, vicuña fibre and live iguanas. Thus the sale of ivory and hide for CAMPFIRE brought US$148,000 between 1989 and 1996 (Hasler, 1999). In Peru, revenues from the sale of vicuña fibre during 1994-1998 exceeded US$3m (Lichtenstein et al 1999). However, marketing primarily for export increases the risks as new suppliers from other countries can come on to the market exerting downward pressure on prices, communities often find themselves dealing with large multinational companies and demand follows business cycles in other parts of the world. There are also greater risks that other players in the marketing chain will take the major share of the benefits, depending on the structure of the market and the bargaining strength of the community.

*" Another profitable project is a cochineal (*Dactylopus coccus*, Homoptera) -breeding initiative in Botswana, where small communities breed the insect on prickly pear for use by commercial food companies as a food dye (it produces a bright red fluid when crushed). Two hundred and thirty San families earn $600 a month from this - the highest unit benefits from community wildlife management recorded in the survey (Jones 1999). In the same activity (cochineal breeding) in Peru, peasants receive only a small proportion of the total benefit of US$ 2.6 million per annum, because of the strong role of the commercial sector and government (Ortiz von Halle & Mazzucchelli 1998)."* (Fabricius 1999).

Initiatives that rely on the sale of wildlife products are also prone to factors outside the control of local communities. Changes in international legislation, for example, have deprived communities in Zimbabwe of an important source of income when trade in ivory became illegal because of the Convention on Trade in Endangered Species (CITES). Initiatives which rely on export permits to be viable are vulnerable to the whims of government officials who issue such permits.

Nevertheless, sale on the local or national market can bring significant revenues in some cases. The clearest example is given by the case of Ostional in Costa Rica where the sale of turtle eggs to the national market generates revenues of roughly US$400,000 and provides the main source of income for the majority of community members (Chaves 1999). In this case the community benefits from being the only legal supplier on the market.

Reducing competition from non-local users may be one of the biggest impacts. This is particularly important for community fishing initiatives where competition from outside commercial interests can seriously affect the availability of the fish resource for the local population. By formulating rules on what can be harvested when and where and enforcing them through local patrols, communities can attempt to keep a larger share of the resource for themselves. This has been the approach of the Mamiraua project in Brazil where the reduced influx of commercial fishing companies into the reserve is seen as an important benefit (Lichtenstein et al 1999b).

5.1.1.4 Revenue-sharing with Communities

Revenue-sharing arrangements are characteristic of protected area outreach and collaborative management initiatives. These do not involve a transfer of rights and responsibilities over wildlife, but rather aim to involve communities and enable them to derive some benefit from the management of wildlife. To achieve this objective both the private sector and state institutions may pass on a proportion of revenues to communities in the vicinity of national parks or safari areas.

Substantial amounts are often paid to communities by neighbouring wildlife-based enterprises as part of benefit-sharing arrangements based on goodwill. For example, the Etendeka Mountain Lodge in the Kunene region of Namibia collected a levy of US$1.25 per night to distribute to the communities that bordered with the lodge concession land (Jones, 1999). In the Serengeti a voluntary levy of 10 per cent of trophy hunting fees has been introduced with proceeds going to the Village Natural Resource fund for community development projects (Emerton and Mfunda, 1999). In Nepal, a new policy has been instituted to share between 30 and 50 per cent of tourism revenues from national parks such as Royal Chitwan, which generate substantial annual income from gate fees and resort leases (Sharma 1998).

Governments sometimes pass on a proportion of the wildlife revenues they receive to support community projects, but the amounts involved are often small. In the Serengeti the Tanzanian National Parks Authority and Wildlife department receives US$1.4m from park entry fees, hunting charges and lodge and camp concessions but passes on only US$19,000 directly to communities to support community projects and sale of bushmeat. However, wildlife revenues provide the major source of revenue for the Bunda and Serengeti district councils and so communities may benefit indirectly, but the amounts involved (US$50,000) are still small in comparison to the revenues (Emerton and Mfunda, 1999).

When ecosystem management is considered, revenue sharing can be substantial. For instance, Joint Forest Management or Community Forestry programmes in India and Nepal generate quite a lot of income for the Forest Department, a proportion of which is shared with local communities that have helped to regenerate degraded forest lands (Saigal 1999).

5.1.2 Indirect Financial Benefits

5.1.2.1 Employment

Labour requirements generated by wildlife management can be considered in a number of ways. If they are paid for by external agencies and/or give a higher return than other more traditional activities, ie. their opportunity cost is low, then they can be considered a benefit. If CWM conflicts with other activities and thus has a high opportunity cost, or involves payment for specific types of expertise not to be found within the community, then labour inputs needs to be considered as a cost.

The provision of employment opportunities varies considerably between initiatives but in most cases only a small proportion of the community obtains paid employment from CWM. In Sankuyo in Botswana only 16 per cent of the community are employed under a joint venture agreement on tourism, although it should be noted that this represents close to 70 per cent of that section of the community that are formally employed. (Boggs, 1999). In Madikwe in South

Africa more jobs have been created with wildlife tourism than would have been the case if another land use had been adopted, but compared to the total number of households and the amount of employment originally envisaged and discussed with the community this is not very significant (Magome et al 1999). The exceptions are where the initiative has been designed with the explicit aim of maximising employment, as was the case with the Cofan ecotourism project in Ecuador. Although only 10 members of the community have set up a tourism enterprise, a high proportion of the other members find employment in the enterprise as guides, producing food and cleaning (Ortiz, 1999). At Annapurna, Nepal, significant employment opportunities have arisen with ecotourism (Wells 1994; Krishna et al 1999).

The Southern Africa reports notes that *"The wage mechanism can often be the most effective form of delivering benefit into rural households from conservation areas. Lodges and game reserves are important employers of labour in rural areas. Typically a game lodge in South Africa will pay between 4 per cent and 10 per cent of its turnover to a land-owner (in some cases communities) in the form of lease fees; the wage bill is often closer to 30 per cent of turnover. Whereas the lease fee from lodges goes into new community organisations where it can and is often intercepted and diverted from the intended beneficiaries, wages go directly into the household and, with affirmative gender and poverty alleviation criteria, can go to the most marginal groups in communities. CWM should not ignore the need to organise for best wage conditions through organised labour and to train people to command the best and highest paid jobs in these lodges."*

Another aspect to consider is the *type* of employment that CWM offers and the opportunities provided for *training* and *skills transfer*. This is important in the context of joint ventures where such skills transfer will mean less leakage of income to outside managers etc. as community members are trained to take over these functions. Thus more money will stay within the community. This is the approach of the Torra conservancy joint venture agreement in Namibia where community members are being trained in management activities and will eventually take over ownership of the tourism lodge (Jones 1999). However, such training may also heighten incentives for community members to leave, as illustrated by the case of Sankuyo in Botswana, where only one of the 14 people trained by the community's Joint Venture Partner (JVP) is still working for the conservancy committee and only three are still living in the village (Boggs, 1999). The JVP argues that the training of rural people contributes to the country's development and he is not concerned about the high turnover, regarding it as part of the package of benefits he provides as his part of the partnership.

5.1.2.2 Spin-off activities

Often the spin-off activities from a wildlife-based enterprise can be as important as the main enterprise in terms of income generation for different groups within the community. In the Cofan ecotourism project in Ecuador the revenues from sale of artefacts exceeds the amounts paid to those employed in the main tourism enterprise (Ortiz et al 1999). In the Caprivi region in Namibia it was estimated that women earned as much as US$10,000 in 1994 from the sale of thatching grass, primarily to tourism lodges (Jones 1999). In Mendha (Lekha), the CWM initiative has resulted in enhanced livelihood options from work related to forest produce, water harvesting, and so on (Pathak and Gour-Broome 1999).

5.1.2.3 Indirect effect on productivity

Community initiatives to conserve resources and protect certain areas such as forests can often have a wider impact on ecosystem productivity. Wildlife management may be one aspect of the initiative but is not necessarily the overriding objective. This is the case for Bhaonta-Kolyala, Rajasthan and Jardhargaon, Garhwal in India where community management of forest resources is considered to have led to improvements in the hydrological regime and in the availability of fodder and fuelwood as well as increasing agricultural productivity (Shresth 1999; Suryanarayanan and Malhotra 1999). Perhaps due to the complex nature of the linkages between the state of the forest and water and resource availability, the actual financial effect has not been quantified.

5.1.3 Benefits in Kind - Subsistence Products

A wide range of products is associated with wildlife, as well as with their habitats, but are rarely fully identified or their financial importance to communities estimated with any precision. In the CWM initiatives in Africa there are subsistence and commercial products directly associated with wildlife, such as meat and skins and a range of products associated with the habitat areas of wildlife such as thatch, honey, fuelwood, building materials and medicines. In the case of Mount Kenya, it has been estimated that the livelihood support provided by the various forest products and services equates to US$300 per household (Emerton, 1999a). In Canada, subsistence harvest can account for as much as $17,000 per household per year, easily exceeding income from any other single source for indigenous groups.

However, not all CWM initiatives generate a significant amount of subsistence products. The vicuna projects in Peru for example, offer little scope for subsistence products as fibre production is based on live shearing and an excess of animals in any one area is being dealt with by transfer to other locations rather than culling. Only when there are accidental deaths will the meat be used. The fibre itself is considered too high value to be used for subsistence purposes. In South Asia, forest regeneration and protection initiatives have substantially increased the availability of subsistence products, though there are very few studies quantifying these in monetary terms.

5.1.4 Livelihood Diversification

In many cases the actual amounts received by households in terms of revenue, wages or subsistence products may not be large. In the CAMPFIRE programme, the average ward resident dividend was US$ 19.40 in 1989 but dropped to US$5.97 in 1991 and to US$4.49 in 1996 (Hasler, 1999). However, as part of a set of livelihood options CWM can play an important role in two ways. Firstly, it may help to maintain the stream of household income in the course of the year. A good example is provided by the Iguana projects in Nicaragua. While they were never significant sources of revenue even when the price was high, the period in which the animals were sold coincided with the time that the participants were preparing the ground for the next cropping cycle. The sale of the Iguanas thus provided some financial capital to invest in the next agricultural cycle and to buy food while people were waiting for the next harvest. Secondly, the risks associated with a wildlife initiative may be different from those of other livelihood options. Different demand cycles will be involved, while wildlife is likely to be

prone to different diseases and pests than traditional crops and livestock. This has the effect of reducing the total risk of the whole array of livelihood options of the community in question. But wildlife may also itself constitute a risk to some of the other livelihood activities of a community, as discussed below under costs. Thirdly, these small benefits at crucial times are of greatest value to the very poorest sector of the community. For example, the total annual replacement value of thatch and building materials removed from Cwebe forest in the Eastern Cape, South Africa is R 60 000 (US$ 10 000) annually (Timmermans 1999) which, if shared between 485 households in the area, amounts to an annual saving of R 125 (US$ 20) each. But this small amount can make a significant difference to people struggling to make a living, and moreover, it is mainly the poorest families who rely on these resources.

5.1.5 Increased Developmental Inputs

The establishment of a CWM initiative may trigger inputs from government, donor or NGO agencies, or improve the coordination between them, making the assistance more cost-effective. This may be a direct aim of the initiative as in Integrated Conservation and Development Projects (ICDPs). Thus, the Biosphere Reserve Project in Niger aims to promote conservation of the local giraffe population by assisting farmers to increase productivity and so reduce the need to clear further land (Sani and Barning 1999). Alternatively, developmental inputs from external agencies may be catalysed by the formation or strengthening of a local institution which can pressure more effectively for services and infrastructure or provide the necessary organisational basis for implementation. This is the case of Rekawa Lagoon in Sri Lanka, where the formation of a fishing cooperative provided the platform for the Rekawa Development Foundation (Ekaratne et al 1999; Box 5.1)

5.1.6 Benefits Today vs Benefits Tomorrow

It is generally believed that communities have high discount rates and will tend to prefer options with immediate returns than future returns, even if the latter might be considerably higher. However, traditional and recent resource use regulations self-imposed by communities indicate that this may not always be true. Where it is, it often reflects insecurity over land and resource tenure, rendering investment in infrastructure and equipment somewhat risky; or reflects livelihood uncertainties. CWM initiatives exhibit some diversity in this regard, with the differences perhaps reflecting the degree of community dependence on wildlife and the extent of tenure security. In Madikwe, South Africa, the communities neighbouring a game reserve were keen to cash in a £600,000 donor contribution rather than see it used for its intended purpose of training in entrepreneurial skills. This was partly because of the slower than expected development of the tourism business. Communities did not see many prospects for future employment. This was exacerbated by tenure insecurities stemming from a looming land claim by other communities further afield (Magome et al 1999). In Botswana, two communities have shown very different attitudes to the rate of flow of benefits. Sankuyo has gone into a joint venture arrangement with a private company and is receiving immediate benefits in the form of employment, lease payments and a community development fund. Another community, Khwai, is suspicious of joint venture arrangements and believes that it can earn more in the future by developing its own enterprise even if this is likely to take some time

(Boggs, 1999). There are some concerns over the fast rate of benefit flows at Sankuyo and weak sense of ownership by the local community as a result of the fast rate of development. The villagers of Khwai, on the other hand, have thus far lost more than a million US$ in opportunities (based on the revenue earned at Sankuyo) by taking the advice of an outsider and choosing what theoretically should be the more sustainable route. Only time will tell if this is indeed the case.

5.2 Costs of CWM

Looking at gross benefits can be misleading as they may be totally offset by the costs borne by communities in managing wildlife. Increases in revenue from CWM, for example from sale of wildlife products, rarely come without costs. It can require labour inputs to guard the resource, investment in equipment and buying in of technical expertise. It is therefore necessary to examine the range of costs involved in CWM and consider the overall cost-benefit balance.

Costs are particularly influenced by the type of CWM arrangement involved. Direct costs, such as purchase of materials and equipment are more likely to be incurred by communities that have full rights and responsibilities over wildlife, ie. CWM in the narrow sense. In contrast, initiatives focused on protected area outreach may involve few direct costs for communities but indirect costs may be important.

The various types of cost that can be incurred by communities under different types of CWM arrangement are shown below together with examples of case studies where they have been documented.

Table 5.2 Financial and Economic Costs of CWM

Type of Cost	**Case Study Examples**
Materials and Equipment	
Materials Fodder, parasite treatment, packaging, diesel, stones and construction material	*South Asia*: Rekawa, Bhaonta-Kolyala, Mendha (Lekha) *Central America*: Iguanas, Ostional *South America*: Vicuñas, Cofan
Equipment and machinery	*South Asia*: Rekawa, Kokkare Bellur *Central America*: Iguanas *South America*: Vicuñas, Cofan
Transport and marketing, licensing	*South Asia*: Rekawa *Central America*: Iguanas, Ostional *South America*: Mamiraua, Vicuñas
Labour	
Direct (where payment made)	*Central America*: Ostional *South America*: Vicuñas *South Asia*: Bhaonta-Kolyala, Jardhargaon, Hushey *Southern Africa*: CAMPFIRE
Opportunity cost of labour (where not paid)	*Central America*: Iguanas, *South America*: Mamiraua, Vicuñas *South Asia*: Bhaonta-Kolyala, Mendha (Lekha),

	Jardhargaon, Kokkare Bellur *Southern Africa*: Dwesa, CAMPFIRE, Madikwe, Makuleke, conservancies
Indirect or Opportunity Costs	
Opportunity cost of land	*Southern Africa*: Madikwe, Makuleke, Dwesa, Conservancies *Central Africa*: Kilum-Ijim *East Africa*: Lake Mburo, Mt Kenya, Serengeti *South America*: Vicuñas
Reduced access to wildlife products	*West Africa*: Gashaka Gumti *East Africa*: Lake Mburo *Southern Africa*: Dwesa, Sankuyo, CAMPFIRE *South America*: Cofan, Mamiraua *South Asia*: Jardhargaon, Bhaonta-Kolyala
Crop and livestock damage	*East Africa*: Serengeti, Lake Mburo, Mt. Kenya *Southern Africa*: Dwesa, CAMPFIRE *South Asia*: Jardhargaon, Bhaonta-Kolyala
Transaction Costs Land disputes Time in negotiation and community planning	*South Africa*: Makuleke, Dwesa, Mkambati Conservancies *South America*: Vicuñas,

5.2.1 Direct Costs

5.2.1.1 Materials and equipment

Requirements for materials and equipment are likely to be significant for CWM initiatives involving marketing of a wildlife-based product, or where the community has direct control over a tourism enterprise. Sale of access rights to a resource such as hunting quotas or tourism concessions has the advantage of not involving such costs for the community as the costs of the materials and constructions required will be borne by other players eg. the private tourism operator.

In Peru, live shearing of vicuñas is highly labour intensive but there can be significant fixed costs involved. Much depends though on the approach taken to management of the resource. The government is promoting a semi-captive form of management which involves confining vicunas in 1000 hectare enclosures. The costs of the materials for the enclosures exceed US$20,000, constituting a daunting investment for the communities concerned. Even with the most favourable assumptions about the carrying capacity of the land enclosed and the growth in the vicuna population it would take a community many years to recover this investment.

Covering the costs of materials can also prove to be a key stumbling block for CWM. Donor finance may often cover the costs of the initial equipment or machinery needed but if the community cannot afford to buy the necessary materials each year, the initiative will soon founder. In Nicaragua, the sale of iguanas as pets requires investment in equipment as well as regular purchase of food, vitamins and parasite treatment for the iguanas. The latter can account for more than 20 per cent of total costs including imputed labour costs. When revenues from CWM initiatives are not even sufficient to cover these variable costs, as was the case in the two communities studied, then it is not surprising that community members

abandon this activity (Central America report). In Rekawa, Sri Lanka, once external assistance for funding prawn restocking ended, the community was unable, because of economic hardship, to accumulate sufficient capital to continue with restocking even though it was demonstrated to be profitable (Ekaratne et al 1999; Box 5.1).

5.2.1.2 Labour

The use of community labour can be considered as a benefit, particularly where it is paid for by other agencies. But where enterprises are entirely community run, it is an important cost to consider, both where there is a direct payment made or where community members make their input without payment in return for a share of the benefits.

But arrangements for paying for labour vary considerably both between different types of wildlife management initiative and between the communities involved in a particular type of initiative. In Peru, live shearing of vicuñas is mostly carried out by unpaid labour as it is considered part of each community member's traditional communal work obligation. But communities with a large number of vicuñas that have received development bank financing operate with paid staff drawn from the community and a technical coordinator from outside.

Guarding the resource is often a key labour requirement that accompanies transfer of rights and responsibilities to the community and can imply significant costs in money terms or in the opportunity cost of time. In Mendha (Lekha), India, forest patrolling is done as a community obligation on a rotational basis, the guards not charging anything for this service. However, this kind of free service is not very common (Pathak and Gour-Broome 1999). Either it is connected to an ongoing activity of the 'guards' (eg. graziers patrolling the forest while taking their livestock in, at Bhaonta-Kolyala, India; see Shresth 1999), or the 'guards' are paid in cash or kind. This is the case, for instance, with the community forest guard appointed by Jardhargaon village, India, and the community sometimes has difficulty paying his monthly amounts (Suryanarayanan and Malhotra 1999). Even small communities in Peru will usually pay one or, in some cases two, of their members to act as guards against vicuña poachers. Similarly, in Ostional in Costa Rica, the community members who work as guards on the beach to prevent illegal harvesting of turtle eggs are paid directly, whereas those who work in harvesting are not paid but receive a share of the profits. In other cases there will be a rota system, as in the Mamiraua reserve in Brazil where community members take turns to guard fish and wildlife resources. In this case, tensions have been created as community members feel that they should be paid for doing this by the project organisers who in turn consider that it is the community's resource and that therefore they should take responsibility for guarding it. The extent to which guarding the resource is perceived by the community as an activity worth investing in depends on whether the CWM initiative has been framed from the outset as something imposed from the outside or resulting from community demands. In Namibia, the community game guard system by which headmen appointed community members to monitor wildlife and look out for poachers has been considered highly successful in reducing poaching. In this case however, a government agency took on the costs of paying the game guards.

Technical expertise may often be provided by government agencies or NGOs and is an important factor in increasing productivity as well as meeting government requirements for resource planning. But some communities do pay for this out of the revenues from sale of wildlife products and this can constitute a significant cost given the skilled nature of the work required and the need for professional qualifications. Not surprisingly it is communities with significant endowments of wildlife that contract outside expertise. These are usually the only

people involved in the initiative to come from outside the community. In Peru, communities with large numbers of vicuñas employ a project coordinator, usually a zoologist/veterinarian to manage the operation. In Ostional, Costa Rica, a biologist is employed to develop the annual harvesting plan for turtle eggs and to ensure that harvesting is carried out according to the plan. The biologist's salary however, accounts for less than 2 per cent of total costs although s/he earns four times what a community member is likely to earn for harvesting. In Zimbabwe, a large proportion of donor funding is used to pay the salaries of NGO staff who provide technical expertise and do public relations work.

Because labour is often not paid for directly it often remains a hidden cost. There is often an assumption that community members have few other options and that the value of their time is very low. Much depends on the type of CWM activity and the extent to which it can be fitted in around other livelihood activities or actually precludes other activities. In Central America, most CWM activities were found to barely cover their costs if labour inputs were costed at local minimum wage rates, but given the minimal employment opportunities available this could be considered as overstating the opportunity cost of labour and thus understating the benefits.

5.2.2 Indirect or opportunity costs

5.2.2.1 Opportunity cost of land

Another type of cost that is very rarely considered is the opportunity cost of land as wildlife may compete with livestock for the same food source, or the need to maintain wildlife habitats may preclude conversion to agriculture. The issue therefore is whether wildlife management can bring greater returns than agriculture. This is certainly an important issue for the CAMPFIRE initiative in Zimbabwe where the demand for cropland as population increases is considered to be the greatest threat to CWM. As the area of land dedicated to wildlife management in Zimbabwe has increased significantly from 12 per cent in 1980 to 33 per cent it is thought that wildlife must be offering a viable alternative to agriculture, but the returns from each type of land use have not been estimated (Hasler, 1999). In cases where detailed estimates have been made of returns to other type of land use it is clear that this type of opportunity cost can be extremely high. In Mount Kenya, it is estimated that if the national park were converted to agriculture it could generate US$72m for adjacent communities, far exceeding the amount (US$18m) that they currently derive from the forest in terms of gathering of wood and wild products (Emerton, 1999a). The Serengeti reserve reveals a similar situation: 25 per cent of the land in the Grumeti and Ikorongo game reserves in the Western Serengeti is considered suitable for agriculture and could potentially generate US$18m annually, compared to US$19,000 that the communities currently receive in support to community projects and sale of bushmeat (Emerton and Mfunda, 1999).

The size of the opportunity cost does, however, depend on the potential of the land for other uses. In low rainfall areas with poor soils, such as Kaokoland and Damaraland in Namibia, consumptive and non-consumptive tourism can be a competitive form of land use. In degraded rangelands such as the Madikwe area in the North-West Province of South Africa, tourism can compete with livestock ranching both in terms of job creation and revenue generation; Madikwe has generated 170 well-paid jobs related to tourism, compared to the 80 poorly-paid jobs that would have been created by livestock ranching (Magome et al. 1999). In Peru, vicuñas do not generally compete for the same food sources as other livestock when extensively ranched at high altitudes – the opportunity cost of land is thus fairly low. Problems

arise when there is a move to more intensive forms of management involving enclosures. Community members are obliged to remove their livestock from the enclosures giving rise to some conflicts (Lichtenstein et al 1999).

External shocks, such as droughts, may disrupt normal feeding patterns and engender conflicts between domestic livestock and wildlife for food sources. In the Western Region Biosphere Reserve in Niger, there is usually little competition for fodder between giraffes and domestic livestock because of their different browsing heights. But in times of drought, farmers will cut fodder from high in the tree for their domestic animals thus reducing availability for the giraffes. Encroachment of agricultural land on the giraffe's habitat however, remains the greatest threat to the continuation of the local giraffe population (Sani and Barning 1999).

In some cases, it seems that the community itself judges that the benefits of conservation are greater than the opportunity costs, and acts accordingly. In Mendha (Lekha), India, the community has stopped all individual encroachments into the forest, implicitly conveying to its members that the benefits of protecting the forest are greater than the benefits of additional agricultural land to the individual family (Pathak and Gour-Broome 1999).

Crop and livestock damage constitutes another type of cost that is often overlooked and can be substantial particularly at the household level. In the Western Serengeti it is estimated that nearly third of households lose up to 25 per cent of their harvest to wild animals each year. This equates to US$155 for each of the 3,000 households affected (Emerton and Mfunda, 1999) In Mount Kenya, the damage from forest-dwelling wild animals, elephants, buffaloes and birds is estimated at US$1m per year (Emerton,1999a). Nevertheless, the significance of such costs may be heavily influenced by other factors. In Bhaonta-Kolyala, Rajasthan, the efforts to protect the forest have resulted in the reappearance of wildlife and two leopards have already taken people's goats. Yet this is viewed by the local community as positive as it will constitute a disincentive to people to go into the forest and so aid the conservation process (Shresth, 1999). Experience has show that problem animals can be the cause of unmanageable conflict between different role players, and it is predicted that the reliance on predators instead of institutions to regulate access will not be sustainable. In Annapurna, Nepal, increasing incidence of crop and livestock damage by wildlife in regenerated forests is beginning to bother the communities, who are wondering if regulated hunting may be one answer (Krishna et al 1999).

5.2.2.2 Restrictions on Wildlife Utilisation

Many of the case study examples involve some restrictions on access to wildlife in the form of rules about what can be harvested where, and when. These may be decided by the community itself in the context of CBNRM or may be determined by governments in protected areas. These restrictions imply costs for communities as they reduce their scope for selling wildlife products or using them for subsistence purposes, or mean that they have to harvest them in a different area involving more time. Thus in Bhaonta-Kolyala, Rajasthan, the introduction of community regulations restricting fuelwood collection to dry wood or wood on the forest floor, meant that women had to search for fuelwood over a larger area. Nevertheless, they considered this a worthwhile trade-off with the increased fodder availability due to the conservation of the forest (Shresth, 1999). In South Africa, communities who have claimed back land in protected areas from which they had been forcibly removed under

apartheid, are subject to many restrictions related to consumptive use. For example, it is unlikely that the Makuleke community will be allowed hunting quotas for the 'big five' on land they claimed in the Kruger National Park, whereas some of the private game ranches in the area are allowed to hunt such animals (Hector Magome, pers. comm.).

5.3.2.3 Opportunity Costs to Leaders

The South Asia report notes that community leadership is critical to the functioning of CWM, but it also means that those who perform this function have to forego other possible opportunities. In Jardhargaon, India, farmers like Vijay Jardhari who have led the forest conservation and agro-biodiversity revival in the village, have to spend a lot of time in mobilisation, external linkages, farm-level experimentation, and other activities, time that they could well have spent in earning more than the meagre amounts that they make. Tribal youth leader Devaji Tofa of Mendha (Lekha), India, now spends a lot of time in village mobilisation, touring other villages to spread the message of tribal self-rule and forest conservation, and other activities which reduce available time for his own farmwork.

5.2.3 Transaction Costs

This is another type of hidden cost that can manifest itself in a number of ways. Firstly, the whole process of community management implies time spent in community meetings to set rules, discuss management etc. This can be difficult to quantify as it is not always easily separable from time required for discussion of other community matters. It is not surprising therefore that case studies of CWM do not attempt to estimate the costs involved, or even acknowledge their existence. Yet many case studies document establishment of new institutions or strengthening of existing ones (see section 6.1.1). While this is seen as positive in social terms, their continued functioning with meaningful input from community members will be threatened if benefits do not seem substantial in relation to the time and effort invested in these institutions. In Jardhargaon, India, some disillusionment is expressed at the Forest Protection Committee meetings, as attempts to recover fines from violators of community conservation rules have not been very successful of late (Suryanarayanan and Malhotra 1999).

Secondly, the transfer of rights and responsibilities over wildlife to communities can precipitate disputes over land and resource tenure. This is aggravated by the mobile nature of some types of wildlife which have little respect for community boundaries. Such disputes give rise to considerable costs in the form of lost output and time spent on mediation and recourse to legal procedures. In Peru, some communities have been hampered in their activities by such disputes and this may well explain part of the motivation for setting up enclosures for vicuñas.

Communities often participate passively in order to minimise the transaction cost of participation and the conflicts associated with it. At Richtersveld National Park in South Africa, resident communities rarely speak up at management committee meetings, and when they do it is usually through members of a single family. It is hypothesised that the Richtersvelders follow this strategy because they have nothing to gain by participating more actively: South Africa National Parks leases the land from them and keeps intruders out (the main community

benefits of the initiative), whether they contribute actively or passively. Active participation would simply increase the transaction cost to them (Archer, in prep.).

5.3 Do Benefits Exceed Costs?

The key question of whether benefits exceed costs proves to be rather elusive as computed costs are rarely complete, most frequently excluding opportunity cost of land. It is also necessary to consider who benefits and who bears the cost as these may not always be the same. The three East African case studies, which make comprehensive assessments of costs and benefits of protected areas, all reach the conclusion that benefits to communities are considerably less than costs. Total benefits however, taking into account benefits that accrue outside the community, can exceed costs. In Mount Kenya the principal benefit from preserving the forest is in the form of watershed protection and is enjoyed by up to one million people in the downstream catchment area. These studies also show that the problem is not simply that the government passes only a small share of the wildlife revenues from park entry fees, hunting charges etc on to communities, but that total revenues generated are considerably less than the opportunity cost of the land.

In fact there are few cases where financial benefits unequivocally exceed costs. The case of Ostional in Costa Rica appears to be one example as it provides a source of employment for a large number of community members and still generates a small surplus. The opportunity cost of land use foregone is not relevant in this instance, because harvesting takes place on a beach which is not popular with tourists. But even in this case, the size of the surplus has declined over the years causing a certain amount of discontent within the community. Live shearing of vicuñas in Peru can also generate a surplus, provided an extensive form of management is adopted and communities have a reasonable number of vicuñas in their territory. In such cases opportunity cost of land is less of an issue. Where more intensive forms of management are adopted the potential for generating a surplus is much more limited given the high costs of equipment involved.

Communities themselves, however, appear in many cases to have decided that the combined benefits of CWM are greater than the costs. This is strongly expressed especially in initiatives by the communities themselves, eg. in India, where the mostly 'intangible' costs (labour, time, etc.) invested by people seem to be worth the mostly 'tangible' benefits (biomass, livelihood security, employment, etc.) that result from it. This also points to the need for outside analysts to consider the community's own perceptions of costs and benefits, which may not necessarily match the views and analyses of outsiders.

5.4 How Are Benefits and Costs Shared Within Communities?

CWM initiatives exhibit a number of mechanisms for distributing benefits. A common approach is for the community or local authorities to retain the funds for community development projects. Given that the size of the surplus is often quite small, this can be an effective way to make an impact. In the CAMPFIRE programme, schools, clinics, and maize grinding mills

have been the most common type of community project supported by the revenues. The drawback of this approach is that it can lead to discontent amongst those community members who do not see clear benefits and suspect that funds are being diverted for other purposes. This is particularly the case when plans for community projects made at the outset are not implemented as rapidly as envisaged. In Sankuyo in Botswana the community elected a new committee after allegations of theft and corruption, and financial incentives being passed from the private joint venture partner to the community leaders. In Ostional, Costa Rica, some important community development projects such as a health centre, electrification, and improvement to the school were carried out with the surplus funds generated, but in later years the surplus was not large enough for any significant projects. This created some dissatisfaction on the part of community members, particularly since the main reason for the reduction in the surplus appears to have been a substantial increase in administrative costs associated with the management committee.

Another issue is that these projects may involve expenditure on activities which some believe to be the responsibility of the government. The community of Lucanas in Peru which traded in 400 Vicunas to finance a hydroelectric plant provides a good example. Two years later the work necessary to get the plant underway had still not been completed; in the meantime neighbouring communities have been connected up to the national system. The President of the Lucanas community argues that the community will still benefit from having their own system as charges will be lower but some community members are not convinced. Similarly, in the Mamiraua reserve in Brazil, where one of the most visible benefits of the project has been the provision of health and education services, it is questioned whether it is appropriate for these to become a negotiation tool to induce communities to accept CWM as this detracts from government responsibility.

Other benefit-sharing arrangements include payment of dividends to each household, or community members may receive a share according to the amount of work they have put in. In some cases the various approaches are combined. In Hushey, proceeds from the trophy hunt were shared by individual families, but a portion was also kept for the village fund (Raja 1999). Arrangements for rewarding community members for the work they put in vary considerably and can be quite sophisticated. In Ostional, Costa Rica, the workers get 70 per cent of the sales net of marketing costs. There is a system of fines for those who are absent from work, as well as a type of pension equal to half of the average members wage for community members who for reasons of age or sickness are not able to work. There is a subsistence ration of turtle eggs for all who work in the community enterprise. This is also given to local residents and to neighbouring communities. One limitation is that people who meet the requirements for community membership are not being allowed to take part in the enterprise as this would mean the salary payment being shared out amongst a greater number of workers.

What does not appear to be a consideration in benefit-sharing within communities are the non-labour costs incurred by individual community members. Costs, particularly the hidden costs, may often fall disproportionately on certain community members. Thus in the Western Serengeti it is observed that while all households in the community benefit from the development projects, only some will bear the costs of crop damage, livestock kills and foregone land use. Leaders who give a greater share of their time to the initiative may also be incurring higher costs.

In the CAMPFIRE initiative it is the district councils and not the communities that receive the wildlife revenues from agreements with private operators. They can hold back up to 35 per cent of the revenues as a management fee and 15 per cent as a levy and pass the rest on to the communities under their jurisdiction. This has given rise to concerns and allegations of corruption and embezzlement.

Issues of distribution of benefits within the community can be quite complicated when the community members are dispersed over a wide geographical range and complete transparency is lacking. For instance, the financial benefits received by the Kani tribe for their intellectual contribution to the making of a herbal product by the Tropical Botanical Garden Research Institute (TBGRI) in India, have been the subject of considerable controversy. The knowledge was shared by two members of the tribe, belonging to one hamlet, and though TBGRI was careful to set up a trust in which all members could potentially be members, a part of the tribe is very suspicious of the entire revenue-sharing arrangement (Anuradha 1999).

Within CAMPFIRE, further conflicts arise in the division of revenues between communities. This is divided between communities according to population and the amount of wildlife. Households in sparsely populated wards adjacent to protected areas tend to get the most while those in densely populated wards at some distance from national parks and safari areas receive the least. As the distribution of wildlife resources is not evenly spread, conflicts can arise over the distribution of revenues between communities in a district.

6 What has CWM Achieved for People and for Wildlife? The Social Dimension

As might be expected, the *Evaluating Eden* case studies showed that CWM has both positive and negative effects on the social dynamics of communities. Our analysis of the case studies would appear to show that there are more positive effects than negative. However, it is impossible to weigh up the relative significance of each type of effect – how does one compare conflict with cultural identity or corruption with capacity-building? By describing the main social impacts that were experienced in each case study location Tables 6.1 and 6.2[2] do give some indication of the commonality of the different types of impact and hence their potential significance to CWM overall.

6.1 Positive Impacts

The positive social impacts of CWM can be largely grouped into three broad categories:

1. institutional impacts;
2. impacts on individual, household or community 'status' eg. through empowerment, security of tenure, access to resources etc.; and
3. cultural impacts.

6.1.1 Institutional Impacts

A large number of the case studies describe how new institutions for CWM had been developed or existing institutions had been strengthened. Baird (2000) notes that in Laos for example, a fisheries co-management system has led to improvements in *"… the solidarity and coordination within and between rural fishing and farming villages"*. CWM institutions are extremely varied in their structure and function. In South Asia, for instance, they include village councils consisting of all adult members of the settlement, users groups restricted to particular resources, forest protection committees, village development committees, study groups consisting of villagers and outside experts, savings committees, tourism management groups, and so on. Institutions that represent the community are essential for CWM since:

a) they are the locus of local rules and regulations;
b) it is through institutions that membership of the community is defined, and boundaries are agreed on;

> It is clear in East Africa that conservation authorities and land users are testing different institutional arrangements to foster the improved and responsible involvement of land users in conservation; create mechanisms for dialogue and devolution of authority; and establish functional and representative structures. This is all with the aim of conservation and creating improved benefit flows to those living with, or affected by conservation. Lessons are being learnt and these institutional arrangements are continually evolving.

2 These tables are based on the authors' interpretation of case study material and information supplied in regional reports. They are not intended to imply that the impacts identified are exclusive to the case study examples listed, nor that these are the only impacts – these merely serve to illustrate the range and commonality of the more easily identifiable impacts.

c) they provide mechanisms to resolve conflicts;
d) monitoring takes place through them;
e) they allow negotiations over access, rights and responsibilities to be formalised (Ostrom 1990).

It is also accepted that natural resource management *"requires negotiations between institutions which represent all existing interest groups and especially the weaker ones"* (Dubois 1997). While traditional authorities and institutions have historically played an important role in natural resource management, in many cases these can be undemocratic, male biased and unrepresentative of the different interest groups within the community. New institutions are therefore perceived as a positive outcome of CWM since they are more likely to be elected and representative of the wider community. In some of the case studies this has given some of the traditionally maginalised community groups such as women a new role in decision making – a factor that the West and Central Africa report notes as being particularly significant since it is becoming *"increasingly recognised that although women are often primary users of natural resources, they rarely have direct representation or decision-making in natural resource management through the existing structures."*

Development of new institutions appears to have been particularly significant in Southern Africa and South Asia, although this might simply be a result of the degree of representativeness of the case studies and the interpretation of the case study analysts. However, the Central and West Africa report notes a high capacity of traditional administrations for resource management in contrast with experience described in Eastern and Southern Africa.

In many of the case studies the development of new institutions has occurred in parallel with the strengthening of traditional structures so that the two types of institutions work to support, rather than undermine each other. Unfortunately this has not always been the case – in East Africa traditional institutions have in many cases been replaced with government-created institutions which has reduced the overall capacity for communities to manage their resources. Despite this caveat, it is heartening to note that institutional strengthening is identified as one of the most common positive effects throughout the range of case studies examined.

> In the process of struggling for access to land and natural resources, communities in Southern Africa have begun forming new institutions to deal with the complexities of negotiations and rule-making. Examples of such institutions are trusts to manage funding; common property associations; conservation committees; and joint management committees. Non-government organisations and charities have emerged and started playing an important role as technical advisors and facilitators.

One of the main reasons behind the development of new institutions or the strengthening of existing institutions has been the lack of capacity of traditional organisations to both manage natural resources and effectively represent and 'control' individuals and different interest groups within the community. Where such capacity existed, it is no longer as valid in changed circumstances.. Institutional development and strengthening has therefore often gone hand in hand with capacity building and training.

There has also been increasing recognition of the need for alliances and linkages and networks between different institutions for successful natural resource management – what Ostrom (1990) describes as *"nested enterprises"* in her list of prerequisites for common

property resource management, where *"resource use or provision, monitoring, enforcement, conflict resolution, and governance activities are organised in multiple layers of nested institutions, where rights and responsibilities are clearly defined."* .In most of the case studies, alliances between groupings at the local, national and international levels have strengthened the initiative. For example, in CAMPFIRE international alliances such as those with USAID, WWF and IUCN assist with lobbying, contribute funds, do much of the monitoring, provide technical advice, and ensure that government actions and policies are monitored. National alliances ensure that the initiative is legally and politically acceptable, and that different government departments cooperate. District-level alliances ensure that revenue is properly administered, and that quotas and laws are enforced. Local alliances help communities to remain politically and culturally unified. These alliances are, however, constantly threatened by factors outside of the control of the CAMPFIRE movement: national and international politics, the national economy, NGO politics, and human migrations.

6.1.2 'Status' Impacts

Status impacts include: recognition, often by government; political empowerment and increased involvement in rural politics by communities; communities taking control of initiatives and actively making decisions that affect their own destinies; social recognition of marginalised or weak groups, notably women; communities obtaining rights over resources that had previously been denied to them.

A large number of case studies identified empowerment or recognition as a significant positive outcome of CWM. Empowerment covers a number of dimensions including political power, especially as communities have strengthened their position in relation to the state, such as at Mendha (Lekha) village in India where the village council has forced all government officers to seek its permission before embarking on programmes there (Pathak and Gour-Broome 1999). The Southern Africa report notes that with regard to national parks in South Africa relations with the state have improved on two fronts. At the macro level; in the face of increased media attention and political pressure, senior officials have started taking local communities seriously. The appearance of the conservation Chief Executive or Chief Director at community meetings has become a common sight, and senior politicians have become involved in negotiations and interactions. At the field level; protected area managers began to recognise their neighbours as essential role players and started treating them with more dignity than before. Joint management structures have been formed for Dwesa, Kruger National Park, Kalahari Gemsbok National Park, Aughrabies National Park and St. Lucia National Park.

In South Africa's Northern Province the successful land claim by the Makuleke community for a portion of the Kruger National Park is an interesting example of changing power relations between communities and the state. South Africa National Parks (SANP) wished to maintain exclusive control over the area claimed by the community and to restrict community interests to the periphery of the park. However, in the course of the negotiations SANP underwent some significant policy changes with the country's adoption of a new constitution, shifting their original objective of maintaining control towards maintaining biodiversity in the Pafuri area. The negotiated 'win-win solution' meant that the SANP's redefined policies, objectives and interests had been accommodated while the Makuleke had in turn gained access to a significant economic resource and realised the opportunity to revive their cultural linkages with the land. The most important and significant outcome achieved was, however, the explicit restructuring of the power relations between the park and the people.

Empowerment can also influence communities' participation in local and district level politics and decision-making. For example, in the Hushey Valley Conservation Area in Pakistan the village organisation has gained statutory empowerment and authority for local level decision-making and natural resource management, and communities are also involved in decision-making at the district level (Raja 1999). The CAMPFIRE programme in Zimbabwe is another example of where the increased political power of local communities has transformed local politics. In some cases, perhaps not surprisingly, there is a gap between rhetoric and reality, however. In East Africa *"despite the good intentions of institutions concerned with community conservation, it is unclear whether there has been any real handing over of ownership and responsibility for natural resources and their management to local communities".*

Bhaonta-Kolyala, India is one of several dozen villages that have grouped together to form a *sansad* ('parliament'), its geographical limits defined by the catchment of the local river, Arvari. This *sansad* aims to take decisions regarding land and water use planning, natural resource management, developmental inputs, and so on, almost as a parallel structure to the official administration (Shresth 1999).

Empowerment needn't just relate to political power. At Sankuyo in Botswana the community's involvement in a joint venture with a private sector tourism operator has led to the realisation that it can control the activities of outsiders and decide for themselves with whom it enters agreements and what the terms and conditions are. Joint ventures and other direct agreements with the private sector have also resulted in community empowerment in the Western Serengeti and in the new conservancies forming in Namibia. At Mendha (Lekha), villagers were able to stop destructive bamboo extraction by a paper mill, and negotiate supplies through official channels on their own terms and using their own extraction techniques (Pathak and Gour-Broome 1999).

Increased participation in decision-making is a form of empowerment in itself, both for the community as a whole and for previously disempowered or marginalised groups within the community. At Kilum Ijim in Cameroon the development of new institutions for resource management provided a new role for women in decision-making while in the Annapurna Conservation Area Project in Nepal women have achieved greater power through the formation of women's groups. Not only do new institutions provide for empowerment, but the reverse is also true: as the South Asia report points out, the revival and strengthening of traditional institutional structures, or the creation of new ones to serve community needs and interests, is part of the empowerment process.

Recently in eastern India, one of the country's most prestigious environmental awards was given to village Forest Protection Committees involved in Joint Forest Management in West Bengal. Several village-level institutions are being recognised through the Government of India's Indira Priyadarshini Award for excellence in forest conservation. In Nepal, the Jara Juri Trust gives rewards to individual and community efforts at conserving forests. The environmental group Kalpavriksh has begun a monthly series of presentations by those engaged in such work, to bring it to the notice of city-dwellers in New Delhi and Pune. There is also now much more media coverage of such initiatives, itself a major boost to villagers who are otherwise used to dwelling in obscurity.

The South Asia report also notes that, apart from being a major benefit in itself, empowerment can also lead to other benefits such as social recognition. It describes how in Mendha (Lekha) in India *"such empowerment has led to social recognition, and the eagerness of outside agencies to implement their programmes in the village. All this has benefited the village but has also tremendously increased the sense of responsibility among the villagers"*. Recognition is also highlighted as a positive impact at Makuleke in South Africa where the community has

been recognised as a key role player in the joint management of the Makuleke area of Kruger National Park; and in Ostional, Costa Rica where a CWM initiative has resulted in the legalisation of a traditional community activity of harvesting turtle eggs.

A further dimension of empowerment is control over resources. Improved security of tenure and access to resources is identified as a positive outcome of CWM in a number of case studies. The degree of control varies considerably amongst the case studies from direct ownership to specified rights of access. The key point here is not so much the absolute degree of control but rather the fact that increasingly communities now have *de facto* or *de jure* rights to resources that were previously denied them. In South Asia *"even where complete control has not happened (it is indeed rare in countries other than India), at hundreds, perhaps thousands of sites, the enhanced role of communities in decision-making processes itself has been a major benefit"*.

6.1.3 Cultural and Spiritual Impacts

The cultural dimension of CWM is emphasised in a number of case studies, and is particularly evident in Australia and Canada where cultural and spiritual links with the land and with wildlife have become revitalised following years of attempted suppression and/or assimilation by the state. In Canada, subsistence hunting is viewed as *"critical to cultural survival and maintenance of a distinctive and valued identity"* (Freeman 1992, cited in Berkes and Berkes 1999). Berkes and Berkes go on to explain that *"social relations of cooperation, sharing, gift-giving, gender-role maintenance and reciprocity (with both humans and animals) are part of the larger meaning of subsistence."* Similarly the Australian report notes that *"subsistence wildlife use is of great social and cultural value to indigenous people – it expresses the vital linkage of people to their country, reinforces their spiritual beliefs governing their existence and responsibility for their land and provides a means for passing on social and cultural knowledge to their children"*. The extension of these activities, through CWM, into commercial harvesting of species such as crocodiles and muttonbirds allows indigenous groups to engage in an economic activity that further strengthens their cultural identity.

As well as consumptive use of wildlife, in many of the case studies, simply being involved in wildlife monitoring or management has allowed indigenous communities to draw on and 'rediscover' traditional ecological knowledge and management practices. This increased use of traditional knowledge in conservation planning and management, as well as its growing validity in the eyes of the scientific community, has had a significant impact on cultural pride and identity. The South Asian report notes that, in many of the case studies, "*confidence in local dispute-resolution mechanisms and other aspects of customary law has been revived, reducing the debilitating dependence on the police, the judiciary, and other arms of formal 'outside' government. This has also happened because in several instances, the state or wider society has acknowledged the validity of local systems; in Bhutan, for instance, traditional administrative boundaries are recognised in the planning of the Jigme Dorji National Park".* Similarly, in Southern Africa the revival of traditional knowledge has had positive implications for the management and monitoring of natural resources in protected areas. Communities at Dwesa, Makuleke and Sankuyo are using their revived knowledge to contribute to management plans and wildlife monitoring and aspire to be formally employed in the conservation sector.

An increased sense of social pride and identity has also been noted in a number of case studies that have involved some form of land claim, such as the successful claim by the Makuleke community on a portion of the Kruger National Park in South Africa, or simply in regaining or being granted rights over land and/or wildlife such as the new communal land conservancies in Namibia.

Cultural benefits are important to Namibian communities which still place an aesthetic and spiritual value on wildlife. George Mutwa, chairperson of the Salambala Conservancy, agrees that financial income is not the only benefit conservancy members are seeking. *"They are also looking for cultural, indirect benefits. In the old days people attached great importance to wildlife."*

Table 6.1: Social achievements of CWM

Achievement	Case Study Examples
Development of new institutions	*Southern Africa:* Dwesa, Mkambati *West and Central Africa:* Kilum Ijim *South Asia:* Annapurna, Hushey, Rekawa, Mendha (Lekha), Jardhargaon, Kokkare Bellur
Strengthening of existing institutions	*Southern Africa:* Sankuyo, CAMPFIRE, Conservancies *West and Central Africa:* Kilum Ijim, Gashaka Gumti *South Asia:* Bhaonta-Kolyala, Jardhargaon, Mendha (Lekha), Annapurna, Hushey, Rekawa *Australia:* Masters, Kowanyama *South East Asia*: Laos Community Fisheries
Training and capacity building	*Southern Africa:* CAMPFIRE, Makuleke, Madikwe *South Asia:* Mendha (Lekha), Rekawa, Annapurna *Central America:* Ostional, Iguanas *South East Asia:* Ratanakiri *Australia:* Cape York, Crocodiles, CEPANCRM
Development of alliances, linkages and networks	*Southern Africa:* CAMPFIRE, Makuleke, Conservancies *Australia:* Kowanyama, Dhimerru, ARRI, CEPANCRM *South Asia:* Bhaonta-Kolyala
Improved relationship between state and communities	*South East Asia:* Ratanakiri *South Asia:* Mendha (Lekha), Hushey *Australia:* GBRMP, AFMA
Improved security of tenure and access to resources	*Southern Africa:* Dwesa, Makuleke, Richtersveld *South Asia:* Bhaonta-Kolyala, Jardhargaon, Mendha (Lekha) *Central America:* Ostional
Empowerment and recognition	*Southern Africa:* Dwesa, Sankuyo, Khwai, Makuleke, CAMPFIRE, Conservancies *East Africa:* Serengeti *South Asia:* Jardhargaon, Mendha (Lekha), Bhaonta-Kolyala, Kokkare Bellur, Annapurna, Hushey, Rekawa *Australia:* Masters, CLC, Kowanyama, Bawinanga, Uluru, Crocodiles, CEPANCRM
Pride and identity	*Southern Africa:* Makuleke, Dwesa, Conservancies *South Asia:* Jardhargaon, Kokkare Bellur, Rekawa, Mendha (Lekha), Bhaonta-Kolyala *Australia:* Miyapanu, Kowanyama, Bilbies, Anangu Pitjanjara, ARRI
Cultural and spiritual	*West and Central Africa:* Kilum Ijim

strengthening	*South East Asia:* Ratanakiri *Australia:* Sustainable use, Masters, Community rangers, Anangu, Wallabies, Mala, Muttonbirds, CEPANCRM *Canada:* Subsistence hunting, Commercial harvesting, Game ranching *South Asia:* Mendha (Lekha), Bhaonta-Kolyala
Marginalised groups (eg women) involved in decision making	*West and Central Africa:* Kilum Ijim *South Asia:* Mendha (Lekha), Jardhargaon, Annapurna *Central America:* Ostional
Conflict resolution	*Southern Africa:* Madikwe, Makuleke, Conservancies *West and Central Africa:* Kilum Ijim *South Asia:* Mendha (Lekha), Annapurna, Jardhargaon
Other	*South Asia:* Bhaonta-Kolyala (out-migration reduced); Kokkare Bellur (Sustainable use, health benefits); Mendha (Lekha), Annapurna (overcoming social vices)

6.2 Weaknesses of CWM as an Agent for Social Change

CWM is not a panacea for social change. A number of the case studies examined in the Evaluating Eden project highlighted significant negative social impacts that appeared to be a direct result of a CWM initiative. The most common of these were conflict, weakening of traditional authority and institutions and corruption. In more cases it was evident that CWM was failing to address some underlying issues including lack of responsibility for resource management, lack of security of tenure and lack of direct participation.

6.2.1 Conflict

One of the overwhelming themes to have emerged from the case studies is the issue of conflict – whether within the community, between communities or between the community and the state or other external power. While numerous case studies highlight the positive impact of CWM as a force for reinforcing a sense of cohesion amongst resource users or communities and generating community solidarity, a number of case studies show the opposite – CWM acting as a divisive force within communities, introducing internal conflict and power struggles. Intra-community conflict appears to be particularly prevalent in Southern Africa but is by no means restricted to this region.

Intra-community conflict appears to be of two main forms: conflict over benefits and how they are distributed amongst community members, and power struggles between those who have traditional authority and those who have increased their relative power as a result of the CWM initiative. In Canada's northern territories, the allocation of trophy hunting clients to individual guides or outfitters can be highly discretionary and as Notzke (1999) points out *"in Aboriginal*

> In the two villages studied in Botswana, conflict in one, Khwai, appears to be primarily factional between the various families and kinship groups in the village, while in the other, Sankuyo, conflict is largely between generations where the elders mistrust their educated children. The young are *"inserting themselves into positions of power that have traditionally been determined by birthright and reserved for elders. This change, although perhaps a natural consequence of development, has added fuel to the fire of internal community conflict"*.

communities unaccustomed to social and economic stratification, success may breed envy, which in turn may result in political repercussions". Similarly, in Selangor state in Malaysia, a firefly watching initiative in Kampung Kuantan village, while providing a large source of income and employment for the village, has also resulted in high levels of tension between those villagers who benefit from tourism revenue and those who don't. The conflict has become so extreme that it threatens to destroy the very resource upon which the initiative is based (Hughes 1997). In Zimbabwe, Murombedzi (1999) documents tensions between village and district councils over access to CAMPFIRE hunting dividends. In Namibia and Botswana, the youth often clash with older members of the community. Young people are impatient and want rapid, Western-type development whereas the elders are prepared to wait patiently (as they had become used to during decades of oppression) and are reluctant to depart from customary ways of life. Boggs (1999) points out that such internal conflict within communities should be expected since, as discussed in Section 2.3.1 communities are not homogeneous and therefore are unlikely to have a single voice.

Conflict is not limited to disputes within communities - a number of case studies highlight the fact that CWM can often bring about conflict between those communities that are involved in an initiative, and benefiting from it, and those that are not. Some villages neighbouring Bhaonta-Kolyala and Mendha (Lekha) villages in India do not recognise their authority regarding forest use, and wilfully violate their rules (Shresth 1999; Pathak and Gour-Broome 1999). In some cases CWM initiatives may change traditional rights of access to resources and some communities may find themselves excluded from land or resources that they previously enjoyed access to. CWM initiatives may therefore not only benefit some communities more than others, but may actually significantly disadvantage some communities. In Central America it is noted that this type of conflict is especially acute in the more degraded areas where resources are scarce.

In some cases inter-community conflict is linked to lack of security of tenure or control over resources. For example in Gashaka Gumti National Park in Nigeria, communities who live in enclaves within the park have unclear access rights; it can be difficult for the community to enforce resource regulation rules against outsiders - particularly where transient groups are involved (Dunn et al 1999). The same is true in Namibia where, although the new conservancy legislation grants communities rights over wildlife, it does not grant exclusive land tenure. It is therefore impossible for communities to prevent other groups moving into the area and utilising the resources the community are attempting to conserve (Jones 1999)

The third form of conflict is that between communities and external stakeholders and pressure groups. In Ostional, Costa Rica, for example, power struggles have occurred between the community who harvest turtle eggs and scientists who want to control the process. In a number of cases, particularly notable in Southern Africa, CWM initiatives provoke strong reactions from, and are heavily influenced by, external pressure groups. The animal rights lobby has attacked CAMPFIRE with a vengeance in recent years because of its hunting activities. Similarly, the debate about

> "*It is ironic that initiatives which begin showing a profit invariably become sources of new conflict and disruption, especially in very poor, historically disadvantaged communities. People are overwhelmed by the newly-found source of income and do not know how to deal with it or distribute it. The institutions which are established to facilitate benefit sharing often emerge as new sources of conflict, which centres around power mongering, nepotism, or corruption. This is especially true of newly-formed institutions: traditional or 'old' institutions are less prone to being sources of conflict. The pattern which emerges is: community members in power positions (often those who sit on decision-making committees) regard it as their right to 'siphon off' some of the benefits to themselves; other community members suspect this, and committees are disbanded; a new committee is formed, and the cycle continues. Communities often steer away from co-management arrangements to avoid conflict."*
> (Fabricius 1999)

trade in elephant ivory, articulated at international level through meetings of the Convention on International Trade in Endangered Species (CITES) has led to serious conflict between those in Southern Africa who argue for the rights of local communities to utilise elephants in a sustainable way, and Western pressure groups who believe that any trade in elephant ivory will lead to high levels of poaching and their ultimate extinction. In South Asia, particularly India, CWM initiatives have been viewed with hostility by commercial forces (mine-owners, industries, official 'rent-seekers') that were earlier benefiting from unregulated access to natural resources.

The most common form of external conflict appears to be with state authorities such as conservation agencies. While many CWM initiatives show a considerable improvement in relations between the state and local communities, founded on mutual trust and a recognition of the need to work in partnership, others continue to identify ongoing conflict with state authorities as a significant negative impact. The East Africa report notes *"a general reluctance on behalf of most conservation authorities to implement community conservation policies fully reflects continued concern over loss of power, equated with loss of control"*. The CAMPFIRE project in Zimbabwe is a classic example of power only being devolved to a certain level - in this case to the district level - with consequent tensions between the district councils and communities over access to dividends from hunting and tourism (Murombedzi cited in Southern Africa report).

Overall however, it would appear that CWM has the effect of shifting the locus of conflict from external to internal. Communities, previously unified in conflict against a common 'enemy' in the form of the state conservation authority are now divided internally over access to power and benefits.

6.2.2 Weakening of traditional authority and institutions

While conflict in one form or another appears to be the most common negative effect of CWM identified in the case studies, another clearly identifiable direct outcome of some CWM initiatives is the weakening of traditional authority and institutions, representing the negative side of the institutional achievements described above. In some cases this weakening of traditional authority is the outcome of a power struggle between traditional structures and new institutions that have been developed specifically to deal with CWM (as discussed in the section on conflict above). This perceived weakening may therefore, in some cases, by viewed as a necessary prerequisite to establishing more effective, representative institutions, where these new institutions have, for some reason, failed to work in parallel with traditional institutions. In Annapurna, Nepal for example, new conflict resolution mechanisms brought in as a result of the CWM initiative threaten to displace customary modes of resolving disputes (Krishna et.al. 1999). In other cases however, institutional weakening may be caused by factors external to the CWM initiative. In East Africa Barrow (1999) notes that *"both traditional and modern community institutions have been weakened by high levels of political, social and economic uncertainty, and by high levels of population movement".*

6.2.3 Corruption

Perhaps surprisingly, corruption is only singled out as a negative effect of CWM in one of the case studies analysed. However a number of other case studies highlight inequities in benefit sharing and decision-making as significant issues and it is not possible to determine to what

degree corruption is involved in these wider issues. Corruption and nepotism seem to be a danger in all Southern African case studies where benefits have started flowing, and the fear of this might be the underlying reason for much of the intra-community conflict observed in the sub-region.

> *"After three years of CWM, both Khwai and Sankuyo membership overwhelmingly perceive the management and ownership of the land and wildlife resources still to be the ultimate responsibility of the government."* (Boggs 1999)

6.2.4 Social Issues that CWM has Failed to Address

Lack of responsibility for resource management, lack of security of tenure and lack of direct participation are all issues that CWM has failed to address or to affect – often as a result of weaknesses in its approach or implementation. For example in Mount Kenya National Park the communities adjacent to the park lack secure resource tenure and management rights because of the nature of the protected area system which specifically excludes local people from national parks. They therefore have limited incentives to manage and conserve the resources within the park. Similarly, in Gashaka Gumti National Park in Nigeria the 'enclave' communities within the park are, by law, illegal residents. Attempts to engage them in long term conservation activities are therefore hindered be their insecurity over their long term status in the park.

These inequities may also be the root cause of the general 'dissatisfaction' expressed in a number of case studies. In Annapurna the dissatisfaction is amongst the lower castes because of lack of meaningful participation in decision-making (Krishna et al 1999). In the Kani-TBGRI benefit-sharing arrangement in India, related to the use of traditional knowledge for making a herbal drug, a section of the Kani tribe perceive that they have been ignored in the process (Anuradha 1999). In Sankuyo, Botswana, Boggs (1999) found that satisfaction is not necessarily linked with direct benefits. In this case study of a joint venture with a tourism operator, those community members directly involved though employment or as members of the Community Trust were less satisfied than those who had no direct involvement in the initiative. The reasons given for this dissatisfaction were *"that individuals felt they had to work too hard for their compensation, that the joint venture partner was not doing enough to provide skills training and capacity building and, violation of agreements by the joint venture partner"*.

Table 6.2: Social Weaknesses of CWM[3]

Impact	Case Study Examples
Intra-community conflict	*Southern Africa*: Dwesa, Sankuyo, Madikwe, Conservancies *Central America*: Iguanas *South East Asia*: Ratanakiri *Canada*: Tourism, Game ranching *South Asia:* Bhaonta-Kolyala, Rekawa
Inter-community conflict	*Southern Africa*: Makuleke, Madikwe, Conservancies *West and Central Africa:* Gashaka Gumti *South Asia:* Bhaonta-Kolyala, Kokkare Bellur, Mendha (Lekha), Annapurna, Rekawa *Central America:* Ostional, Iguanas
State-community conflict	*Southern Africa:* Mkambati, Dwesa, Makuleke

3 The Australian case studies were only analysed for achievements i.e. positive impacts, and so do not feature in this table. This is not to imply there were no negative impacts, simply that they were not included in the regional analysis.

	West and Central Africa: Garamba, Okapi *South Asia:* Jardhargaon, Mendha (Lekha), Kokkare Bellur
Weakening of traditional authority and institutions	*Southern Africa:* Sankuyo, Conservancies *West and Central Africa:* Okapi *South Asia:* Annapurna
Corruption	*Southern Africa:* Sankuyo

7 What has CWM Achieved for People and for Wildlife? CWM as a Tool for Conservation?

As well as considering what CWM has achieved for people in terms of social, cultural, economic and livelihood impacts, one of the specific objectives of the *Evaluating Eden* project was to explore what CWM had achieved for wildlife. Is CWM a tool for conservation? Can it help to increase or maintain wildlife numbers and resource abundance? Can it help to conserve habitat and biodiversity? Tables 7.1 and 7.2 describe the key achievements and weaknesses that were experienced in the *Evaluating Eden* case studies.[4] The tables clearly show that the achievements of CWM appear to far outnumber the weaknesses or failures – although again no conclusions are drawn at this stage as to the relative significance of each type of impact.

7.1 Positive Environmental Impacts

The positive environmental impacts of CWM can be broadly divided into three categories: impacts on wildlife, impacts on habitat and impacts on attitudes and practice.

7.1.1 Impacts on Wildlife

The premise on which preservationist or 'fortress' conservation is based is that wildlife needs to be protected from people and that without such protection species will be over-utilised, or will be out-competed by livestock, and wildlife populations will no longer remain viable. The *Evaluating Eden* case studies paint a different picture. In a large number of case studies examined, wildlife numbers were found to either have increased, to have stabilised following earlier declines, or to have been maintained.

As Hasler (1999) in his review of CAMPFIRE points out, data on wildlife numbers need to be treated with some caution since they will vary according to the techniques used to obtain them. In addition, ecological systems are subject to great variation and factors such as climatic conditions, activities outside CWM areas and stochastic events are difficult to separate from CWM in terms of their effect on long term sustainability. The East African

> A review of the results of aerial censuses of elephant and buffalo which have been undertaken since 1988 in selected CAMPFIRE districts concluded that there were high levels of variability between annual surveys. This variability is accounted for by the fact that wide ranging herbivores such as elephant and buffalo function *"at a scale often somewhat larger than the size of a ward or survey stratum"*. Another factor is the distribution of the animals being counted. Large groups may often be missed, not because they are not seen, but because they do not fall within the sample transect or block. Despite the critical review and a reluctance to make general statements about trends, the data presented indicates a remarkable stability in the populations. For example, elephant number estimates in Siabuwa, Gokwe North, Omay and Guruve North all indicate a relative stability in the population. Elephant number estimates for Mukwiche and Chewore show growth (Hasler 1999).

4 These tables are based on the authors' interpretation of case study material and information supplied in regional reports. They are not intended to imply that the impacts identified are exclusive to the case study examples listed, nor that these are the only impacts – these merely serve to illustrate the range and commonality of the more easily identifiable impacts.

report also points out that it is difficult to separate impacts on conservation status that are a direct result of a CWM initiative from those that have arisen because of other external factors such as national land use policy. While this is a valid argument, it is also true to say that external factors such as national policies set the enabling environment, and are a prerequisite, for CWM so it is not necessary to separate the two; the one is part and parcel of the other. In analysing the case study evidence, it is the opinion of the case study authors and of the regional coordinators that CWM – and not external factors alone – has played a major role in these impacts.

The South Asian report notes that *"conservation areas, such as Annapurna and Makalu-Barun (Nepal), display clear evidence of the recovery of forests and key wildlife species since the inception of the CWM initiatives. In Sri Lanka, this impact has been seen in coastal areas, under programmes such as the Special Area Management Programme. Similar results have been seen in Pakistan's approach to conservation through 'sustainable use (regulated hunting) of megafauna in some high-altitude PAs"*. At all the Indian sites studied, except perhaps Mendha (Lekha), wild animal populations are reported to have increased or remained stable, and the status of wild plants has improved.

In other areas wildlife populations have been maintained despite significant external pressures. In the Democratic Republic of Congo, for example, the natural high abundance of wildlife resources has been maintained in Garamba National Park and in Okapi Wildlife Reserve despite heavy poaching by the military during the prolonged period of civil unrest.

"*The longest running community-based wildlife project in Namibia has been the IRDNC project in Kunene Region which began in 1982, when conservationists Garth Owen-Smith and Chris Eyre approached the local headmen about the major decline in wildlife which had taken place due to heavy poaching and severe drought. The headmen agreed that there was a problem and wanted to do something to bring back the wildlife. From this beginning emerged the highly successful community game guard project in which local headmen appointed game guards who reported to the traditional leaders. The role of the game guards was to monitor wildlife and look out for poachers, but not to be a paramilitary anti-poaching unit that worked for government. There is broad consensus in conservation circles in Namibia that the game guard project and subsequent community-based activities in Kunene Region had a significant impact on wildlife numbers in the region. It is a significant achievement that Kunene Region is home to the largest unfenced population of Black Rhino in Africa and that this population is growing"*. (Jones 1999)

Even those initiatives which rely on consumptive use of wildlife, such as iguana trading in Nicaragua, trophy hunting in Pakistan and Zimbabwe or muttonbird harvesting In Australia, report that populations of the target species have not suffered as a result of the activity while some, such as crocodile harvesting in Australia, show an increase in population size despite the commercial activity. According to workshops conducted to set safari hunting quotas in the CAMPFIRE districts, populations of most species were thought to be stable or increasing.

In some cases, certain species which had become locally endangered or even extinct have returned to an area or been reintroduced as a result of, or as part of a CWM initiative. In Madikwe, South Africa, the Africa wild dog (*Lycaon pictus*) has been re-established in an area where it had become extinct. In the Caprivi region of Namibia, a large herd of zebra returned to the Salambala forest area for the first time in many years and remained there for several months before returning to Botswana. The return of the zebra followed the evacuation of the area by people as part of the conservancy management plan and increased monitoring work by the conservancy game guards. Elephant sightings in the Salambala forest have also been

increasing steadily over the past three years during which the conservancy committee has been exercising control of the area. In Canada, the reintroduction of the wood bison (*Bison bison athabascae*) to aboriginal land in Alberta has been of cultural as well as ecological benefit. In Bhaonta-Kolyala, India, leopards have started revisiting the area under community conservation; in Jardhargaon, India, the tiger has been seen once again.

7.1.2 Habitat Protection

The majority of CWM initiatives are focused not on a single species but on ecosystem management. In India for example, wildlife conservation is a by-product of community forest conservation, joint forest management, or aquatic habitat management, rather than the ultimate objective. Many ecosystem restoration initiatives do, however ,have their origins in the harvesting of single species, eg. the harvesting of turtles at Isla Canas in Costa Rica which evolved into a beach management initiative, and reptile breeding projects in Nicaragua which eventually became forest management projects encompassing law enforcement and reforestation. In Costa Rica and Argentina, local people who make a living from harvesting live parrots have embarked on forest management projects aimed at restoring biodiversity and ultimately increasing the number of nesting trees. However, even where species conservation is not the sole purpose of a CWM initiative, wider habitat protection activities can nevertheless have significant effects on wildlife populations, and in a number of cases wildlife species have returned to areas that were previously degraded. In Niger, the dependence of local people on tiger bush for subsistence purposes has ensured its conservation, and in turn improved the habitat for giraffes.

Some of the ecological results of CWM in South Asia are quite remarkable. At Bhaonta-Kolyala, India, leopards and herbivores have restarted frequenting the regenerated forest. At Hushey Valley, Pakistan, the Himalayan ibex and snow leopard enjoy much greater protection than earlier. At Rekawa Lagoon, Sri Lanka, mangroves and lagoon ecosystem is being protected, along with turtles and other marine fauna. At Kokkare Bellur, India, people are reviving traditional protection of nesting pelicans and storks. Adjacent to the Chitwan National Park, Nepal, rhinoceros populations have increased dramatically in a couple of villages which have adopted ecotourism as part of their CWM efforts. At Chakrashila Sanctuary, Assam, India, the southernmost population of the endangered golden langur (Presbytis geei) is now zealously protected; this forest was notified as a sanctuary after sustained efforts by an NGO and local villagers.

Habitat protection can have wider ranging environmental benefits than wildlife conservation. In Kilum Ijim, Cameroon, for example, the availability and quality of water showed a significant improvement as a result of forest conservation activities, while in Mendha (Lekha), India, the forest management activities of the local community have also included soil and moisture conservation programmes.

At Jardhargaon, India, regenerated oak and rhododendron forest has been shown to have equivalent or higher flora values (including diversity) than other forests in the region, and significant wild fauna (including tiger, leopard, bear, and pheasants) populations or potential.

A number of CWM initiatives have made a positive contribution to conservation by increasing the amount, or diversity, of wildlife habitat available. The initiative at Makuleke in South Africa, for example, resulted in an additional 3800 hectares of conservation land being incorporated into the Kruger National Park. In

In Namibia, the large areas of land that are being designated as communal conservancies have meant that an ecosystem approach (rather than single species) to conservation can be adopted, and the potential for an integrated approach to resource management has increased as conservancy committees investigate other environmental issues such as water harvesting and forest management.

Annapurna, Nepal there has been a significant improvement in forest cover because of plantations and forest protection. Community plantations have also increased the amount of forest cover in Hushey, Pakistan, while in Rekawa, Sri Lanka there has been an increased spread of mangroves as a result of protection activities. South Asian case studies also mention the regeneration of previously degraded (and therefore of limited conservation value) forest land; some of the Joint Forest Management sites in India, for instance, could become important corridors for wild animal populations to migrate or move through from one protected area to another. In other areas CWM has not increased the amount of land available to wildlife but has ensured its continuity by reducing the threat of land transformation. Habitat protection and restoration does however to a large extent depend on markets for cash crops, urban economies, population density and the opportunity cost to labour. Traditional hunting and livestock management practices can also be important in creating and maintaining wildlife habitat, eg. in Australian and African savannahs, where patch burning by indigenous people has resulted in a habitat mosaic which increases wildlife diversity.

7.1.3 Changes in Attitudes and Practices

A number of the CWM initiatives reviewed have highlighted changes in the attitudes and practices of communities and conservation managers. Steinmetz (2000) notes the benefits of breaking down the suspicions and mistrust that can often exist between protected area staff and local peoples: *"In many cases, protected area staff in Xe Pian and Phou Hin Poun [both in Lao P.D.R] are friends with local people, a management asset that is being further advanced through local involvement in the survey and monitoring process. The staff feel that maintaining the interest of local people in monitoring or other activities can be assisted sometimes simply through keeping up friendly relations, even spending time in traditional Lao drinking sessions with liquor purchased by the staff…. The positive interaction which the author has often witnessed between villagers and PA staff in Lao PDR erodes or obviates suspicion and hostility and is therefore believed to be an important ingredient for long-term success."* At Kailadevi Sanctuary, India, self-generated forest protection initiatives by villagers have won the informal recognition of the sanctuary authorities (Das 1997), and in Mendha (Lekha), a previously hostile Forest Department is now very cooperative.

The Southern Africa report queries whether CWM does in fact have an impact on environmental awareness of local communities and cites research by Murombedzi (1999) and others in Zimbabwe as evidence for this: *"People at Masoka in the Dande communal lands invite newcomers to immigrate into their area in the hope that this will stimulate infrastructure and transport provision, knowing that the increase in population will be to the detriment of wildlife."* The people at Sankuyo still, after two years of a very lucrative CWM, believe that wildlife and the responsibility to manage it belongs to the state (Boggs 1999), while communities at Dwesa do not seem to be concerned about the obvious negative trends in the ecological status of mussel beds that they harvest (Timmermans 1999).

However, increased environmental awareness is identified as a positive impact in a number of case studies in different regions of the world, particularly in Australia where environmental awareness has increased significantly amongst both indigenous groups and scientists as a result of the interplay between conventional scientific knowledge and traditional knowledge: *"Collaboration with scientists in wildlife survey and species recovery projects has helped make indigenous people*

The principal achievement of the iguana breeding project in Nicaragua was the observation of a clear change of attitude towards the environment among the *campesinos* involved.

involved in CWM projects much more aware of wildlife conservation issues. Even where communities currently see no need to restrict their harvests of threatened species, as with dugong, improved awareness about such issues may make people question their customary practices more closely." This interplay between scientific and traditional knowledge can also have the effect of improving conservation planning and management practices, as protected area managers increasingly recognise the validity of local knowledge and traditional management systems and joint management arrangements become more and more common.

Further evidence for an increase in environmental awareness is demonstrated by the number of case studies that identify regulation of resource use (particularly predominant in South Asia) and the introduction of community monitoring of wildlife populations as impacts of CWM. Hasler (1999) notes that the monitoring of wildlife that occurs under the CAMPFIRE programme is a notable achievement since it would certainly not be possible within the limited state conservation budget.

As well as changes in environmental attitudes of communities and conservation managers, there has also been a significant change in attitudes in other official circles due to CWM initiatives. The remarkable work on self-governance related to forests and other natural resources in Mendha (Lekha), India, and the successes in forest regeneration and protection in hundreds of other sites in South Asia, have without doubt helped to soften governmental opposition to ideas of participatory management. They have also been the most influential points in changing policy at national levels, and have even been cited by NGOs or country delegates in arguing for greater CWM provisions to be built into international agreements such as the Convention on Biological Diversity.

Table 7.1: Environmental Achievements of CWM[5]

Impact	Case Study Examples
Wildlife numbers increasing	*Southern Africa*: Madikwe, Conservancies *West and Central Africa*: Gashaka Gumti, Western Biosphere Reserve *South Asia*: Bhaonta-Kolyala, Jardhargaon, Annapurna *Canada:* Game ranching *Australia*: Miyapanu, Mala, Crocodiles
Wildlife numbers stabilised/maintained	*Southern Africa:* Sankuyo, CAMPFIRE *West and Central Africa:* Garamba, Okapi *South Asia:* Hushey, Mendha (Lekha), Kokkare Bellur *Central America:* Ostional, Iguanas *Canada:* Subsistence hunting, commercial harvest, tourism *Australia:* Muttonbirds
Species reintroduced or augmented	*Southern Africa:* Madikwe, Conservancies *South Asia:* Rekawa *Canada:* Game ranching
Increase in forested area/conservation land	*Southern Africa:* Makuleke, Conservancies *South Asia:* Annapurna, Hushey, Rekawa
Maintenance of existing forests	*South Asia:* Mendha (Lekha)

5 Note that some of the results shown here may not have stringently calculated statistical back-up, and may be based more on impressionistic accounts. However, these accounts have often been cross-checked with various stakeholders, and generally appear to match more formal studies whereever done.

Reduced threat of land transformation	*Southern Africa:* CAMPFIRE, Madikwe *South Asia:* Mendha (Lekha)
Regeneration of degraded forests/land	*South Asia:* Bhaonta-Kolyala, Jardhargaon, Annapurna
Breeding sites protected (other than habitats as a whole)	*South Asia:* Kokkare Bellur *Australia:* Muttonbirds
General environmental improvements (eg. soil and water conservation)	*West and Central Africa:* Kilum Ijim *South Asia:* Bhaonta-Kolyala, Mendha (Lekha), Annapurna
Negative impacts (eg. of tourism) mitigated	*Southern Africa:* Sankuyo *South Asia:* Annapurna, Hushey, Rekawa, Mendha (Lekha)
Increased environmental awareness/improved attitudes	*Southern Africa:* Madikwe *West and Central Africa:* Kilum Ijim, Western Biosphere Reserve *South Asia:* Annapurna, Mendha (Lekha), Bhaonta-Kolyala *South East Asia:* Ratanakiri *Central America:* Iguanas *Australia:* Miyapanu, Dugongs, GBRMP, AFMA, Wallabies, Anangu
Resource use regulated	*South Asia:* Jardhargaon, Mendha (Lekha), Annapurna, Hushey, Rekawa, Bhaonta-Kolyala *Canada:* Subsistence hunting *Australia:* Kowanyama, GBRMP
Community monitoring	*Southern Africa:* CAMPFIRE *West and Central Africa:* Western Biosphere Reserve *South Asia:* Hushey, Mendha (Lekha) *Australia:* Bawinanga, AFMA
Improved conservation planning/management	*Southern Africa:* Dwesa, Makuleke, Conservancies, CAMPFIRE *Australia:* CLC, Caring for Country, Anangu *Asia:* Bhaonta-Kolyala
Other impacts	*South Asia:* Jardhargaon (protection against fires)

7.2 Weaknesses of CWM as an Agent for Conservation

Despite the optimistic results presented in Section 7.1 there are a number of significant weaknesses observed in the initiatives reviewed which appear to limit the viability of CWM as an effective agent for conservation. The most common of these is continued poaching or use at unsustainable levels. In many cases this reflects a problem that CWM has failed to address or that is beyond the scope of the initiative. For example, the poaching at Garamba National Park and Okapi Wildlife Reserve in the Democratic Republic of Congo was largely attributable to military personnel during the period of civil unrest and conflict.

The Southern Africa report notes that lack of law enforcement is a critical factor in continued illegal use, observing that *"Law enforcement is neglected in many of the CWM initiatives in the sub-region, and illegal harvesting of wildlife is a problem in most case studies except the most intensively managed ones such as Madikwe"* (Magome et al. 1999). Lack of law enforcement obviously leads to the depletion of wildlife resources: communities at Dwesa (Timmermans 1999) and Mkambati (Kepe et al. 1999) had a severe impact on wildlife and shellfish resources. Illegal hunting can reduce the international credibility of initiatives, for example

CAMPFIRE has been criticised for turning a blind eye to illegal hunting. Most importantly, a lack of enforcement or resistance against it displays a lack of commitment on the part of stakeholders to the sustainability of initiatives. The report goes on to note that *"One of the reasons why law enforcement appears to be a low priority is because communities believe that wildlife resources are abundant. Communities in the Okavango Delta (Boggs 1999) and at Dwesa (Timmermans 1999) did not believe that wildlife and shellfish resources were declining and felt that it was their right to utilise them, whether legal or not. Another reason for weak enforcement is that most wildlife departments and parastatals in the sub-region have experienced significant budget cuts over the past decade. Not only does this prevent them from policing resources, but monitoring rarely takes place and where it does it is infrequent.".*

Fabricius (1999) notes that in tropical forest ecosystems where nutrients are low and home ranges are large, wildlife is particularly vulnerable to overharvesting above sustainable limits. Species which have a low abundance and low rate of increase are particularly vulnerable. People living in forests tend to over-harvest the most preferred (largest) species, and when the cost-benefit ratio becomes too low, move to smaller species until these are depleted. At Kaa'Iya in Bolivia, the Izozeno Indian tend to hunt less and less hoofed game and more armadillos as the hoofed game becomes scarce (Ortiz von Halle & Mazzucchelli 1997).

In other cases illegal or unsustainable use of wildlife and its subsequent decline is a result of the lack of rights and responsibilities of local communities for wildlife. If wildlife conservation is perceived to be of little value to communities because of the limited, or indirect, benefits they receive from it then they will continue to use it illegally rather than to conserve it (see section 4.2.2). Illegal use may also be a result of the community's inability to regulate the behaviour and activities of some individuals within or outside the community - for example in Kokkare Bellur, India, powerful members of the community continue to fell trees that are important nesting sites for storks and pelicans. In Garamba National Park, DRC, while widespread hunting of small mammals for bushmeat occurs with little impact on population sustainability, the hunting by non-residents of large mammals appears to be unsustainable.

Wildlife populations and habitat may also be negatively affected by the introduction of exotic species, especially where these turn out to be competitors. This has occurred in Annapurna, Nepal, where there have been plantations of exotic species in some areas, and in Canada where a number of non-native species (reindeer, red deer, fallow deer and wild boar) have been introduced for game ranching. The Australia report notes that, although not introduced as a result of CWM, some non-native species have acquired economic and cultural value to indigenous people, adding a further layer of complexity to wildlife management programmes.

In some cases, CWM appears to have failed to instil in local communities a sense of the value of wildlife. Murombedzi (1999) notes that *"Most CAMPFIRE wards invest their CAMPFIRE revenues not to improve wildlife management and therefore increase wildlife revenues, but rather to improve agricultural productivity in ways that are incompatible with wildlife. Agricultural extension services in CAMPFIRE areas continue to be geared towards encouraging the expansion of arable agriculture, rather than realigning land use to favour wildlife production*". Hasler (1999) also notes continued financial investment in livestock amongst CAMPFIRE residents. Similarly in the Western Serengeti wildlife populations continue to decline as farmers continue to clear land for cultivation rather than wildlife (Emerton and Mfunda 1999) while in Bhaonta-Kolyala, India, overgrazing by livestock continues to threaten the forest habitat (Shresth 1999).

Table 7.2: Weaknesses of CWM as an Agent for Conservation[6]

Impact	Case Study Examples
Wildlife numbers declining	*Southern Africa:* Mkambathi, Dwesa *East Africa*: Serengeti SE Asia:: Fireflies: Selangor State, Malaysia *Australia*: Sustainable use
Continued use at unsustainable levels	*Southern Africa:* Dwesa, Mkambati *East Africa:* Serengeti *West and Central Africa:* Garamba, Okapi *South Asia:* Mendha, Kokkare Bellur, Annapurna, Bhaonta-Kolyala *South East Asia:* Ratanakiri *Central America:* Iguanas
Introduction of exotic species	*South Asia:* Annapurna *Canada:* Game ranching
Continued investment in livestock over wildlife	*Southern Africa:* CAMPFIRE
Disturbance	SE Asia: Fireflies: Selangor State, Malaysia
Overgrazing by livestock	*South Asia:* Bhaonta-Kolyala

6 The Australian case studies were only analysed for "achievements" i.e. positive impacts and so do not feature in this table. This is not to imply there were no negative impacts, simply that they were not included in the regional analysis.

8. What Makes Community Wildlife Management Work?

This chapter attempts to identify what influences the success or failure of CWM. We have already discussed what constitutes 'success' in Chapter 2; here we describe some of the factors which seem to explain it. We divide these factors into those that determine whether or not CWM is likely to evolve in the first place and those which determine whether or not an initiative will succeed in the longer term; some obviously influence both. We attempt to identify characteristics which support and hinder CWM in:

- the wildlife assets being managed;
- the attributes of the community and institutions involved in the CWM initiative;
- the skills, knowledge and leadership that individuals can give to CWM;
- the physical assets that are available; and
- the policy environment and the processes that occur at all levels, from local to international, involving the various CWM stakeholders.

8.1 Factors influencing the development of CWM

The importance of context in determining the 'shape' of CWM cannot be over-stressed. The influence of past and current conservation policy and practice on the evolution and development of CWM has already been described in general terms in Chapter 3 and on a regional basis in Chapter 4. Macroeconomic trends and globalisation have profound influence – for example where rising inequality forces those on the bottom of the ladder to become increasingly dependent on common pool resources (we return to the 'macro' factors later in this chapter). Shocks and risks such as climate and conflict also play their part: hurricanes or drought can have devastating effects on wildlife populations and other livelihood assets; conflict can disrupt and dislocate communities, instil short-termism and wipe out wildlife. Alternatively these same shocks can have positive effects for wildlife – conflict zones may not be the best places to go hunting wildlife; drought may result in fire which may regenerate rangelands.

When thinking about the factors that affect the success or failure of CWM, we should also remember that CWM is often only one of a variety of ways in which rural people pursue their livelihoods (Carney, 1998). People are not solely wildlife managers any more than they are solely farmers or foresters. They are like mini-corporations – with a range of businesses and troubles to deal with – winning on some, losing on others, playing off one against another. There may be a multitude of criteria involved in people's decisions about livelihood strategies, all of which have the potential to influence the outcome of a CWM initiative. A livelihoods approach also allows us to recognise how conservation objectives may often be achieved through livelihood strategies which have little deliberate focus on wildlife, especially in locations where opportunities for tourism and trophy hunting are very limited, notably West and Central Africa, and South Asia. Most of the cases studied in these areas have either achieved wildlife management as a welcome by-product of other primary objectives, or have put conservation objectives on the back-burner deliberately, in favour of attaining other goals first.

In the following section we draw on a livelihoods approach to examine the characteristics of wildlife and people, and the dynamics of communities and their institutions. The 'sustainable

rural livelihoods' framework developed by Carney (1998) and others groups such characteristics under several types of 'assets' or 'capitals' - natural, social, human and produced capital. This approach also allows us to examine the conditions under which these capitals are transformed and combined and how people are able to access, defend, sustain and expand their asset bases in CWM.

8.1.1 Wildlife attributes: natural capital

The nature of wildlife assets subject to CWM is of great variability (see section 2.3.2 on defining wildlife). A key question to be tackled in assessing the attributes of natural assets conducive to CWM is: *whose vision of the assets is being assessed?* Different stakeholders in a CWM initiative are likely to have different, and sometimes conflicting, visions or worldviews of nature and wildlife. For example, while forest and wildlife departments still have an essentially commercial or single-element conservation outlook ('teak and tigers') or focus on areas 'needing to be managed', local people may see a greater range of values to do with what is useful or what impinges on their lives. The issue of 'whose vision?' is therefore primary, and yet may change through time, with different bearings on wildlife numbers and diversity.

An overriding factor determining whether CWM evolves at all is the nature of wildlife assets in terms of their divisibility and their ability to produce a flow of short-term as well as long-term benefits. Two characteristics of wildlife assets which critically influence the likelihood of CWM evolving (and which, therefore, help in considering whether wildlife assets should be managed by communities, allocated through the market, or considered as public assets) are: *excludability* – the extent to which an individual can deny the use of the wildlife asset to others; and *subtractibility* - the extent to which the consumption of the wildlife asset subtracts from its repeated consumption.

Some wildlife assets, such as crocodile meat, can only be consumed once - they are highly subtractible – and it may be possible for individuals to exclude others from consumption by effecting clear ownership over the assets. Such assets will favour utilisation by individuals and allocation through the market. On the other hand, wildlife assets such as forests and watersheds are characterised by low excludability and low subtractibility. Since there is little incentive for an individual to invest in the provision of such wildlife assets, they will tend to be under-provided - or not provided - unless a government, association or community accepts the responsibility for their provision. Assets with medium excludability and subtractibility seem to favour community management regimes.

However, it is important to note that the private, public or common property nature of wildlife assets is not an inherent characteristic, but depends upon the level of institutional sophistication, communications and technology (see below). It is possible to change excludability and subtractibility through eg. zoning and management agreements. Hence there is potential to transfer what once *had* to be public wildlife assets to market or community systems with institutional improvements and appropriate safeguards.

In more practical terms, the concepts of excludability and subtractibility help us identify the following characteristics of wildlife assets which favour CWM:

- ***Clear and defensible boundaries:*** CWM is more likely to emerge where wildlife assets can be clearly demarcated and agreed by users. However the *mobility* which distinguishes most animals from most plants frustrates this. Indeed, the long-term viability of CWM based

on *fugitive* resources, such as the schemes based on large-mammals in southern Africa, is often questioned.

- ***Manageable scale***: Wildlife areas need to be sufficiently large to warrant collective action, yet small enough, given the communication and transportation technology in use, that users can develop accurate knowledge of external boundaries and internal microenvironments. Analysis in Canada, for example, highlights the particular importance of the potential CWM area being not so large as to make the costs of protection and management prohibitive.

- ***Relative scarcity***: Increasing scarcity and impending ecological degradation appear to be major catalysts of CWM. For example, watershed regeneration efforts in many parts of South Asia and well-established systems of forest wildlife management in Nepal have emerged in areas of previously scarce resources. Certainly, there would seem to be little advantage resulting from organising in situations where wildlife assets are under-utilised and abundant. A condition would seem to be that the wildlife assets can be *feasibly improved* – they are not at a point of deterioration such that it is useless to organise and invest precious local financial and human resources for uncertain future benefits. Thus, scarcity in itself is generally an insufficient stimulant to collective action; key components of social and human capital (outlined below) are also crucial. Scarcity may also be related to *increased interference from outside* – such as when government steps in and denies access to communities.

- ***Substantial value***: Similarly, the value of wildlife assets greatly affects the incentives for CWM and hence its chances of success. In West and Central Africa, central importance is given to the need for a positive trade-off between managing land for wildlife and other uses. A healthy supply of bankable wildlife was also found to be crucial in the case of community vicuña management in South America. Communities endowed with large numbers of vicuña have made good medium-term profits from the harvesting of fibre from the animals, but the economic viability for communities with small numbers of vicuñas is more questionable, especially where semi-captive management is involved. These communities have to invest labour and money to set up enclosures and to remove their cattle from these areas. It should be noted, however, that there can also be dangers associated with high value assets. When the value of the resource increases, sometimes because of the success of CWM, more powerful groups move in at the expense of communities. This has occurred in cases of joint forest management in India and some of the conflict-ridden cases in southern Africa.

- ***Relative proximity to communities***: Communities and wildlife need to be close to each other for CWM to work, but, in most cases, not so close that the costs outweigh the benefits. There are many examples in Africa and India of the major costs associated with living next door to wildlife: denial of access to wildlife lands, and direct damage to property, crops and human lives. In joint forest management in India, most success is noted in villages which are *neither too close* to the resource - if they are, villager's livelihoods are threatened by restricted access – *nor too far* and having a low forest wildlife dependence and hence little interest in investing labour in its management (Hobley and Shah 1996).

- ***Predictability and ease of monitoring***: Planning and organisation of CWM may crucially depend on the availability of wildlife being relatively predictable. *Reliable information* about

the general condition of the wildlife assets must also be accessible at reasonable cost. However, some wildlife assets are notoriously difficult to monitor, notably forest animals.

- ***Seasonality in tune with livelihoods*:** Because CWM is likely to be only one of a range of livelihood activities, the seasonality of assets may also be important (for example the management of iguanas in Nicaragua and the harvesting of *Trichopus* by the Kani Tribals in Kerala, India) so their utilisation may dovetail with other livelihood strategies. However, the seasonality of different wildlife assets at different times may also lead to a complex of users with different benefits and tensions.

- ***Ease of utilisation***: Wildlife assets are more easily managed where the mechanics of protection and harvest are simple and affordable. However, this may be a two-edged sword where barriers to entry in the exploitation of the resource are low. For example, the combination of low security of ownership and low costs of hunting technology in West Africa result in low incentives for CWM and open access to hunting for forest animals.

8.1.2 'Community' attributes: institutions and social capital

As well as the specific characteristics of wildlife (species, habitats, ecosystems) involved in CWM, the characteristics of the community are equally important in determining its success or failure. The attributes of the community and its institutions are referred to, in the sustainable rural livelihoods framework, as 'social capital'. As previously discussed, simplistic descriptions of community harmony and natural predisposition to environmental care should be treated with caution. Communities are rarely 'ready-to-use' units of social organisation for wildlife management; their institutional/authority structures are often weak, precluding collective action. Different groups within communities have different values and priorities which lead to different agendas and perceptions of wildlife and wildlife resources (Milner-Gulland & Mace, 1998, Western & Wright, 1994). These values and priorities are essentially economic (led by the desire/need for money), socio-political (the desire for power and security) and aesthetic (the desire to conserve biodiversity for its own sake).

Assuming homogeneity and consensus within 'communities' suggests that men's interests can be taken to represent those of women, that poor people can be represented by the rich, the young by the old, etc. The many subgroups, with their widely differing rights, claims, and aspirations for wildlife, are usually the more useful units for understanding interests and motivations. Failure to take a realistic view of communities and acknowledge differences between groups has led many CWM projects to fail because the management regimes established are simply not accepted by excluded groups.

The following conditions and attributes of community groups which appear to facilitate CWM, have been derived from the case studies:

- ***Ability to claim and secure tenure***. Natural assets are worth very little without secure rights and responsibilities for access and use. It is becoming increasingly recognised that security of tenure (where tenure is understood as a 'bundle' of rights and responsibilities) is one of the most significant factors influencing CWM. Yet secure tenure is not achieved simply through the allocation of rights by national or local governments, or traditional leaders. Whilst the recognition of tenure rights is vital – the ability to claim and effect them is the deciding factor, and this is a function of local social capital. In recent years there has

been a greater recognition of the importance of indigenous land rights, backed up by processes of claim-making and claim resolution, for example through the land claims process in Australia, Canada and South Africa. Tenurial security also requires the effective ability to exclude outsiders who do not abide by the community's rules. However, in some contexts, such as for forest animals in West Africa, tenurial security over wildlife is extremely difficult – with low levels of ownership (where wildlife is generally state property and alienated from local communities), non-recognition of user rights and blanket criminalisation of use, presenting serious obstacles to the emergence of effective community rule systems. Tenurial security does not necessarily imply absolute ownership or the power to alienate land and resources. In many cases, effective *custodianship* or trusteeship arrangements, with rights and responsibilities wedded together, may be more important. Experience in South Africa, however, suggests that communities who have obtained *de jure* ownership of land and resources, for example the Makulekes, are much more inclined to take a long-term perspective to development, getting more involved in proposals for training and capacity development, than those who do not have ownership.

- '***Small-scale'*** (referring to social not spatial scale): Effective community organisation seems to be based primarily on personal interaction. The face-to-face contact necessary for group *cohesion* is only possible within relatively small groups. Such groups may however be spatially dispersed. In Southern Africa and South Asia, small and homogeneous communities tend to be less prone to conflict than large heterogeneous communities. Some estimates of appropriate group size are quite specific – from the Australian indigenous CWM case studies, for example, it was concluded that optimum community size is about 1000 people.

- ***Demand for, and dependence on, wildlife assets***: The greater the demand for wildlife (up to a limit) and the more vital it is to people's livelihoods, the greater the chances of success. This factor seems to drive progress in CWM cases such as the management of turtle eggs in Ostional Wildlife Refuge, Costa Rica and the Bawinanga Aboriginal Corporation in Australia.

- ***Cultural significance of wildlife***. Cultural integration of local groups with wildlife may be a key ingredient of CWM, particularly indigenous forms of CWM which are often accompanied by a range of cultural practices (sometimes referred to as cultural capital[1]) that are valued for their meaningfulness. Examples include hunting ceremonies/practices, harvest fiestas, certain forms of labour, wildlife products and motifs in art, sacred landscapes, totem species. Cultural relationships related to residence in a particular location may be vital for people's *identity* and motivation for CWM. Australian CWM, for example, is strongest where traditional cultural practices linked to the land are a focus for group identity and organisation. In Namibia, the return of wildlife was listed by older community members as their primary expectation from the formation of conservancies. In western India, traditional tolerance of wildlife and a predominance of vegetarianism plays a critical role in welcoming the revival of wildlife, even where some wild animals might be leading to crop/livestock loss.

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1 sensu Bebbington 1999

- ***Stakeholder identification and group demarcation:*** Within a community, different groups often have a different stake in the resource. For example, in the Shiwalik Hills of northern India, indigenous people use the forests to a limited extent for fodder, whilst more recent settlers are dependent on grass from the forests for their rope-making-based livelihood. Agreement on which groups or stakeholders get priority is crucial – but often more complicated than it might seem. There is often therefore a need to distinguish primary and secondary, and sometimes even tertiary, stakeholders. Some of the other characteristics of social groups and wildlife assets identified here – such as their proximity and cultural integration - have been used as criteria for this. But this still begs the question: who will determine the stakeholders, and how is this agreed? There is no simple answer, but the more participatory an exercise this is, the higher the chances of the results being accepted. This is well illustrated in the case study of conservancies in Namibia where conservancy members have been allowed to define themselves.

- ***Institutions built on existing motivation.*** Community institutions: social structures, rules, processes and arrangements, are the building blocks of community organisation and collective action and so have a major influence on the efficacy of CWM. There is no simple answer to the question of whether CWM initiatives do better when they work with existing institutions or when they introduce new ones. In many situations there is no escape from existing institutions - CWM initiatives have to engage with them. But whether CWM is best 'housed' in these old institutions or in new purpose-built institutions is another question.

  Traditional institutions often play an important role in managing wildlife, and their exclusion from some West and Central African CWM initiatives has undermined these initiatives. Many effective local institutions are highly informal, consisting of regularised practices of particular groups of people rather than a fixed set of rules; they are dynamic and flexible, which may be in contrast to introduced formal organisations. On the other hand traditional institutions are sometimes male-biased and relatively undemocratic, whilst novel institutions may offer groups previously marginalised from decision-making, including women and migrant people, the opportunity to have a say. However, in East Africa traditional institutions have often been replaced by government-created institutions which has reduced overall capacity for communities to manage wildlife. Forest user groups in Nepal have been more successful where they have emulated or integrated existing village institutions. Perhaps a good sign of progress is where externally-initiated structures are modified by communities. At Kailadevi in India, villagers quietly moulded the Forest Department-created Forest Protection Committees into structures which closely resembled self-initiated informal committees which already existed. Overall, the case studies appear to indicate that successful CWM has, either through an explicit process or through trial and error, made a pragmatic assessment of which institutions have the capacity and *motivation* to manage wildlife resources, and to build on these wherever they lie (and they may not lie with the main desired beneficiaries to start with). Experience seems to show that the solution lies with *new learning institutions built on solid old foundations.*

- ***Representativeness and legitimacy:*** The distribution of decision-making rights over the wildlife assets needs to be seen as reasonably fair. Making institutions genuinely representative has proven tricky, but active efforts are making ground. The Central American case studies have advocated that subgroups should be involved in community-wide decisions and election of representatives. In Pakistan, IUCN projects insist that any major decision by village organisations needs to be reflected in a written resolution by its members. In India, the Government of India's 1990 Joint Forest Management resolution

requires participation of women in local JFM institutions. Whilst this translates into token efforts in many places, in Gujarat the NGO SARTHI has been catalytic in achieving active participation of over half the local women. In Namibia, members of conservancy committees are democratically elected by all the members. It should be noted that representativeness and legitimacy do not always go hand in hand. Legitimacy in the eyes of the community may not stem from the accountability and transparency so much favoured by some outsiders. Relatively unaccountable local leaders and procedures may have a firm base of support in some cases.

- ***Adaptability and resilience****:* The ability of institutions to deal with common problems and adjust local rules of wildlife use in response to changing circumstances is crucial to longevity of initiatives. In Jardhargaon, India, the women's committee and the forest protection committee have been dormant in recent times, but this may simply be a function of there being no immediate crisis point to rally around. Such hibernation may be broken when a crisis threatens or erupts. Resilience - the right as well as the capacity to adapt in content and structure – is thus a key concept for CWM. The capability to recognise and deal with *social, financial and environmental risks* is at the core of this. CWM that is oriented towards particular traded products (eg. vicuna fibre in Peru, game ranching in Canada), have to operate in the face of uncertain future markets. Neither the organisations nor the management systems are inherently stable, their functioning is dependent on their ability to adapt to opportunities in production and marketing.

- ***Effective rules, mutual obligations and sanctions***: CWM institutions need rules for their members to abide by. These appear to fall into two groups:

  1. *use rules:* restricting time, place, technology or quantity of wildlife units
  2. *provision rules:* requiring labour, materials, and/or money

  Such rules need to be appropriate and flexible enough for local conditions. Rules can help in the development of a system of mutual obligations which can be effective when *social reputation* rests upon it. In some of the Indian case studies, reciprocal relationships based on kinship and barter have helped bind people together and enhance institutional effectiveness. Rule systems depend on violators being detected, and should then receive sanctions appropriate to the seriousness of the offence - from their peers, or from officials accountable to the group. All this sounds simple, but successful CWM cases have clearly taken years of trial and error to come up with effective and widely supported rule systems.

- ***Balance between customary and statutory law****:* Related to the point above is the question of whether customary or statutory law should take precedence. Clearly statutory law can not be overlooked. However, people in rural areas tend to be more familiar with customary rules, regulations and boundaries than with statutory law. In the Indian case studies at Bhaonta-Kolyala, Jardhargaon, and Mendha (Lekha), people follow customary rules such as social boycott and fines made by their own village institutions rather than the regulations of the Indian Forest Act or other relevant statutory law. A balance is needed between the two for CWM to be acceptable to all parties. Compared to statutory law, customary law is often speedy, binding, known to all, cheap (although a feast by the victorious party may be called for!) and, with flexible sanctions determined by the violator's ability to pay. However, community rules can also be quite severe and can be abused. For example, the *kulhadi-bandh* panchayats or 'no-axe councils' in Rajasthan are having a major impact but may be used by the locally powerful against the locally weak in some

caste-based villages. When fundamental human rights are being violated, or when serious ecological destruction is threatened by community action then statutory law may sometimes be the only option.

- ***Negotiated goals.*** If the legitimacy of interest groups in CWM is based on the degree of social commitment that they can muster, rather then on some external arbiter's view of whether interests are right and wrong, then there are likely to be *multiple valid groups*. Indeed most CWM cases are characterised by a multiplicity of informal institutions. Amid such multiplicity, different people rely on different institutions for different activities. For example, family labour may be needed to capture and transport wildlife, whilst trading networks may be needed for marketing. Contexts with multiple institutions also imply different interpretations of how things should be done. This implies that the nature of CWM needs to be *negotiated* amongst these groups. This conclusion emerges strongly from the West and Central Africa case studies, amongst others. However, all negotiation processes will reflect prevailing power relations; level playing fields are very rare. Nevertheless, CWM cases that have shown some resilience have some sort of process for thrashing out negotiated goals.

- ***Conflict-resolution capability****:* Chapter 6 clearly identified conflict as a significant negative aspect of CWM. Conflict- or dispute-resolution mechanisms are therefore likely to be an essential component of successful initiatives. Many case studies point to the vital importance of dispute resolution, or at least the first stage of a resolution, being at the community level (eg. mediation amongst users of Rekawa Lagoon, Sri Lanka). Indeed, some communities (eg. Mendha-Lekha and Kailadevi villagers in India) even forbid members from going to outside dispute resolution forums such as the police, without first seeking redress at the local level. Communities also need rapid access to such low-cost local arenas to resolve intra-community (or group) conflict and to prepare themselves with regard to conflict with outsiders. In the Southern African region, for example, the previous prevalence of conflicts between authorities and communities over access to resources is being replaced by conflicts within communities - over benefits and power. New elites have emerged who receive a disproportional share of the benefits, while the weakest and the poorest community members tend to receive the smallest share. Elites themselves may be in conflict – in the Botswana case there is a rift between those in formal positions of authority and those who have power in practice.

- ***Equity in distribution of benefits, and social justice***: The issues of conflict over benefits described above underline that to be effective, CWM requires that community institutions have a system for the equitable distribution of benefits. This means that benefits should be shared in a way that is commensurate with the varying sacrifices and contributions made, or the damages incurred, such as happens with Jardhargaon's traditional irrigation system in India. Similarly, the synthesis of case study experience in Southern Africa is not alone in concluding that, to be effective, benefit-sharing schemes need to be seen to be transparent and accountable, with well-defined principles and practices that are understood, agreed and accepted by all stakeholders. But in general, unequal distribution of benefits bedevils CWM initiatives. For example, in Peru, South America, revenues from the sale of vicuña fibre are paid to community authorities. In some cases, these authorities have decided to use the revenue to invest in enclosures although the benefits from these are highly uncertain and only felt in the long-term. As well as equity in benefit distribution, community institutions also need to deal with inequities of caste, class, gender or ethnicity. In Australia, equity for indigenous people in commercial wildlife industries and protected area

management is becoming an important issue - for social justice reasons and to increase the economic base for effective indigenous CWM. Many local systems, despite being based on widespread participation, fail to address inequity. India's Joint Forest Management arrangements are often oriented to the production of timber whilst the poorer members of the community reliant on NTFPs are given less importance. In Bhaonta-Kolyala, the dominant Gujjar community has built water harvesting structures on common lands that the 'lower' caste Balai community had wanted to use for cultivation, giving rise to dissatisfaction amongst the latter. Where the emergence of unjustifiably disprivileged sections of society breeds unrest, efforts to install community participation will run into trouble if they stop short of social justice.

- ***Ability to negotiate with neighbours:*** In many CWM initiatives, as well as conflicts for power within the communities and groups, there are conflicts between neighbouring groups or communities over access to resources. In Central America, these conflicts appear to be exacerbated in the most degraded areas where resources are scarce. In South Asia it is common to find one village attempting to protect forests only to have an adjacent village refusing to subscribe to any restrictions. CWM initiatives themselves can further such inequities, eg. where dominant groups cut off access to forest resources that the poor traditionally enjoyed, in the name of conservation. If neighbouring communities do not benefit directly from CWM, other types of benefits need to be made accessible if the initiative is to survive. In some cases, federating structures have helped to resolve such disputes. For example, the *baragaon-ki-panchayat* (council of 12 villages) in Kailadevi Sanctuary, India, negotiates forest use and conservation relations amongst the members of neighbouring settlements. Negotiating what type of benefits to share, with whom, over what duration and for what purpose is crucial to the viability of CWM.

- ***Political efficacy and space to build community-government relationships***. In the Australian cases, where the presence of poverty and social dysfunction limit community competence and, thereby, community capacity for effective CWM, many groups are working hard to develop the social vitality and political efficacy necessary for long term viability. In South Asia it is clear that neither government nor communities can deliver long term conservation on their own – both need each other. Communities lack the resources to tackle ecological issues at a regional scale, and in many places have lost their traditional ethos and institutions. Government agencies dealing with conservation lack the necessary micro-knowledge, on the spot human-power, or even the necessary mandate when other agencies over-rule them.

  Many state roles remain critical, such as resolution of disputes which cannot be tackled at the local level; legal and administrative back-up of community efforts; channelling assistance from supporters; and acting as a buffer against exploitative outsiders. For example, it is instructive that even in the strongly self-empowered community of Mendha-Lekha in India, villagers sought an official Joint Forest Management status in order to obtain para-legal authority, access to wider benefits and expertise, and a countervailing power to possible undermining influences from within the community itself. *Stable community-government relationships are more likely where village institutional structures are strong.* This is especially the case if these structures are well-established and the government institutions have come to terms with being confronted with a powerful local institution. However, in some cases, linkages with government structures are non-existent (perhaps irrelevant) and, in others, conflictual.

- ***Capacity for layered alliances.*** To avoid exacerbating community divisions *"layered alliances"* (Agrawal 1997) may need to be built into initiatives early on. 'Nested enterprises' are needed – activities arranged in multiple institutional layers. The Okavango case study showed that time spent building commitment to responsibilities is crucial in the inception period. In Namibia, Jones (1999) notes that *"neither freehold nor communal conservancies exist outside of other layers of decision-making and resource use. Central government retains overall responsibility for the sustainable use of wildlife resources and retains a monitoring and enforcement role in addition to the internal activities of the conservancies. Particularly within communal conservancies it is likely that certain resources will need to be managed by a group of conservancies acting over a larger space than an individual conservancy. At the same time, certain management activities will need to take place at lower levels than the conservancy, such as at village or even household level. The system is flexible enough to allow these nested layers of decision-making, authority and resource use to develop over time".*

- ***Confidence to coordinate external institutions.*** Inter-departmental coordination within the government, and coordination between state and local community institutions, is frequently weak. In Bangladesh, the huge range of ministries and departments with responsibilities for water-bodies produces a confused situation which is easily exploited by powerful fishing contractors. Attempts to achieve such coordination, while rare, are noteworthy. Under Nepal's new Buffer Zone Regulations, inter-institutional contradictions may be avoided through District Advisory Committees to be constituted for each protected area, consisting of village development committees, line agencies, staff of the parks and people project, and local villagers. Such policy-level directions are one way of resolving the problem. Another is through ground-up action: in Mendha-Lekha in India, the village has decided that no programme can be implemented without their express permission. The village has pushed external agencies to collaborate with each other and with the *gram sabha*, and has recently been able to pool together the resources of several different state departments to provide each family with a *gobar* gas plant, a toilet and a bathroom. In South Africa, the Makuleke agreement, whereby the community gained ownership of more than 25,000 hectares of valuable conservation land in the Kruger National Park, is the result of almost three years of negotiations. The agreement came about because both key role players (the community and the S.A. National Parks Board) were prepared to re-define their objectives over time. The end result was a win for conservation (4,000ha of new land was added to the park, and there will be no change of land use on the restituted portion) as well as a win for the community, who now has the right to establish their own tourism lodges, with the help of commercial partners, inside the park.

The elements of social capital discussed above provide the means for determining access to other types of capital and for processes of negotiation between groups. They also provide the means for engaging with the outside world, and the potential means to alter the way in which the state and the market affect the distribution of assets and the ability of rural people to use them. In this way, social capital enhances people's ability to access and defend wildlife, human, cultural and produced assets, to transform them into income, and to access institutions of the market, state and civil society to help (see section 8.2).

8.1.4 Skills and knowledge: human capital

In addition to the natural and social capital that is available for CWM, individuals, whether within communities, conservation agencies or wherever, possess knowledge and skills which

can have a major influence on the success or failure of CWM initiatives. Such human capital is an important asset, and the following appear to be the most critical:

- ***Balance of 'scientific' and indigenous knowledge***: Traditional ecological knowledge (TEK) and practices often comprise a complex and dynamic mix of old and new, theoretical and practical. Such knowledge incorporates information, attitudes, values and skills and derives its legitimacy and strength from being embedded in the cultural and political milieu of the community. However, for many years TEK has been largely ignored by conservation managers in favour of modern 'scientific' knowledge. Recently, however, TEK has been increasingly recognised as a valid component of resource management. Communities on South Africa's Eastern Cape Wild Coast at Dwesa, for example, have a complex understanding of the succession of grasslands to forests, and know that gaps created in the forest lead to regeneration. Likewise, they know that mussel beds, if left unharvested, eventually become 'moribund' and get washed into the sea during stormy seas (Timmermans 1999). In Jardhargaon in India, an elaborate system of open and closed seasons and highly regulated extraction, which appears over-complex to the outsider, is highly effective at governing the use of local grasslands because it builds on a broad range of local motivations. CWM initiatives that build on a combination of TEK and 'scientific' knowledge can result in increased acceptance by both communities and conservationists and mutual understanding; all the indigenous CWM projects/activities reviewed in the Australia report combine customary and scientific knowledge and management processes.

- ***Versatile leadership***. Even where efforts are widely shared within a community, one or more charismatic, multi-faceted leaders usually play key roles as catalyst, conflict resolver, or link between community and outside world. Other characteristics of successful natural leadership include openness and selflessness; all notoriously difficult to institutionalise. These characteristics can also represent a major burden on individuals, which may take its toll through over-work or stress or when attacks are launched by disgruntled community members. Dependence on a single individual can be unsustainable – cases in South Asia, Australia and Botswana all noted that several layers of enlightened leadership are often needed. Sometimes, external leaders or catalysts provide the spark, for example successful cases of tourism joint ventures between communities and the private sector are often dependent on the personal motivation of an individual tourism operator (Ashley and Roe 1999).

- ***Numeracy and literacy:*** Numeracy and literacy are important skills if communities are to enter meaningful negotiations with the private sector and other external agencies; for example, when agreeing hunting concessions, drawing up contracts for joint venture enterprises or supplying wildlife resources to a particular market. Considerable numeracy skills are required if individuals are to understand how benefits are calculated and distributed, and even knowledge of a second language is required if communities are to actively engage with international tourists. Such skills are often lacking amongst rural communities where educational facilities may be limited and where children are required to work rather than attend school. In Central America a high premium is put on education as the key ingredient to ensure that all community subgroups have a stake in initiatives, and not just those who are able to access direct financial benefits. State and private institutions are often able to dominate communities because of superior access to, and understanding of, information, especially regarding official policies, laws, and programmes. Capacity building for CWM should therefore take account of the skills that are required for communities and individuals to engage successfully. However, such inputs need to be

locale-specific. In this respect, unique institutions such as the 'study circles' of Mendha (Lekha) village, India, in which villagers initiate topics for research and discussion, and call in outside experts to assist, are important models to examine (Pathak and Gour-Broome 1999).

In the same way that social capital provides the means to organise and take forms of individual and collective action, human capital should not be thought of as solely contributing to productivity or efficiency of livelihoods. It helps people engage with the 'external world' and, potentially, to change the rules of the game.

8.1.5 Physical and financial assets: produced capital

As well as natural and human resources, successful CWM also requires a certain amount of physical assets (such as infrastructure and equipment) and financial assets, collectively known as 'produced capital'. The availability of produced capital is often determined by external factors, notably government policies on infrastructure provision and rural credit facilities, or donor assistance in the purchase of capital equipment, machinery and vehicles. The viability of some CWM initiatives may be therefore overly dependent on external decisions. For example infrastructure needs may be at both the local level and the national level - a community enterprise based on wildlife tourism needs local transport links (access roads) and international links eg. an international airport. The development of international airports, and many other forms of infrastructure, are clearly government responsibilities yet they are often developments that can critically influence the viability of a CWM initiative. For example, without improved infrastructure any further development of viable enterprises based on wildlife is unlikely in Canada, and West and Central Africa. Similarly, many CWM initiatives are highly dependent on external funding. In the Australian cases it is noted that external support will always be needed to address past degradation of land and wildlife resources.

- ***Strategy for developing finance and infrastructure.*** For certain types of produced capital, typically production equipment but sometimes electricity supply, communities may mobilise their own resources or the revenues generated from wildlife. As discussed in Chapter 6 revenues from many CWM initiatives have been used to fund community development projects to build up produced capital. Alternatively, communities may enter into an agreement with a private operator such that the latter takes on the responsibility for improving some vital infrastructure. More indirectly, the social capital that is built up with CWM may equip communities to organise themselves to lobby the government for infrastructure and other services. While the build-up of produced capital can be important, it is not necessarily an indication of successful CWM. In some cases or for some types of produced capital, such as electricity supply or access roads, the division of responsibility between community and government may be poorly defined. Communities may end up funding from wildlife revenues, services which government would normally provide for others. In other cases, communities may be encouraged by the availability of financing facilities to purchase equipment which may prove unnecessary or inappropriate and thus difficult to pay off. In Peru, concern has been expressed about the potential effects of the government's sustainable use modules for Vicuna, financed with credit from the Ministry of Agriculture.

- ***Systems for maintaining finance and infrastructure.*** What is more important than the stocks of physical or produced capital, may be the systems that the community develops for adding to the stocks and for maintaining existing assets, either through mobilising its

own resources or pressuring the state or other stakeholders to provide. The challenge is to maintain physical capital so that it continues to provide the necessary services, but all too often assistance is provided or effort is concentrated on the initial purchase. Successful CWM therefore seems to require the community to establish systems for maintenance.

8.2 Longer-term sustainability of CWM: internal and external factors

Understanding what is happening to wildlife and the people who live with it requires seeing the bigger picture of changes through time of local conditions and wider political and economic realities. CWM does not occur in a vacuum, but within wider contexts of political processes, national policies, international forces and market trends.

8.2.1 The nature of benefits over time

Many of the assets or capitals described above are necessary not just for the evolution of CWM, but also for its longer term viability. In addition, there are a number of factors which come into play later in the life of a CWM initiative which can often have a major influence on its longer term fortunes. These factors concern the specific nature of the costs and benefits a CWM initiative generates, the benefit/cost balance over time, and the extent to which the benefits from a CWM initiative provide continued incentives for wildlife management and for changes in community behaviour to protect the natural resource base.

- ***Honesty about the real costs and benefits.*** The potential of realising significant material benefits from wildlife management activities has been a major driving force behind CWM in many regions of the world. The slogan *"Wildlife pays so wildlife stays"* epitomises the hopes and aspirations of those who hope to link wildlife conservation with local development. In East and Southern Africa, particularly, it is clear that economic and material benefits are the priority focus for CWM initiatives. However, in Southern Africa, the material benefits from CWM projects are often overestimated and overstated, with grandiose claims only coming near to the truth where communities are small and wildlife is abundant. The Australian and East African cases suggest that indigenous CWM is unlikely to generate net economic returns, except in a few exceptional cases. In southern Africa, initiatives where government and the private sector play a strong facilitatory role and where there is moderate to weak community participation yield the highest material benefits in the short term. However, such initiatives are also associated with high levels of internal conflict, especially where communities are large and heterogeneous. Some case studies, such as of the Okavango in Botswana, note that those who are most involved (and who in theory benefit most) are those who are most dissatisfied.

- ***Focus on non-financial benefits as well as financial benefits.*** Less emphasis has been placed on cultural and other non-financial benefits, yet they are often critical to the long-term success of these initiatives. In South Asia, non-economic incentives such as ecological regeneration, local institutional development, and social recognition are powerful drivers in themselves.

- ***Benefits received commensurate with conservation achieved***. This is not just a case of benefits exceeding costs but also of being sufficiently related in community members' minds to the need to conserve wildlife. Many initiatives rely on the development of a clear and tangible link perceived by stakeholders between the net benefits received and

conservation outcomes; however, it is clear from the case studies that in many cases this link has not been made and in others, the net benefits are not sufficiently high for the link to be meaningful. As a result initial enthusiasm for CWM can quickly wane and initiatives falter. A survey of attitudes in Sankuyo, Botswana, found that community members tend to perceive benefits in financial terms only, and if they were not receiving money directly did not consider themselves to be beneficiaries of community wildlife management. Even those receiving financial benefits did not appear to link them with wildlife management [CHECK]. If the community is receiving benefits without assuming responsibility for wildlife management then there is a danger that the resource base for tourism, hunting and photographic enterprises will be undermined. In the CAMPFIRE programme in Zimbabwe it has been observed that the links between the programme benefits and management of wildlife is not easy for the average ward resident or community member to identify. This in part reflects the fact that communities are not direct recipients of wildlife revenues in CAMPFIRE but receive them indirectly through the district councils.

- ***Direct community-control over revenues and initiatives***. There are numerous examples of communities making changes in their traditional behaviour or adopting a particular course of action in order not to threaten the wildlife resource on which benefits depend. In Ecuador, the Cofan have eliminated from their diet certain animals and birds eg. macaws, that are popular with tourists and have established rules on hunting with prohibitions on certain species and stipulation of when, where and how hunting can be conducted. In Ostional, the community has agreed not to have street lighting near the beach as the presence of artificial light will disrupt the nesting patterns of the turtles. In both cases, the communities have direct control over the tourism or wildlife enterprise and the benefits received. Where communities have more direct control over the revenues and the wildlife the outcome may be different.

8.2.2 Decentralisation processes, politics and local institutions

Decentralisation is the proclaimed way forward for natural resource management in many countries. However, this often involves confused or conflicting objectives, sometimes from the same stakeholders: Saving money for the central authority, or empowering the people? Whilst much may be said for the centre strengthening its effectiveness through deconcentration, to do so at the expense of the periphery's wildlife management capabilities is a step backwards.

Zimbabwe's CAMPFIRE programme is instructive, since one of its commonly noted weaknesses is its failure to devolve control of resources below the district level. Yet the reasons for this are clear enough, as Hasler (1999) notes, *"From its incipience, political issues have primarily determined the evolution and outcome of the CAMPFIRE programme. A substantive reason for this is that the institutions used by CAMPFIRE for its implementation are primarily political institutions; namely the district council and administration and the ward and village development committees. These structures are the chief organs of both the state and the dominant political party for the maintenance of control of the rural areas, with district, ward and village wildlife committees based on structures set up by local government. The political culture in Zimbabwe throughout the life of CAMPFIRE has been one of centralized control of remote rural areas and the people and natural resources within them."* Hasler also notes, however, that it is unlikely that CAMPFIRE would have lasted until now without the administrative support of the District Councils. The involvement of and alliances with higher-level role players is therefore a necessary evil; it is true that they take responsibilities and

power away from the local level, but on the other hand local capacity is seldom efficient to deal with the complexities of revenue-generating CWM.

Decentralisation in contexts of community inequity and feeble local institutions can result in the transfer of the political and social power game from the state to a few locally influential individuals or groups, which only serves to further alienate already disprivileged groups. The risk of locally powerful sections of society hijacking all the benefits is increasingly wielded by some people as an argument in itself against decentralisation. Yet such an argument should not be allowed to mask or avoid efforts to build more equitable alternative institutional structures. Experience suggests that experimentation is generally the best way forward – trying through experience to come up with spreadable models.

- ***Effective tenure enabled by secure and flexible law****.* The alienation of people from the resources they may once have managed is a common theme in the history of conservation, and attempts to redress and adapt by enabling secure tenure have been slow. For example, the Kani tribals in India learned the hard way that insecure tenure leads to insecure benefits when a potentially productive agreement based on their traditional knowledge regarding a plant was seriously undermined by the refusal of the Forest Department to allow access to the plant on state lands. Effective tenure for CWM is crucial and is brought about when it is strongly *claimed* by communities or groups. But for this to be possible government must develop an enabling legislative framework that provides both the *security* and *flexibility* for tenure to be 'available' for those claims.

- ***Devolution to lowest unit of effective proprietorship.*** Many case studies highlight the need for responsibility and decision-making power for resources to be devolved to the lowest unit of proprietorship possible, where potential contributions to sustainability are greatest. But as noted above proprietorship is not effective when institutional capacity is weak. Progress towards effective devolution therefore often requires a concerted approach to developing capability such that decisions are made and implemented at levels where the trade-offs are well-understood and there is capacity to act and monitor. For example, communities in the Okavango Delta in Botswana were given full ownership of wildlife but invested little in controlling the rate of harvesting until recently, following enforcement of strict government regulations and an improvement in the skills and knowledge of community leaders.

8.2.3 Extra-sectoral policy and market influences

National wildlife policy *per se* is rarely the main influence on wildlife and wildlife stakeholders. Bigger effects are often produced by policies, institutions and markets that determine land use, the spread of farming and settlement. We need, for example, to bear in mind the prices of farm, energy or mining products; the cost of capital (interest rates); and the conditions for foreign investment. Many of these influences are, in turn, shaped by international processes and market movements (see below). Structural adjustment policies and economic liberalisation have tended to put intense pressure on ecosystems and thus have implications for the success or failure of CWM. Some CWM initiatives have responded by challenging outside interests that threaten to undermine local resource availability and livelihood security. In Mendha-Lekha in India, for instance, the struggle against submergence by a dam, and against forest exploitation by a paper mill, were amongst the first actions of a mobilised community. In many other case studies, some such struggle has had to be waged by local communities, often in association with NGOs or particular government officials.

Benefit flows from CWM are heavily influenced by market conditions. Variability over time is key, particularly where international markets are concerned. In the case of two projects in Nicaragua based on export of live Iguanas as pets, the price dropped considerably after the initiatives started, causing the individuals concerned to abandon the activity as they could no longer cover even their operating costs. Similarly, in Peru the price of vicuña fibre has declined since legal shearing began despite efforts to secure the best conditions possible through auctions of the combined output of all producers. The implication is that it is unwise to draw conclusions about the viability of a CWM initiative at an early stage, particularly where it is highly dependent on sale on an international market.

- ***Engagement with extra-sectoral influences through strategic frameworks***. Environmental impact assessment of projects and strategic environmental assessment of policies have drawn attention to the values of specific wildlife assets. However, information on cross-sectoral values of wildlife generally needs to be more effectively fed to the political and market actors in various sectors - in other words, ways to influence the all-important budget/resource allocation systems (NGO watchdogs are useful here). National conservation strategies and environmental action plans have (if rather little else) highlighted the links between wildlife and other sectors. More needs to be done in terms of developing incentives eg. in the tourism, water supply, and farming sectors, to sustain wildlife values. More can also be done to develop systems of due process (at least), or due diligence, to be exercised by government bodies in dealing with cross-sectoral links (as a minimum, charters based on such systems could be developed and applied in National Sustainable Development Strategies (NSSDs) and sectoral policy development processes).

- ***Capability to absorb market fluctuations***. The vicuña fibre-selling communities in Peru are required by law to sell their fibre through the National vicuña society which groups together all producers, the aim being to protect them from intermediaries. However this monopoly position in the market has been insufficient to prevent a fall in price and has also raised concerns about lack of autonomy of producers and mistrust about the marketing process. Such limitations are common, and much needs to be done to support the steps taken by communities to withstand changes in external conditions and the safeguards built into their regulatory and institutional frameworks which determine financial sustainability.

8.2.4 National policy processes

National policy processes concerning wildlife management are often an opaque mix of decisions with mysterious histories and uncertain aims. However, the background work to the case studies reveal a number of recurring themes in the *processes* of policy-making and implementing which have supported good CWM. These include:

- ***A forum and participation process to set national priorities***. Multi-stakeholder processes which assume that societal consensus is possible have often grossly under-estimated the time and resources (of goodwill and money) needed to generate or refine such a shared vision, and especially to get the necessary power transfers to make the vision a reality. Where policy involves people with completely different levels of power, and a history of disagreement, an emphasis on consensus can be dangerous. It can lead to cynicism and disengagement as people feel unable to change things. Where people disagree on the methods or content of wildlife management it can result in greater richness

of debate, development of checks and balances, and interplay of groups with differing objectives to flag errors and provide corrections. Experience in a number of sectors and cross-sectoral processes strongly suggests that combinations of consensus and non-consensus based approaches can make progress (Carew-Reid *et al* 1994, Mayers and Bass, 1999). Such processes build understanding over time of multiple perspectives and needs, to be able to a*gree on ways to set priorities* in terms of eg. equity, efficiency and sustainability (without which, overly-comprehensive 'wish-lists' are the frequent result). Once the means to prioritise have been agreed, *national goals for wildlife management* can follow*,* focusing on the wildlife assets needed by stakeholders, and on broader sustainable development objectives. This provides a basis for *'deals' and partnerships* to be negotiated between the needs of wider society and local actors.

- ***Strategic information and knowledge systems****.* Monitoring and strategic information systems are needed on wildlife assets, demand and use. Openness to information from all sources, and communication of both information used in policy-making and information on policy impacts, are also vital processes for developing the knowledge in the range of actors needed for effective wildlife stewardship.

- ***Support for innovators and development of policy communities.*** Failure to create real change in attitudes in wildlife institutions more accustomed to protection and preservation has been a major stumbling block in East Africa and other regions. This is typical of a general reluctance of conservation authorities to implement fully community conservation policies that are perceived to diminish their control. Many initiatives to change old institutional ways founder because they fail to get to grips with people's real motivations. Even those individuals fired up to change things often lose faith in institutional cultures that reproduce inertia. Yet innovative managers do sometimes 'break through' from government and NGO backgrounds. They tend to be characterised by their ability to see the big picture, take on tactical battles, and use a mix of 'insider' and 'outsider' traits in their institutions. Innovators are key also in developing the pool of people engaged with a policy process on a regular basis - the policy community. Such a community needs to be able to channel the ideas of all those who are important to the prospects for CWM – the stakeholders - onto the policy stage, and disseminate the outputs. If the process is too broad-ranging it will be unworkable; too narrow and the ideas will be the wrong ones.

- ***Policy instruments which improve the policy process***. Policy instruments which have particular influences on CWM may be of several types: regulatory, economic or market–based, informational, institutional or contractual. They are highly context-specific. However, as with recent analysis in the forest sector (Mayers and Bass, 1999), we find it important to note those instruments which are not mere implementation tools, but also play roles in the policy process itself, making it iterative and cyclical, rather than static and linear. These instruments include legal, financial and information mechanisms for increasing local negotiating capacity (which have been effective in the context of some of the Australian case studies), and research and extension brokering tools, such as those developed in parts of Southern Africa.

8.2.5 Support from donor agencies

Many of the CWM initiatives reviewed in this study have donor support. Indeed we have discussed (in sections 1.2 and 3.2) how CWM and related paradigms have become regarded by many donor agencies as the best, if not the only, way to meet the challenge of biodiversity

conservation. We can divide the support provided into CWM projects and policy reform efforts. CWM projects are subject to some of the standard problems of 'projects', such as: the creation of 'donor/recipient' dynamics; the rush for quick results at the expense of understanding; a focus on activities rather than impacts; and the establishment of islands of success - which draw people in, with damaging consequences. CWM projects are also prone to criticisms more specific to the sector – they fail to generate the anticipated benefits from wildlife, and deliver only the 'project' benefits; and they are plagued by conflicts between conservation and development objectives (Kiss, 1999). These types of criticism are largely borne out by some of the cases covered in this study, but here we highlight some more positive aspects of project and 'non-project' donor support:

- ***Analysis of the real costs of donor support and development of exit strategies.*** The support provided by donors (or by governments and NGOs), often in the form of direct cash input or staff time, is not always factored into benefit-cost comparison of CWM efforts. The most notable example is the CAMPFIRE programme in Zimbabwe which has received funds in the order of US$44 million for technical and advisory services. This support far exceeds the total revenue generated to date by the programme from wildlife (about US$9 million), raising questions about the long-term financial viability of the initiative. Analysis of the real costs and effects of donor support should be factored in to initial decision-making and to monitoring and adaptation at all stages of supported initiatives. While significant external support is necessary to sustain some CWM initiatives, in many it can have a negative effect on long-term viability. The South Asia report, for example, notes that with the exception of India, conservation and development efforts in the region are strongly tied up with donor assistance and frequently wither when that assistance ends, with debilitating effects on community abilities. Effective donor 'exit strategies' are needed which pay more attention to self-financing initiatives from the earliest stages of projects.

- ***Financing for joint ventures, land trusts and conservancies***. In Botswana, the Sankuyo joint venture agreement has received considerable support from a donor/government team in the form of leadership and facilitation training, as well as assistance with establishing the legal organisation necessary for entering into a joint venture. In Namibia, the Ministry of Environment and Tourism has also received major donor funding for community capacity building under its community-based wildlife conservancies programme. Whilst it is questionable whether the same amount of support can be made available to all the other communities in Botswana and Namibia interested in joint venture and conservancy agreements for wildlife tourism, this type of support and facilitation for formation and capacity-development of management groupings on communal landholdings of ecologically significant size, appears to be an important role for donors.

- ***Projects linking policy processes with on-the-ground practice.*** One of the key elements of a policy process that ‘stays alive’ is its ability to link directly to experiments with new ways of making things work on the ground. Local projects allowing stakeholders enough slack to investigate alliances and roles can be vital learning grounds, but they only really become useful on a significant scale if they seize the attention of at least some of the current power-brokers or ‘policy-holders’.

- ***Support for formal policy reform.*** As well as providing direct financial support, donors can also play a key role at the national policy level – thus having a potentially major impact on the long-term viability of CWM. The impact of these approaches has been a mixed blessing. Some have lasted only as long as donors prop them up, and many have

benefited only a few. However, some approaches have kicked off considerable stakeholder engagement which has, in turn, generated novel institutions with real motivation for new forms of wildlife management. The South Asia report notes that many of the progressive policy changes, such as those relating to community forestry in Nepal, joint forest management in India, and participatory coastal management in Sri Lanka, have been at least partially influenced by external donors.

8.2.6 International forces and initiatives

Today's pre-eminent international trends present a complex picture of influences on the current practice, and the prospects, of CWM. On the one hand there are pressures and opportunities from globalisation of markets, capital flows and technology, and there are specific attempts in intergovernmental agreements to secure global benefits from wildlife. On the other hand, forces for local control and decentralisation are also increasing in significance. Trends towards democracy seek to improve local people's access rights to natural resources like wildlife, and to use them for multiple local benefits. Other decentralisation forces arise because of pressures on government to cut costs and downsize, but not necessarily to reduce government rights and responsibilities, often resulting, as we have described, in deconcentration rather than devolution of control. The extent to which localisation and globalisation are managed depends in large part on national policy processes. Global policy initiatives to secure e.g. biodiversity will not work without local wildlife stewards being empowered and rewarded to produce these global benefits. Conversely, some local livelihood benefits from wildlife will not be secured unless some of the benefits of globalisation: access to markets, sources of finance and technology, are made available.

The global context is changing rapidly, in economic, environmental and social systems. There are many uncertainties in the outcome. On the other hand, globalisation ensures that there are also increasing commonalities across countries, for good or bad. But there is confusion between common national problems (what we might call 'worldwide' issues) and truly global issues; thus some actors try to take national problems 'up to' the global level because they appear not to be resolvable locally. In contrast, others stress that what had been treated as a global issue eg. better control over biodiversity 'hotspots' may actually need to come 'down' again eg. to become a decentralised effort where local people's rights, capacities and rewards are improved for maintaining global bioquality.

International policies and agreements specifically focused on wildlife include the Convention on Trade in Endangered Species (CITES), and the Convention on Biological Diversity (CBD). CITES in particular has had a significant impact on a number of initiatives: negatively in Southern Africa by restricting trade in elephant ivory, but positively in Peru by lifting in 1994 the restrictions on international trade of vicuña fibre (Ortiz von Halle & Mazzucchelli 1997). However, the latter case also highlights some of the conflicts between levels, since although the US is a signatory to the CITES convention, its national legislation still prohibits imports of vicuña fibre and products. This has proved to be a serious constraint on the vicuña programme in Peru.

As with national policy, the power relations of international actors have been critical to the outcome. If the USA has not ratified an international agreement, it will have limited impact. The World Bank has had disproportionate influence on matters of structural adjustment and sector financing. WWF and the 'Washington mafia' of environmental NGOs have had better access to international processes than NGOs and CBOs from India.

- ***Good communication between levels, local to international.*** At the very least, better communication between levels is needed in order to ensure compatibility in the production of local, national, and global values. For example, ongoing international scrutiny of Australia's record on indigenous human rights is important because this has provided key incentives for governments to grant land rights, recognise native title and establish co-management in some protected areas. It is these factors that have enabled indigenous groups to engage in CWM.

- ***Multilateral environmental agreements and regional agreements***. MEAs which focus on wildlife, need informing about good CWM and need to be better recognised in key trade fora. Focused regional agreements, which offer the right political and operational level for integration of local and international objectives need to ensure they are strongly purpose-led, and not become vehicles for other agendas.

The really big extra-sectoral problems – world trade rules, debt, foreign investment, technology access, etc - can only really be dealt with inter-governmentally. In terms of trade rules, a taster of key challenges ahead was provided by the World Trade Organisation (WTO) Ministerial meeting in Seattle in November-December 1999. Advocates of CWM, with other local natural resource management proponents, found themselves opposing measures to eliminate 'non-tariff barriers' (NTBs) to trade in eg. forest products. Such non-tariff barriers could include eco-labeling, certification and import-export quotas. Many natural resource protection and local management support measures currently in place could be considered NTBs and banned by WTO as illegal if such measures are poorly developed. These and other key issues will need to be tackled in the near future if wildlife management that is beneficial for both people and wildlife is going to be enabled through the world trading and financial system.

9. Conclusions: Overcoming obstacles and spreading success

"Can Tiggers swim?" "Of course they can. Tiggers can do everything."
AA Milne (1928) from "The House at Pooh Corner"

9.1 Making CWM work better

We contend that CWM can 'work', since there is a range of examples of CWM muddling along quite successfully. But CWM can also fail miserably, and there are many contexts in which it would be pointless to try it. CWM is a broad notion - like democracy or marriage – in which can be found good or bad examples depending on where you start looking from, and why you want to look. *Does CWM work?* is thus not a very useful question; a more useful one is *under what conditions does CWM work?* But here too there are difficulties; the number and diversity of factors that can influence success or failure, and the interplay between them, makes it impossible to prescribe specific conditions under which CWM will or will not work. Context is all-important, and you cannot generalise. However from the case studies (which we do not claim are anything but context-specific) we have identified a number of *attributes* which appear to be characteristic of various successful initiatives. We have also identified some common *obstacles* to achieving success - weaknesses of the CWM initiative itself or constraints stemming from other factors. Finally there appear to be some approaches and *strategies* which help overcome these obstacles and increase the chances of success. These are summarised in the tables below.

Table 9.1: Wildlife assets: natural capital

Attributes of successful CWM	Obstacles to achieving success	Strategies to overcome obstacles and spread success
Clear and defensible boundaries	Highly mobile, migratory or fugitive animal assets, or ill-defined plant habitats	Improve understanding of key species and habitats desired; define and agree assets and areas amongst users
Manageable scale	Too large and costly to manage, or too small to require more than individual managers	Generate accurate knowledge of assets; improve communication and transport for larger scales
Relative scarcity	Not scarce enough to warrant collective action, or too scarce to improve, or scarcity results in external agencies denying community access	Focus on assets that are improveable with specific developments in human and social capital (see below)
Substantial value	Value not high enough to be worth the effort, or risk of high value assets being 'taken over' by more powerful groups	Start with assets of recognised value, and build the links between benefiting from them, defending them and improving them
Relative proximity to	Too close to wildlife and	In developing agreements

communities	damage to life and property may be high, or access may be restricted; too distant and the costs and lack of rights may be prohibitive	amongst those with rights and interests (see below) – ensure explicit negotiation of relevant areas and distances
Predictability and ease of monitoring	Mobile/fugitive wildlife, particularly forest animals, are difficult to monitor	Collaborate widely to develop long term knowledge of wildlife population dynamics and off-take impacts
Seasonality in tune with livelihoods	CWM activities clash with others eg. harvesting of crops; or seasonality creates a diversity of users and subsequent tensions between them	Focus on positive linkages between CWM activities and slack periods in other livelihood activities, and between different seasonal uses
Ease of utilisation	If off-take is too easy barriers to entry may be low and over-exploitation results	Ensure the mechanics of CWM are made simple and affordable, but for the right people! (by developing social capital - see below)

Table 9.2: Community attributes: institutions and 'social capital'

Attributes of successful CWM	**Obstacles to achieving success**	**Strategies to overcome obstacles and spread success**
Ability to claim and secure tenure	Rights not allocated or alienated by government and traditional leaders, or inadequate capability to claim rights	Develop knowledge and mechanisms for claim-making and claim resolution, and for systems of custodianship (not necessarily outright ownership)
Small scale	Community too big, too small or variable eg. through in-migration (which may increase if CWM successful)	Recognise smallest coherent interest groups within the community and work for wider alliances between them
Demand for, and dependence on, wildlife assets	High demand 'passed the point of no return' for wildlife, or no dependence, or those most dependent in weakest positions within community	Ensure demand linked to monitoring and rules, avoid areas/groups where choices already made which conflict long-term with CWM, and build social cohesion amongst those genuinely dependent
Cultural significance of wildlife	Little traditional concern for wildlife *per se*, or only amongst older people in fast-changing communities	Work with opinion-formers amongst the young and influential; aim for 'new' wildlife culture
Stakeholder identification and group demarcation	No precedent for marginal groups to have a stake in decisions	Take active measures for community members to define themselves; use participatory processes to agree primary, secondary and tertiary stakeholders
Institutions built on existing motivation	Existing institutions with little linkage to those interested in CWM	Develop new links between motivated groups and individuals, the needs of CWM

		and the 'space' available in existing institutions
Representativeness and legitimacy	True representation difficult to achieve; accountability and transparency sometimes prerequisites of outsiders rather than the community	Work with existing agreements (or agree to disagree) on which stakeholders get priority, promote transparency about winners and losers, and spread recognition that power of decision best resides with representative bodies
Adaptability and resilience	A single bad experience may be sufficient to cause an initiative to fail	Make explicit principles of dealing with social, financial and environmental risks and adaptation based on learning from experience
Effective rules, mutual obligations and sanctions	Effective rules take years of trial and error – often too long	Unearth existing commonly held social rules and sanctions, and develop time-bound experimentation and modification for CWM
Balance between customary and statutory law	Customary law non-existent or draconian; statutory law unenforceable or inflexible	Promote the quick, cheap and adaptable elements of customary law, and the independence, human rights and environment protection elements of statutory law
Negotiated community goals	Level playing fields are rare – negotiation processes reflect power differences	Where there are multiple valid groups there will be no collective progress without work to install processes for thrashing out negotiated goals
Conflict resolution capability	Severe conflicts stall or degrade initiatives, and capability to manage them may be beyond the community	Draw out the constructive – ideas-generating tensions in minor conflict, and ensure that at least the first stage of serious dispute resolution resides at community level
Equity in distribution of benefits and social justice	Unequal distribution is the norm; unjustifiable disprivilege breeds unrest	Develop intra-community views on the long term effects of inequality and injustice, and promote transparent mechanisms to deal with it
Ability to negotiate with neighbours	History of hostility to neighbouring interests, or new exclusion of neighbours for CWM	Establish community bottom-line negotiating position and develop mechanisms for regular consultation with neighbouring groups
Political efficacy and space to build community-government relationships	Social dysfunction limits community competence, and even in empowered communities scale of impact is limited	Develop community position towards government, and agree political tactics, eg. to access legal back-up, external counterweights to intra-community inequity, or resources and expertise

Capacity for layered alliances	Few CWM initiatives exist beyond the reach of multiple influences from community and external institutions	Promote understanding of activities and relationships of other internal and external bodies, and develop comparative advantages and alliances of 'nested enterprises'
Confidence to coordinate external institutions	Government, civil and private agencies duplicating effort and failure or falling over each other at local level	Participate in formal efforts at area eg. district, level coordination, and/or develop community terms and strategies for involvement of outside agencies

Table 9.3: Skills and knowledge: human capital

Attributes of successful CWM	Obstacles to achieving success	Strategies to overcome obstacles and spread success
Balance of 'scientific' and indigenous knowledge	Conservation managers distrust traditional knowledge; communities distrust scientific knowledge; or both may be weak	Make key knowledge resources available and expose community members and conservation managers to traditional and scientific knowledge to increase mutual trust
Versatile leadership	Dependence on a few individuals is risky	Parcel up responsibilities and develop mechanisms that encourage the emergence of several layers of leadership
Numeracy and literacy	Access to education limited	Provide informal and formal education and training for community members – as fundamental for CWM as for all livelihood strategies!

Table 9.4: Physical and financial assets: 'produced capital'

Attributes of successful CWM	Obstacles to achieving success	Strategies to overcome obstacles and spread success
Strategy for developing finance and infrastructure	Availability of finance and infrastructure often beyond the control of community	Establish agreements early in CWM about use of internal or external revenues and resources for finance and infrastructure development – these can help develop strong institutional mechanisms
Systems for maintaining finance and infrastructure	Division of responsibilities for maintaining stocks poorly defined	Agree and administer community responsibilities and strategies, and secure outside commitments, for upkeep and extension of infrastructure, and growth of financial assets

Table 9.5: Longer-term sustainability of CWM: internal and external factors

Attributes of successful CWM	Obstacles to achieving success	Strategies to overcome obstacles and spread success
The nature of benefits over time		
Honesty about the real costs and benefits	Benefits overestimated or overstated to stir up interest	Develop clarity and trust based on examples of known benefits and costs – what to expect "now definitely, soon probably, later maybe"
Focus on non-financial benefits as well as financial benefits	Most participants primarily interested in immediate material benefits	Spread sound information on ecosystem/social service benefits and build social recognition of groups that have highlighted them
Benefits received commensurate with conservation achieved	Linkage notoriously difficult to establish – communities come to regard 'interim' benefits from initiatives as entitlements, whilst conservation impact is hard to identify	Treat CWM as a product of land/resource use (in competition with alternatives) and develop incentives on this basis – tried out with key actors
Direct community control over revenues and initiatives	Hostility of those with existing power bases, incapacity of community groups	Establish improved credibility (hence confidence) of authorities that 'give some slack' to communities, and build capability of communities to take it up
Decentralisation processes, politics and local institutions		
Effective tenure enabled by secure and flexible law	Law cannot ensure security in inherently insecure environments	Improve clarity, certainty and exclusivity of rights and their enforceability; develop legal flexibility in definition of management groups and areas of jurisdiction
Devolution to lowest unit of effective proprietorship	Even when centre overcomes reluctance to devolve, feeble local institutions unable to prevent hijack of initiatives by local despots	Work on all the enabling measures: legal mechanisms for transfer of appropriate authority, supporting regulations, extension, skills development, and trust-building between communities and authorities
Extra-sectoral policy and market influences		
Engagement with extra-sectoral influences through strategic frameworks	Policies, institutions and markets in other sectors over-ride decisions and initiatives made in wildlife sector	Collaborate with NSSDs and other strategic processes, and with EIA/SEA of projects and policies to enable CWM priorities to influence decisions/budget allocations in

		other sectors, and develop incentives and systems of due diligence in other sectors to support CWM
Capability to absorb market fluctuations	Prices shaped by intermediaries and international markets, and rarely under the control of communities	Conduct supply chain analysis, build alliances, establish buyers' groups, and build market safeguards into regulatory and institutional frameworks
National policy processes		
A forum and participation process to set national priorities	Opaque policy-making, low levels of stakeholder involvement, and/or underestimated time and money for inclusive processes	Promote recognition of different conceptions of what the problems and priorities are. Promote knowledge amongst stakeholders of each others' perspectives, powers and tactics; and develop consensus and non-consensus-based approaches which can accept dissenting views and establish reasonably representative priorities.
Strategic information and knowledge systems	Inadequate information, unequal access to it, and low priority given to its development	Promote democracy in use of 'good enough' information as the engine for better policy and practice, and develop usable information on key social and economic issues of use and demand as well as on wildlife assets
Support for innovators and development of policy communities	Inflexible institutional cultures – unsupportive of new ideas and collaboration with others	Free-up motivated people in institutions to develop: experiments with policy, collaborative learning processes with monitoring by stakeholders, policy analysis with marginalised groups, and an open process to consider adaptation
Policy instruments which improve the policy process	Policy instruments often mere implementation measures – and policy processes are too weak to actually use them	In developing the best policy tools mix for the context, pay particular attention to the legal, financial and information mechanisms for increasing local negotiating capacity, and research and extension brokering tools
Support from donor agencies		
Analysis of the real costs of donor support and development of exit strategies	Donors need high profile projects with which they can be strongly identified	Develop better donor understanding of appropriate contexts for long-term donor subsidy versus short term catalytic support, and more effective exit strategies for the former

Financing for joint ventures, land trusts and conservancies	Institutional territoriality blocks exploration of partnerships, or accessible only to private landowners	Avoid 'project' approach through capital investment in trusts and partnerships; build brokering capacity to involve communal landholders; and facilitate negotiation and claims-making capacity of disadvantaged groups
Projects linking policy processes with on-the-ground practice	Projects limited to isolated 'islands', drawing in all available capacity, and avoiding practical linkages with political innovators	Limit project financing to projects which build institutional and policy support, build capacity in institutions for local level conflict resolution and trial policy tools for stakeholders to explore each others' claims, make mistakes, learn, and make changes
Support for formal policy reform	Policy analysis often cursory, blunt instruments used, and participation minimal	Increase stakeholder engagement, and build on existing motivation to develop new approaches eg. balancing customary and statutory law
International forces and initiatives		
Good communication between levels – local to international	Uneven globalisation of trade and technology – many locations and groups missing out on the benefits or being exploited	Focus inter-governmental and civil agreements and initiatives on dimensions of equity, and iron out contradictions between levels in agreements
Multilateral environmental agreements and regional agreements	Insufficiently supportive of CWM and in danger of being over-ridden by trade rules, whilst regional agreements often vehicles for other agendas	Negotiate for: CITES and CBD to become more in tune with CWM; environmental and social needs of CWM to be recognised in key trade agreements like WTO; and regional fora as loci for CWM cooperation

9.2 Next Steps

It is unlikely that any one CWM initiative will display all of the attributes we describe above, have to overcome all the obstacles, or need to put all these strategies into play. However, we think that they are worth pointing out – particular attributes, obstacles and strategies may have resonance with different practitioners of CWM, who might then identity other issues worth thinking about. We hope to stimulate debate with these tentative tables (as with this report in general) – there are likely to be elements which practitioners will disagree with or be able to modify and refine.

A number of the regional reports suggest practical steps that need to be taken within their regions to strengthen and spread CWM. In South Asia the priority actions identified are regional networking in order to facilitate local and national action combined with policy advocacy and lobbying. The West and

Central Africa report also focusses on the importance of policy reform – especially using a review of existing practice to drive that reform. The report also highlights the importance of capacity building and institutional strengthening in the region to achieve collaborative management of wildlife resources. The East Africa report similarly highlights the need for policy and legislative reform coupled with new and innovative methods of meeting the costs of conservation.

The next steps for *Evaluating Eden* are therefore:

- to disseminate the results of the case studies and analysis as far as possible amongst CWM practitioners and policy makers;
- to learn how our experience compares with that of others – which of the attributes for success and obstacles to be overcome that we identify are common to other CWM initiatives?
- to learn from other's examples of successful strategies that have been employed to overcome obstacles and to spread success;
- to test the effectiveness of the strategies we suggest.

Armed with the above we hope to be able to refine and adapt our conclusions and then apply them to develop a range of context-specific guidance tools to address some of the issues facing CWM highlighted in each of the regional reports.

CWM is still very much an evolving discipline. We hope, that at the very least, this report will have contributed to the growing body of knowledge concerning CWM and will help to further its success in the various regions of the world where it is being tried and tested.

REFERENCES

Abbot, J. & I. Guijt (1998). *Changing views on change: participatory approaches to monitoring the environment*. SARL Discussion Paper no 2. London, IIED.

Abbot, J., S.E. Neba & M.W. Khen (1999). 'Turning our eyes from the forest. The role of the Livelihoods Programme at Kilum-Ijim Forest Project, Cameroon,' In C*hanging attitudes and behaviour towards forest use and conservation*. Unpublished report to BirdLife International, Cambridge UK.

Adams, J.S and T.O. McShane (1992). *The myth of wild Africa: conservation without illusion.* New York, W.W. Norton.

Agarwal, A.(1997). *Community in conservation: beyond enchantment and disenchantment*. CDF Discussion Paper. Conservation and Development Forum, Gainesville, Florida.

Alieu, E.K. (1998). *Community forest wildlife management in Sierra Leone*. National Synthesis Report. Ministry of Agriculture, Forestry and Environment.

Anderson, D. and R. Grove (1987). 'The scramble for Eden: past, present and future in African conservation.' In D. Anderson and R. Grove (eds). *Conservation in Africa: people, policies and practices*Cambridge, Cambridge University Press.

Anuradha, R.V. (1999). *Sharing the benefits of biodiversity: the Kani-TBGRI deal in Kerala, India*. Theme paper for South Asian Regional review of community involvement in conservation, sponsored by the International Institute for Environment and Development under its Evaluating Eden Project. Kalpavriksh, New Delhi and IIED, London.

Archer, F. (1999). *Community participation at Richtersveld National Park: myth or reality*? Unpublished report, IIED Evaluating Eden Project. London, IIED.

Ashley, C. & D. Roe (1999). *Enhancing community involvement in wildlife tourism: issues and challenges*. Wildlife and Development series No 11. IIED, London.

Barrow, E. & M. Murphree (1998). *Community conservation from concept to practice: a practical framework*. Institute for Development Policy and Management. Manchester, University of Manchester.

Benoit, M. (1997). 'Conservation et chasse au Niger.' *Nature et Faune* 13(2): 21-2.

Boggs, L.P. (2000). *Community power, participation, conflict and development choice: community wildlife conservation in the Okavango Region of Northern Botswana*. Evaluating Eden Discussion Paper no. 17. London, IIED.

Borrini-Feyerabend, G. (1996). 'Co-management – a new approach to conserving Uganda's forests.' *Plant Talk* July: 22-25.

Brandon, K.E & M. Wells (1992). 'Planning for people and parks: design dilemmas.' *World Development* 20: 557-570.

Carew-Reid, J., R. Prescott-Allen, S. Bass & B. Dalal-Clayton (1994). *Strategies for national sustainable development: a handbook for their planning and implementation*. London, IIED.

Chaves, A.C., I.A. Gutierrez-M, and A.C. Imbach (2000). *Manejo comunitario de huevos de torguga. Refugio de vida silvestre ostional, Costa Rica*. Evaluating Eden Discussion Paper (forthcoming). London, IIED.

Colchester, M. (1995). *Salvaging nature: indigenous peoples, protected areas and biodiversity conservation*. UNRISD Discussion Paper no 55. Geneva, UNRISD.

Das, P. (1997) 'Kailadevi Wildlife Sanctuary: prospects for joint management.' In A. Kothari, F. Vania, P. Das, K. Christopher and S. Jha (eds). *Building bridges for conservation: towards joint management of protected areas in India*. Indian Institute of Public Administration, New Delhi.

Dubois, O. (1997) *Rights and wrongs of rights to land and forest resources in sub-Saharan Africa. bridging the gap between customary and formal rules*. Forest Participation Series no. 10. London, IIED.

Emerton, L. (1999). *Mount Kenya: the economics of community conservation*. Evaluating Eden Discussion Paper no. 4. London, IIED.

Emerton, L. and I. Mfunda (1999). *Making wildlife economics viable for communities living around the North West Serengeti, Tanzania.* Evaluating Eden Discussion Paper no. 1. London, IIED.

Fabricius, C. & J. Mayers. (1997). *Who sits by the policy fire*? Unpublished Evaluating Eden paper, London, IIED.

Gutierrez, M.M., M. Diaz, L.B. Aguilar, I.A. Gutierrez-M. and A. Imbach. (2000). *Manejo de iguana verde en Nicaragua*. Evaluating Eden Discussion Paper (forthcoming). London, IIED.

Gutierrez, I., N. Ortiz and A. Imbach (2000). *Community wildlife management in Central America: a regional review.* Evaluating Eden Discussion Paper no. 12. London, IIED.

Gibson, C.C. & S.A. Marks (1995). 'Transforming rural hunters into conservationists: an assessment of community-based wildlife management programmes in Africa.' *World Development* 23(6): 941-957.

Gilmour, D.A. & R.J. Fisher (1992*). Villages, forests and foresters: the philosophy, process and practice of community forestry in Nepal.* Sahayogi Press, Kathmandu.

Guijt, I. & M. Kaul Shah (eds) (1998). *The myth of community. Gender issues in participatory development.* London, Intermediate Technology Publications.

Hasler, R. (1999). *An overview of the social, ecological and economic achievements and challenges of Zimbabwe's CAMPFIRE programme*. Evaluating Eden Discussion Paper no. 3. London, IIED.

Hulme, D. & M. Murphree (1999) 'Communities, wildlife and the 'new conservation' in Africa.' *Journal for International Development* 11: 277-285.

Huynh Thu Ba, Dao Tran Phuong, Tran Trung Dung and Hoang Thi Dung (1998). *Human migration and resource utilisation: a research project of the population dynamics in Yokdon National Park and the surrounding region* - Daklak Province. WWF, Hanoi.

IIED (1994) *Whose Eden? An overview of community approaches to wildlife management*. London, IIED.

Inamdar, A., H. de Jode, K. Lindsay & S. Cobb (1999). 'Capitalising on nature: protected area management.' *Science* 283: 1856.

Jones, B. (1999). *Rights, revenue and resources*. Evaluating Eden Discussion Paper no 2. London, IIED.

Kepe, T., B. Cousins & S. Turner (2000). *Resource tenure and power relations in community wildlife contexts: the case of the Mkambati area on the Wild Coast of South Africa*. Evaluating Eden Discussion Paper no. 16. London, IIED.

Kothari, A., N. Singh & S. Suri. (1995) 'Conservation in India: a new direction'. *Economic and Political Weekly*.

Kothari, A., S. Suri & N. Singh. (1996). *People and protected areas: towards participatory conservation in India*. Sage Publications, New Delhi.

Kothari, A., N. Pathak & F. Vania. (2000). *Where communities care: community-based wildlife and ecosystem management in South Asia*. Evaluating Eden Series No 3. Kalpavriksh, Pune and IIED, London.

Lichtenstein, G., F. Oribe, M. Grieg-Gran & S. Mazzuchelli. (2000a). *Community management of vicuñas in Perú*. Evaluating Eden Discussion Paper (forthcoming). London, IIED.

Lichtenstein, G., F. Oribe & S. Mazzuchelli (2000b). *Sustainable use of resources in Mamirauá Reserve, Brazil*. Evaluating Eden Discussion Paper (forthcoming). London, IIED.

Magome, D.T., D. Grossman, S. Fakir & Y. Stowell (2000*). Partnerships in conservation: the state, private sector and the community at Madikwe Game Reserve*. Evaluating Eden Discussion Paper no. 7. London, IIED.

Makombe, K. (ed) (1993) *Sharing the land: wildlife, people and development in Africa.* IUCN/Regional Office for Southern Africa and IUCN Sustainable Use Initiative.

Mayers, J. & S. Bass (1999). *Policy that works for forests and people: overview report.* Policy That Works for Forests and People Series No 7. IIED, London.

Mazzuchelli, S. & B. Ortiz von Halle (2000). *Community wildlife management in South America: a regional review*. Evaluating Eden Discussion Paper no. 8. London, IIED and IUCN.

Milner-Gulland, E.J. & R. Mace (1998). *Conservation of biological resources.* Oxford, Blackwell Science Ltd.

Murombedzi, J.C. (1999). 'Devolution and stewardship in Zimbabwe's CAMPFIRE programme.' *Journal for International Development* 11: 287-293.

Ndiaye, P. (1998). *La Reserve Naturelle de Popenguine (Senegal): une expérience de developpement durable basée sur la conservation de la biodiversité*. Workshop report to Scandinavian Seminar College.

Ortiz von Halle, B. (2000) *The Cofan ecotourism project in Ecuador*. Evaluating Eden Discussion Paper (forthcoming). London, IIED.

Oström, E. (1990). *Governing the commons. The evolution of institutions for collective action*. Cambridge University Press, Cambridge.

Pathak, N. with V. Gour-Broome (1999). *Tribal self-rule and natural resource management: community-based conservation in Mendha (Lekha), Maharashtra, India*. Case study for Evaluating Eden South Asian Regional Review. Kalpavriksh, New Delhi, and IIED, London.

.

Penelon, A. (1996) *Regles d'utilisation du terroir villageois et regles d'appropriaion des ressources dans 2 villages de l'est Cameroun: cas de la foret communautaire: un outil de gestion nouveau certes, mais accessible?* Rapport pour le Projet d'Amenagement Integre de Dimako, Republique du Cameroun, Ministere de l'Environnement et des Forets.

Pimbert, M. & J. Pretty. (1995). *Parks, people and professionals. Putting participation into protected area managemen*t. UNRISD Discussion Paper no 57, Geneva, UNRISD.

Raja, N.A. (1999). *From alienation to ownership: conservation and development in Hushey Valley, Pakistan.* Case study for Evaluating Eden South Asia Regional Review. Kalpavriksh, New Delhi, and IIED, London.

Renard, Y. (1997). 'Collaborative management for conservation.' In G. Borrini-Feyerabend (ed) *Beyond fences: seeking social sustainability in conservation.* Gland, IUCN.

Saigal, S. (1999). *Does community-based conservation make economic sense?* Theme paper for Evaluating Eden South Asian Regional Review. Kalpavriksh, Pune and IIED, London.

Sharpe, B. (1998). 'First the forest: conservation, "community" and "participation" in South West Cameroon.' *Africa* 68(1):25-45.

Sharma, Uday Raj. (1998). *Country paper - Nepal*. Paper presented at the workshop on Collaborative Management of Protected Areas in the Asian Region, 25-29 May, 1998, Royal Chitwan National Park, Nepal.

Shresth, S. with Shridhar Devidas. (1999). *Forest revival and traditional water harvesting: community-based conservation at Bhaonta-Kolyala, Rajasthan, India*. Case study for Evaluating Eden South Asian Regional Review. Kalpavriksh, Pune and IIED London.

Suchet, S. (1998). *Indigenous people's rights and wildlife management: experiences from Canada and Southern Africa, lessons for Australia*. Progress report PhD fieldwork, Macquarie University, NSW, Australia.

Suryanarayanan, J. & P .Malhotra with R. Semwal and S .Nautiyal (1999). *Regenerating forests, traditional irrigation and agro biodiversity: community-based conservation in Jardhargaon, Uttar Pradesh, India*. Case study for Evaluating Eden South Asian Regional Review. Kalpavriksh, Pune and IIED, London.

Swanson, T. (1997). *Global action for biodiversity.* London, Earthscan.

Takforyan, A. (1996). *Towards local management of wildlife in Africa? The case of East Cameroon*. Paper presented at the Pan-African conference on Community Management of Renewable Natural Resources and Sustainable Development. Harare, June 24-27 1996.

Timmermans, H. (1999). *Perceptions, goals and actions: their role in shaping relations of power at Dwesa and Cwebe Wildlife and Marine Reserves*. Unpublished report, IIED Evaluating Eden Project. London, IIED.

Wells, M.P. (1994). 'A profile and interim assessment of the Annapuma conservation project.' In D. Western and R.M. Wright (eds) *Natural connections.* Island Press.

Western, D. and R.M. Wright (1994). 'The background to community-based conservation.' In D. Western and R.M. Wright (eds) *Natural connections.* Island Press.

Zeba, S. (1999). *Community wildlife management in West Africa. A regional review*. Evaluating Eden Discussion Paper no. 9. .London: IIED.