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CO-MANAGING NATURAL RESOURCES IN AFRICA: IMPLEMENTING POLICY AND INSTITUTIONAL CHANGES IN FIVE COUNTRIES

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FOREWORD

Africa's future is intimately connected to the status and stewardship of its natural resources. Sustainable development in Africa depends upon the wise use of the continent's natural resource base. The choice is not conservation or development, but resource preservation and sustainable exploitation. The Sustainable Development Division of USAID's Africa Bureau (AFR/SD/PSGE) has for the past several years supported a program of analysis and learning regarding the conditions for sustainable growth and natural resources management. Among those conditions, the following figure prominently: a market-driven economy, an open political system, better governance, more equitable tenure arrangements, improved technologies, a supportive policy and regulatory framework, and better planning. Common to putting in place all of these conditions is management and implementation capacity. To address this crosscutting dimension, AFR/SD/PSGE turned to the Global Bureau's Implementing Policy Change (IPC) Project. Beginning in 1992, IPC has conducted a series of studies of natural resources policy implementation and institutional issues, under the direction of the Project's research director, Derick Brinkerhoff. This report is an analysis and synthesis of the five country case studies undertaken by IPC teams between 1992 and 1996. Among other points, the report highlights the important links between the shift to local-level resource co-management strategies and the democratization trends across the continent. For the vast numbers of Africans whose livelihoods are entwined with the natural resource base, it is through participation in resource co-management that democratic governance moves from an abstract notion to take on real substance and significance. AFR/SD/PSGE appreciates IPC's contribution to the Division's analytic agenda, in particular, the strengthened focus on interorganizational dynamics, institutional arrangements for participation and democratic governance, and the process dimension of policy management. IPC's work has been instrumental in improving the quality of the Africa Bureau's portfolio in the NRM sector, especially for programs involved with environmental policy, National Environmental Action Plans, and other institutional reforms. This report provides a highly useful summary of this significant work, which should be of interest to others involved in the sector.

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LIST OF ACRONYMS

ANAE	National Association for Environmental Actions
ANGAP	National Association for the Management of Protected Areas
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CITES	Convention on International Trade in Endangered Species
COMODE	Malagasy Council of NGOs for Development and Environment
COS	Steering Committee
CS	Scientific Committee
DNEF	National Department of Water and Forests
DNPWM	Department of National Parks and Wildlife Management
EAP	Environmental Action Plan
ENR	Environmental and natural resources
EP-1	Environmental Program, Phase 1
FAO	Food and Agriculture Organization
FC	Forestry Commission
GDP	Gross Domestic Product
GEAP	Gambia Environmental Action Plan
GMU	Grants Management Unit
GNP	Gross National Product
ICDP	Integrated Conservation and Development Project
IDA	International Development Association (World Bank)
IPC	Implementing Policy Change Project
IUCN	International Union for the Conservation of Nature
MLGL	Ministry of Local Government and Lands
MNR	Ministry of Natural Resources
MOA	Ministry of Agriculture
NCS	National Conservation Strategy
NCSCA	National Conservation Strategy Coordinating Agency
NEA	National Environmental Agency
NEAP	National Environmental Action Plan
NEMC	National Environmental Management Council
NGO	Non-governmental organization
NRM	Natural resources management
ONE	National Office for the Environment
TANGO	The Association of Non-Governmental Organizations
TFAP	Tropical Forestry Action Plan
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
USAID	United States Agency for International Development
WWF	Worldwide Fund for Nature

EXECUTIVE SUMMARY

Sub-Saharan African economies are heavily dependent upon their natural resource base, yet many of those resources are being degraded and/or exploited at an unsustainable rate. Turning these trends around is critical to the survival and well-being of the people of sub-Saharan Africa. With assistance from international development agencies and NGOs, Africans are rethinking approaches to environmental and natural resources (ENR) planning and management. Central to these approaches are cross-sectoral policy and program frameworks that integrate environmental sustainability and economic development policies. These frameworks are embodied in such analytic and planning exercises as Tropical Forestry Action Plans (TFAPs), National Environmental Action Plans (NEAPs), and National Conservation Strategies (NCSs). But action plans do not equal action. The translation of objectives into results requires a focus on implementation needs and capacities.

Implementation involves a complex array of of technical, institutional, and sociopolitical factors. To shed light on these, USAID's Bureau for Africa, through the Implementing Policy Change Project (IPC), undertook a multi-year research effort. The purpose of the investigation was to increase understanding of ENR policy implementation so as to: a) design policies that are more conducive to successful implementation, and b) develop better approaches to implementing ENR policies effectively. The research project began with a literature review, and then conducted five field studies. The country case studies include: an analysis of Mali's forestry policy reforms, a study of Madagascar's experience with implementing its NEAP, an implementation assessment of The Gambia's NEAP, a study of Botswana's NCS, and an analysis of Zimbabwe's institutional reform of the Parks and Wildlife Department and the Forestry Commission.

Each of the five countries studied has confronted special problems and issues that emerged from its own particular circumstances. There are, however, common threads among their implementation experiences. All of the cases reflect two trends. The first is less reliance on control-oriented policies, which involves a move away from centralized regulation and proscriptive policies, and toward positive incentives and increased participation of NGOs and local communities. The second is a growing mismatch between the new tasks associated with ENR policy innovations and the old organizations charged with their implementation.

These two trends form a general pattern, practiced in Africa and other parts of the world, referred to as co-management, which can be defined as the integration of local and state-level ENR management systems where power and responsibility are shared between the government and local resource users. Co-management offers the possibility of developing viable common property resource management strategies that combine centralized state control with local-level self-management. Two dimensions of co-management approaches need to be addressed to make them function effectively. The first is the appropriate allocation and sharing of authority and responsibility between state and local entities. The second is the operational capacity of those entities at both levels to fulfill their responsibilities under a shared NRM policy regime.

ENR policies are characterized by several key features: they cut across traditional development sectors, they involve high levels of uncertainty and complexity, and results are revealed mainly in the long-term. A common theme from the study is the emergence of new, interorganizational structures for ENR policy implementation. These cross-sectoral networks bring together an array of actors, none of which is "in charge" but all of whom have something to contribute to policy success. The multi-actor feature of ENR policy implementation puts a premium on effective coordination. The five cases all highlight the importance of management capacity and skills to achieving ENR policy outcomes. They also emphasize the significance of paying attention to the process side of ENR policy, recognizing that how things are done affects what results are obtained. A shared set of management tasks and issues emerge as critical:

a) How to transform the strategic goals of NEAPs into priorities and operational objectives, and how to sequence them as the elements of a long-term implementation program.

b) How to maintain the participation of state and non-state actors who were involved in the policy planning stage, and how to incorporate new actors whose participation and support is key to implementation success over time.

c) How to develop procedures to manage the new interorganizational and cross-sectoral networks for ENR policy implementation, and how to address the incentive issues they create so that intended results are achieved.

d) How to monitor and strategically manage implementation for the long haul, while maintaining stakeholder support and dealing with changes over time.

A number of conclusions emerge from analysis of the five African cases. First, the cases reconfirm the applicability to ENR policy implementation of the observation that stakeholder support characterizes successful policy initiatives across all sectors. From an implementation perspective, the significant issues are: a) the ability of implementors to establish linkages with existing stakeholders and other potential supporters, and b) the capacity of constituent groups to mobilize and respond to — or make demands on — implementors. Second, because of the inherent uncertainty in identifying correct ENR policies a priori, implementation strategies need to generate a flow of policy-relevant knowledge and transform that knowledge into information that promotes learning and adaptation among decision-makers, policy implementors, and their co-management partners. Third, to maximize the impact of scarce external resources, international assistance for ENR in Africa needs to focus on alleviating key constraints and identifying leverage points.

The study points to lack of managerial capacity and inappropriate task-institution fit as critical constraints to successful ENR policy implementation. The implication for donors is the need to support capacity-building and institutional reform. The study also notes that co-management calls for a changed relationship between government and NR users. Because co-management requires government-civil society partnerships, delegation of authority to the local level, and responsiveness of government to citizens, ENR reforms create opportunities for donors to leverage democratization and/or governance reform programs. The features of the partnership that make ENR co-management work are closely associated with the characteristics of democratic governance.

USAID has been at the forefront of efforts to identify and track the linkages among NRM practices and contextual conditions that have an impact of sustainable resource use. This study confirms the validity of this approach. It is important for USAID not to underestimate the difficulties in supporting the institutional reforms needed to implement ENR co-management strategies. The IPC case studies were undertaken prior to the installation of USAID's new reengineered operations system. Interestingly, many of this report's findings are reflected in the new system. Not coincidentally, this helps to explain the conspicuous role that the NRM sector in Africa has had in refining and testing the system.

I. FROM ENVIRONMENTAL PLANNING TO IMPLEMENTATION

Sub-Saharan African economies depend heavily upon their natural resource base. On average agricultural production accounts for about one third of gross domestic product (GDP), and the export of agricultural (e.g., coffee, cocoa, tea, cotton, bananas, groundnuts) and other primary products (timber, minerals, etc.) is an important source of foreign exchange earnings. Africa uses a higher proportion of biomass energy sources than any other developing region. Fuelwood in the rural areas and charcoal in towns and cities are major contributors to meeting the energy needs of both households and commercial enterprises. In addition, the viability of Africa's tourist sector, a key source of foreign exchange for countries like Kenya, Tanzania, and Zimbabwe, hinges upon the continent's fauna and ecosystems. Besides undergirding the continent's economic structure, this biodiversity has international significance, not just in terms of conservation but for scientific and medical advances as well.

Manufacturing, on the other hand, contributes under ten percent of Africa's GDP. In contrast, South Asia, whose economic dependence upon agriculture is similar to Africa's, nevertheless derives nearly twice as much of GDP from the manufacturing sector as do African nations. This lack of an industrial base means that African economies and the majority of their citizens have limited livelihood and wealth-producing options outside of relying upon their natural resource endowments. Thus they are highly vulnerable to declines in productivity resulting from overuse, degradation, and pollution of the resource base. This vulnerability has increased over the past 25 years, as evidenced by a downward spiral of stagnating agricultural production, drought and desertification, soil erosion, deforestation, biodiversity loss, population growth, and increasing poverty (see, for example: World Bank, 1989; Cleaver and Schreiber, 1994).

Yet Sub-Saharan Africa's capacity to address these problems is severely constrained. Weak economic growth rates, averaging less than one percent annually, and the highest external indebtedness of any developing region (over 100 percent of GNP) combine to cripple countries' ability to respond. Compounding this inability is a variety of debilitating socio-political and institutional factors. These include, for example: inappropriate macroeconomic and sectoral policies, excessive centralization, weak national and local managerial capacity, unclear resource tenure arrangements, low education and literacy levels (particularly female), deficient health care, and limited rural infrastructure. Further, some countries have been afflicted with extreme levels of conflict (e.g., Rwanda, Liberia, Mozambique) and the near or total collapse of the state (e.g., Zaire, Somalia).

Stopping and ultimately reversing the downward slide is critical to the survival and well-being of the people of sub-Saharan Africa. Facing this challenge requires actions on a broad range of fronts, while paying attention to cross-sectoral linkages and synergies (see, for example, Turnham et al., 1992; World Bank, 1989). Among the actions being undertaken in numerous countries, with assistance from multi- and bilateral development agencies and from international NGOs, is a rethinking of approaches to environmental and natural resources (ENR) planning and management.

This rethinking dates from the late 1970s when international assistance agencies began incorporating environmental impact assessments into project preparation procedures. By the mid-1980s, the environment became increasingly central to the international development agenda, triggered in part by the vocal NGO conservation community, and then injected into the mainstream by the Brundtland Commission's exhortation that "sustainable development" should serve as the guiding principle for socioeconomic growth (World Commission on Environment and Development, 1987).

As a result, environmental considerations moved from being project-driven to policy-driven. Development planning marked this shift in two main ways. First, sector policies and plans, particularly in agriculture, began more systematically and explicitly to address sustainability issues. A World Bank agricultural sector symposium, held in 1987, illustrates this trend. Topics presented at this meeting included institutional requirements for sustainable agriculture, soil conservation and watershed development, desertification, land tenure arrangements and farmer incentives, irrigation, and crop diversification (see Davis and Schirmer, 1987). Second, at the cross-sectoral level, a host of policy analytic and programming frameworks emerged to

integrate environmental sustainability and economic development policy. These national frameworks start from an assessment of a country's natural resource base and then proceed to an identification and elaboration of development interventions.

Tropical Forestry Action Plans (TFAPs), for example, have been supported by the United Nations' Food and Agriculture Agency (FAO). National Conservation Strategies (NCSs) have been developed in concert with the International Union for the Conservation of Nature (IUCN), with funding from UNEP, UNDP, and various bilateral donors. Some countries have prepared National Plans to Combat Desertification. National Environmental Action Plans (NEAPs) have been promoted and supported by the World Bank, in collaboration with bilateral agencies. Since the late 1970s, over 100 developing countries have initiated or completed some form of national-level environmental study or plan (Tunstall and van der Wansem, 1992).

In response to the World Bank's 1992 determination that NEAP preparation is a precondition for IDA funding (Operational Directive 4.02, Environmental Action Plans), NEAPs have become the predominant planning framework across the African continent (see Dorm-Adzobu, 1995; Falloux and Talbot, 1992). By 1994, NEAPs were prepared and officially endorsed in 21 countries. Ninteen other countries have NEAPs underway, with completion of the formal planning phase scheduled for 1995-97 (Greve et al., 1995).

Thus, African nations and the international donor community have made a heavy investment in ENR planning, but action plans do not equal action. The translation of plan objectives into outcomes and results requires a focus on implementation needs and capabilities.

A. THE IPC RESEARCH PROJECT

Weak implementation capacity poses a major threat to the developing nations of Africa in dealing with the natural resources management and environmental challenges they face. Many governments have elaborated new policies, developed enabling legislation, and created new institutional frameworks to support their application. However, implementation has proven to be a recalcitrant problem, and one that is frustratingly resistant to "quick fix" solutions. Among the impediments to progress in strengthening implementation capacity has been inadequate understanding of the policy implementation process, including the factors that facilitate or constrain effective implementation. ENR specialists have often concentrated on the technical content of the policies, presuming that once the correct policy is identified implementation will follow as a matter of course. With the accumulation of experience, however, this viewpoint is giving way to a perspective that recognizes the complex interplay of technical, institutional, and sociopolitical variables in promoting reforms in ENR management.

To shed light on these factors and how they interact, the U.S. Agency for International Development's (USAID) Bureau for Africa, through the Implementing Policy Change Project (IPC), undertook a multi-year research effort to investigate ENR policy implementation. The purpose of the investigation was to increase understanding of the links between policy formulation and implementation in ENR, so as to: a) design policies that are more conducive to successful implementation, and b) develop better approaches to implementing ENR policies effectively. The research project began with a document and literature review, and then conducted five field studies. These country case studies include, in chronological order: an analysis of Mali's forestry policy reforms, a study of Madagascar's experience with implementing its National Environmental Action Plan (NEAP), an implementation assessment of The Gambia's NEAP, a study of Botswana's National Conservation Strategy, and an analysis of Zimbabwe's experience with institutional reform of the Parks and Wildlife Department and the Forestry Commission.[1]

The IPC Project has concentrated on helping developing country policy managers to integrate the internal and external dimensions of policy reforms, applying a set of analytic and management techniques grouped under the rubric of “strategic management.” Strategic management encompasses an outward-looking, future-oriented perspective that involves setting long-range goals, evaluating the external operating environment, assessing capacity to achieve goals in light of environmental opportunities and constraints, and adapting management strategies over time to respond to changing conditions. This research effort employs this perspective and examines not just the internal aspects of reform, but the broader picture of winners and losers in the reform process, the pattern of incentives in the old versus the new organizational arrangements, and role and impact of external stakeholders, the influence of political

liberalization, and the means reformers have used to address these strategic issues. This report synthesizes and summarizes the analysis and findings of the IPC research project on NRM and environmental policy implementation in five African countries.

B. THE FIVE COUNTRIES STUDIED

Sub-Saharan Africa exhibits a tremendous degree of diversity among the countries on the continent. This variation covers physical geography, agro-ecology, culture and society, and political systems. Thus any study can only sample this wide-ranging variability, rather than capture it completely, and this research effort is no exception. The countries studied were selected not to be broadly representative, but because each of them illustrates particular ENR policy implementation and management issues facing Africa today: transforming national environmental planning frameworks into action (Botswana, The Gambia, and Madagascar), developing appropriate institutional arrangements for NR co-management (Mali and Zimbabwe), and dealing with the tensions between resource conservation/protection and sustainable development (all). Comparability emerges first and foremost from the common implementation challenges these issues raise, and only secondarily from the features of the countries themselves.

Nonetheless, it is instructive to detail key variables for each of the five countries, and highlight some of the major factors important for ENR policy. Along some dimensions, there are broad similarities across several of the five countries in the study. For example, in terms of NR endowments, Madagascar, Botswana and Zimbabwe have unique flora, fauna, and habitats of world significance. All three have high species diversity, with Madagascar demonstrating the highest degree of species endemism. The Gambia and Mali share the Sahelian characteristics of creeping desertification and deforestation. All five of the countries experience periodic droughts.

By world standards the five countries are small to medium in terms of land area, and three of the five contain arid regions that further limit inhabitable area and increase population density. Madagascar's and The Gambia's high deforestation rates, for example, reflect the twin pressures of population growth and limited arable land. These states are all predominantly rural, although the urban areas are growing. All five countries have urban populations between 25 and 32 percent of total population in 1995. Only Zimbabwe contains a city exceeding three quarters of a million people. Agriculture is a significant contributor to the economies of the Sahelian countries and of Madagascar. It is less important in Botswana and Zimbabwe, where mineral resources are economically significant.[2]

An indicator of relative financial security and pressure to mine natural resources to pay external debts is the ratio of external debt to GNP. A low debt ratio indicates higher security and less pressure to mine the resource base to service the debt, since less is owed in relation to income. A high ratio identifies more debt relative to income, it suggests less maneuvering room to take a long-term perspective, and it may reflect past squandering of resources, both natural and financial. For the five countries studied, Botswana ranks strongest in 1990, with the fourth lowest ratio (20.6) of 101 low and middle income countries. Zimbabwe is in the strongest 25 percent (at 54.1), but the other countries are considerably worse off, with external debt exceeding 100 percent of GNP. Rich mineral reserves have helped both Botswana and Zimbabwe avoid crushing debt burdens.

The five countries exhibit a wide range of political situations. Two (Botswana and The Gambia) have had histories of high stability without oppressive regimes, defying the continental experience. However, after the field study portion of this study, the elected government in The Gambia was overthrown by a military coup. Two others (Madagascar and Mali) have experienced sociopolitical unrest as part of the transition to democracy during the study period. The fifth country (Zimbabwe) is only a decade and a half away from the end of a civil war, but has a democratically elected government and currently is relatively stable.

In terms of USAID funding for ENR activities in Africa, the five countries account for between a quarter and a third of total funding. For the period 1988-93, for example, Africa Bureau ENR assistance totaled $410 million, not counting central bureau funds allocated to Africa. Of that total, approximately $98 million was spent in the five countries studied. More recently, as the Bureau has reduced the number of country programs, the relative share of total ENR budget for these countries (except for The Gambia, whose program was eliminated) has increased.

Overall, then, these five countries offer a range of settings that is illustrative of conditions found across Africa. But it is often uniqueness, not similarity, that determines the course of policy implementation. To highlight such differences, each country is briefly overviewed below.

1. Botswana

Botswana was never a colony. It was made a protectorate of the British crown as a result of a petition to Queen Victoria by a local chief who sought to avoid domination by the British South Africa Company's empire in central southern Africa or by the Boer advance in what was to become the Republic of South Africa. The Bechuanaland Protectorate became independent Botswana in 1966. A long history of participatory local government structures and relatively enlightened central government has given the country an image of democracy and stability. Indeed, the Setswana word “kgotla,” which labels a form of local meeting, has become a symbol of traditional democratic, consultative decision-making.

Three main features of Botswana's natural endowment contribute to the character of the country's environmental setting. First is the Kalahari Desert and the semi-arid areas bordering it. The country is mainly a water-scarce area and the abundant flora and fauna reflect this fact. Second is the presence of the delta of the Okavango River, a vast inland delta that contrasts starkly with the Kalahari. Third is the presence of valued mineral deposits, including diamonds.

Nearly one third of the country's 1.2 million people is concentrated in a string of urban areas neighboring the paved road that traces a diagonal line along the southern fringe of the country from southwest to northeast. Although population density is low outside this narrow strip, resource pressures have arisen due to the expansion of cattle herding, the preferred form of economic activity for the Tswana, Kalanga and other Bantu-language groups. Beginning in the 1960s, and continuing into the 80s, fences were erected throughout the country to separate cattle from the wild mammals that carried hoof and mouth disease. This practice led to the interruption of the wild animal migrations and decreasing populations of those animals. Over the past twenty-five years, much national and international attention has been focused on alternative potential uses for the pasture/wildlands of the Kalahari surrounds and the water of the Okavango.

Botswana's mineral deposits have provided financial assets that have allowed the government to invest in human resources, including international educational opportunities, and to provide public housing in the growing urban areas. They have also allowed the government to be quite selective in dealing with the international donors, accepting only those programs and projects that fit with its own development objectives. This situation stands in marked contrast to that of the majority of African nations.

Another feature that sets Botswana apart from its neighbors is its democratic tradition. Botswana enjoys the reputation of being the most successful democracy in Africa, with the modern nation building on the traditional past. Political stability marked by a highly participatory and consultative, if slow-acting, political process has supported openness and security in a region characterized by neither.

2. The Gambia

The Gambia, a former British colony that extends fingerlike along the Gambia River into Senegal, is a small Sahelian coastal country whose resource base is under extreme pressure. The annual population growth rate of 3.4 percent will mean two million people by 2020, compared to around one million today. The exit of numerous expatriates from Nigeria during the past decade has brought many Gambians back to their homeland. This rapid population increase, through both natural growth and migration, has resulted in the progressive depletion of natural resources in all areas. Most virgin and forested land has been brought under cultivation including fragile areas, and over-grazing has led to advancing desertification. Since 1920 forest cover has declined from 80 percent of land area to six percent. Only 1.5 percent of the closed canopy forests remain intact. The symptoms of the stress related to land shortages are evidenced by disputes over land tenure, food insecurity, and urban migration.

Exacerbating this situation has been the decline in rainfall since the mid-1970s. Average precipitation has declined by about 30 percent, accompanied by soil degradation due to deterioration of the soil structure and water-holding capacity. Reduced surface flows have resulted in greatly increased salt water intrusion in more than half of the Gambia River. Consequently, the area under rice cultivation has

dropped by about 50 percent over the past five years. Average peanut yields have declined by about 20 percent since the mid-1970s, and coarse grain yields have declined by about 25 percent over the same period. As the EAP points out, "The picture with all crops is one of declining returns to land and labour as a result of over-cultivation and consequent loss of fertility" (Gambia, 1992: 9).

Environmental degradation is also manifest in increasingly serious urban environmental problems due to rapid urbanization. Land clearing and building along the shoreline, removal of beach sand for construction, and rising sea levels are responsible for the degradation of the country's coastal ecosystems. Inadequate disposal of solid waste and sewage is an increasing problem in and around the capital, Banjul, and the incidence of diarrhea and dysentery due to contaminated drinking water is second only to malaria.

The Gambia's present situation can be characterized as a slow but relentless degradation of the natural resource base, declining productivity, and increasing population pressure whose full effects will, if left unchecked, lead to crisis in the future. Environmental degradation and its impact on livelihoods and well-being is experienced directly by a large proportion of Gambian society.

Although The Gambia has enjoyed a history of relative political calm and stability, the country's problems have been exacerbated by the recent coup. Economic disruption, precipitous drops in the important tourist industry, the withdrawal of some international donor assistance programs, and political repression have cast a pall over The Gambia's already clouded future.

3. Madagascar

Madagascar, the world's fourth largest island, is a species-rich mini-continent in the spotlight of international concern for the conservation of its unique flora and fauna. Exacerbated by poor economic performance over the past two decades, Madagascar's natural resource base is being destroyed at an alarming rate. Yet the majority of Malagasy citizens depend on natural resource stocks for their livelihoods. The agriculture sector employs more than 85 percent of the population, provides a third of GDP and over 80 percent of the country's foreign exchange. Misguided economic policies pursued following independence from France in the early 1960s led Madagascar to near collapse by the 80s and a bailout by the IMF. As a result of the government's economic problems, investments to improve agricultural productivity were minimal. As a result of impassable roads, dilapidated irrigation systems, low literacy rates, and inadequate adoption of new technologies, agricultural productivity declined.

The degradation of natural resource stocks is exacerbated by an exploding population. Poorer farmers push onto more and more marginal and erosion-prone lands, leading to shifting cultivation and uncontrolled forest exploitation, and severe soil erosion. Eighty percent of the country's original forest cover has been cut, either to clear land for cultivation or for fuelwood. Nearly 80 percent of energy consumed in the country is in the form of wood or charcoal. There are eight million head of cattle in Madagascar, and livestock grazing has played a major role in the loss of forests, particularly in the west and south where cattle are most common. Annual burning of pasture lands to stimulate new growth for fodder also destroys soil quality and leads to a loss in soil fertility and erosion. "Each year 100,000 tons of arable land are lost and more than 10,000 hectares of rice fields silt up and go out of production" (Opsal and Talbott, 1990: 16).

The pressure on the island's natural bounty has an added dimension because Madagascar is one of the ecologically richest countries in the world, home to large numbers of endemic flora and fauna, such as the famed lemurs and rosy periwinkle. All of these species are dependent on a healthy ecosystem for their survival, and face risks of extinction. Land clearing, fires, cattle grazing, poaching, illegal and over exploitation of forests, erosion, mining, and introduction of exotic species of plants and animals are major threats to Madagascar's biodiversity and to the survival of the remainder of its endemic species.

Because of the uniqueness of its plant and animal life, and the history of previous recent extinctions (such as the dodo) this island is subject to much international attention. The country has made efforts to address environmental degradation problems, and Madagascar was one of the first African countries to take steps intended to reverse these trends. Recent political events, however, have slowed the pace of environmental reform, as the nation has been preoccupied with the transition to democracy and its accompanying uncertainties.

4. Mali

Mali, like all the countries of the African Sahel, is highly dependent upon its NR base, deriving the largest percentage of GDP from agriculture (44%) of all of the countries studied. Yet Mali has suffered growing environmental degradation over the past twenty-five years, battered by droughts in the 70s and again in the 80s. With the demands of increased socioeconomic development and population pressure, the country's physical resources have come under intense pressure to fulfill economic production and livelihood needs (Bertrand, 1985). Ninety-three percent of domestic energy consumption comes from wood and charcoal. Besides fuel, Malians depend upon trees for other critical uses: construction material, animal forage during the dry season; and windbreaks for crops. Secondary forest products are an important component of both Mali's local and export economies. Small farmers, however, driven by survival needs, continue to pursue extensive rather than intensive agricultural techniques, bringing marginal lands under cultivation, and further contributing to deforestation, soil degradation, and productivity loss. Livestock, an important sector in Mali's economy, also takes its toll on the natural environment.

With weak human resource and institutional capacity, a history of autocratic leadership since independence, pursuit of inefficient state-led development policies, a centralized and bloated bureaucracy, Mali is ill equipped to deal with its NR and development problems. Heavily indebted, the country remains highly dependent on the international donor community for support. Mali is at the forefront, however, of the democratizing forces on the continent. In 1991, a loose coalition of urban groups, disgruntled with the burdens of structural adjustment and with government repression, toppled the existing regime and set up a transition government. The interim government organized local and national fora to provide venues for citizens to voice their concerns and views. At the national conference that focused on the rural milieu, held in late 1991, ENR issues and their links to rural residents' well-being were key topics of discussion and debate. In the spring of 1992, Mali held its first truly democratic election.

The post-election period has been a dynamic one, where popular expectations and hard realities have frequently collided. An additional shock arrived with the devaluation of the CFA franc, the communal currency of the former French colonies of West and Central Africa. Sustainable NRM is critical to Mali's future. The country recently embarked on the preparation of an EAP.

5. Zimbabwe

Zimbabwe's history extends back to the iron age with the earliest cultures displaced by the Bantu-speaking migrations that began in the fifth century. In 1889 the British South Africa Company, organized by Cecil Rhodes, received a charter from the English crown to promote commerce and colonization in the region. Rhodesia became a self-governing British colony in 1923.

In 1953, Southern Rhodesia became a member of the Central African Federation along with Northern Rhodesia (Zambia) and Nyasaland (Malawi). The federation broke up in 1963 and in 1965 the Rhodesian Front government under Ian Smith proclaimed a Unilateral Declaration of Independence. This declaration was rejected by Great Britain, and the United Nations imposed sanctions against the renegade Rhodesian government. This led to the establishment of a drive for economic self-sufficiency on the part of the minority-ruled state, and this became part of the legacy passed on to the independent government in 1980.

After a decade fighting against the Rhodesian Front government in a war of independence (chimurenga) the liberation forces obtained concessions in the Lancaster House accords in 1979 that led to free elections and the establishment of a majority-rule state in 1980. The first president, Robert Mugabe, inherited a dual agrarian economy that reflected the society — white large-scale commercial farms contrasted with a stagnant and impoverished communal sector. The centrally-guided economy was augmented with a home-grown version of Marxism. Although the new government developed initiatives to support communal farmers, through the 1980s it maintained heavy food subsidies for urban consumers and tight control over the movement of grain.

The dual tasks of gaining control of the government apparatus and attracting foreign investment tugged in opposite directions, with the drive for control promoting centralized management and the drive for financing promoting relaxed controls. Indigenization became a major thrust in both the public and private sectors. For the first decade of majority rule, the quest for control dominated as government was reoriented toward black interests, even though

bastions of white control persisted. In 1991 Zimbabwe officially abandoned Marxism and the government began to liberalize the economy.

Zimbabwe is less dependent on international donors than most African countries. The inherited capacity, in terms of industrial facilities and human resources, combined with the relative youth of the independent nation to create this situation. Major mineral reserves also contributed. Reserves of copper, iron, tin, nickel, cobalt and chromium add to the diversification of the economy. Agriculture contributes only 22 percent of GDP (1992) while manufacturing and industry combined account for 60 percent. The country appears to have entered a demographic transition period marked by falling population growth rates.

Southern Africa, including Zimbabwe, has witnessed increasing frequency and severity of drought over the past three decades. Especially in the lowveld areas, water is becoming increasingly scarce. Access to it, for human, domestic livestock and wildlife use, is expected to be a major issue well into the 21st century. And Zimbabwe still has large numbers of large fauna, including one of the healthiest herds of elephant in Africa. Careful management over the last three decades has allowed the population to grow, in contrast with other African nations, and has made culling necen a healthy and viable population. This has put the Government of Zimbabwe at odds with the international ivory ban and some aspects of the CITES convention.

C. FIVE IMPLEMENTATION EXPERIENCES

Thus there is great diversity among these five African nations — historical, geographical, cultural and natural. But one thing they have in common is the drive to conserve natural resources while developing their economies. All of the five study countries have embarked on a major environmental policy reform effort. Although each contains unique elements and confronts a different mixture of problems, all have come face-to-face with the need for institutional change in order to make progress in implementing their planned ENR objectives. And they have also encountered the difficulty of realizing that change. Each of the implementation experiences is summarized below.[3]

1. Botswana's Conservation Strategy

At the time of the IPC field visit, implementation of Botswana's National Conservation Strategy had been underway for four years. During that time, progress was halting, with external donors supporting some activities through line ministries. But the performance of the agency established to implement the strategy was seen as marginal, with much of the time occupied by the issue of the placement of the agency within the government structure and little impact on key issues. What follows is a brief outline of the NCS and recounting of the implementation experience during the period 1990-94.

The impetus for a national environmental policy framework in Botswana originated with the international community. IUCN, UNDP/UNEP and other actors involved in a 1983 clearing house mission suggested that the Government of Botswana prepare a national conservation strategy along the lines of IUCN's world conservation strategy. Following a long (six-year), participatory consultative process that involved people at all levels of society, Botswana officials assembled and adopted the NCS in 1990.

From adoption of the NCS by Parliament in 1990 to the IPC field study in 1994 implementation was slow. The National Conservation Strategy established an NCS Advisory Board, responsible to the Cabinet, and an NCS Coordinating Agency (NCSCA), located within the Ministry of Local Government and Lands, to implement the strategy. The coordinating agency would work with "liaison officers" in each ministry and with NGOs and local liaisons to meld government operations into the overall priorities of the national strategy. The agency would also directly implement selected projects as components of the NCS.

But the coordinating agency had not achieved a full staffing level after four years. And it had initiated few of its functions — no state of the environment report, no prominent role in the resolution of key issues (such as the proposed diversion of water from the Okavango), and little implementation. Instead, the NCSCA was preoccupied with the issue of where it should be located within the national institutional structure. This was related to differing perceptions of how pervasive and dominant the NCS strategy should be in government policy.

The NCS document provides policy guidance, not control. It is comprehensive and cross-sectoral, focussing on six major problem areas. The six policy areas targeted by the NCS are:

1. pressure on water resources;
2. rangeland degradation;
3. depletion of wood resources;
4. overuse of veld products;
5. industrial/urban pollution and enhancement of settlements; and
6. conservation of wildlife, heritage and cultural resources.

The NCS deals with these policy issues separately. Harmonization of the different efforts receives less emphasis than the aim of bringing the national policy matrix into line with the NCS objectives. Theoretically, the NCS will pervade all policy decisions. But clear criteria for assessing tradeoffs are lacking and there is no mechanism for rejecting any policy due to lack of congruity with the NCS.

The strategy was adopted by the Cabinet and an NCS Advisory Board was subsequently established. Its role was envisioned as involving:

> The sustainable use of natural resources and thus the operation of the NCS act. In cases of doubt concerning the discharge of environmental responsibilities/obligations by organizations and individuals under the act, the Board would provide guidance as to how the obligations may best be met. The board would similarly have the prerogative to advise the relevant organization/s where it believes that the environment is being compromised through either policies or activities which merit review. In addition, the Board would be responsible for the presentation of an annual State of the Environment Report.
>
> Supplementary to the actions of individual ministries, the Board would also encourage and assist sectoral ministries to undertake a review of existing legislation, having regard specifically to the objectives of the National Conservation strategy (Botswana, 1990: para 7.4.2).

Thus the key operating mandates are to advise, guide, encourage and assist — not force compliance. Other specific functions include: coordinating policies, determining research needs, establishing educational and training programs, coordinating the preparation and evaluation of Environmental Impact Assessments, overseeing promotional campaigns, and advancing the contributions which environmental data systems and economic tools can make to assist decision-makers.

Because the NCS is a national strategy that encompasses both development and conservation objectives, there is bound to be some inconsistency. Although the rubric of "sustainable development" is intended to integrate competing objectives into a cohesive strategy package, the overarching nature of the strategy will invariably encounter contradictions, either real or perceived. But it does not provide clear guidance or mechanisms for resolving competing demands on resources.

This contributed to a halting implementation of the strategy. Highly supportive stakeholders interpreted the NCS as an umbrella policy with the ability to force compliance. Others saw it as a coordinative mechanism to offer guidance, not control. Indeed, the liaison officer organizational device was a low profile mechanism that reflected information sharing rather than policy imposition and it contributed to the perception that the strategy was not fully implemented.

2. The Gambia's Environmental Action Plan

The IPC field team's visit took place when The Gambia had two years of experience implementing the GEAP. During that period some successes in resolving disputes were recorded, largely due to the placement of the GEAP implementing agency in the Office of the President. Further implementation was stalled by the political coup in 1994. What follows is a more detailed overview of the GEAP and a brief recounting of the experience and the events leading to it.

The NEAP process in The Gambia was initiated in February 1991 with a Consultative Technical Workshop held in Banjul, convened by the National Environmental Management Council (NEMC), and financed by UNICEF. The aim of the workshop was to identify and recommend broad national as well as specific sectoral environmental policies. A wide array of organizations attended the workshop including government institutions, NGOs, donor representatives, and the private sector. The workshop was intended to identify the critical environmental issues in the country, to initiate broad-based participation involving all groups with a vested interest in the environment, and to launch the beginning of a sustained public environmental awareness campaign. Two working groups created following the workshop prepared draft reports, which were discussed and revised at a July meeting. These reports were combined, and with some additional analysis and revision, became the semi-final version of the GEAP. Another workshop, convened in February 1992 reviewed this version, which underwent further refinements, leading to a final draft, published in May and approved by the Cabinet in July 1992.

The GEAP is divided into two volumes. The first volume (the Action Plan) covers the period 1992-2001. It provides a review of the existing environmental situation and outlines policy objectives, programs, and implementation strategies. The second volume (the Technical Cooperation Program) consists of a donor investment program to support GEAP implementation during its first five-year phase. The Action Plan contains a policy framework with seven broad objectives relating to:

conservation and sustainable NR use, improvements in health and quality of life, preservation of ecosystems, institutional development for environmental management, increased environmental awareness and participation in NRM, integration of environmental issues into development planning, and alternative energy sources.

To address the policy issues the GEAP sets out three programs. The NRM Program assists producers to adopt improved land and NRM practices, manage coastal and freshwater resources, develop government/NGO partnerships for NRM, manage NRM data collection and use, and develop local area integrated management plans. The Environmental Health Program focuses on urban waste management problems, industrial and chemical pollution, and increasing community involvement in controlling environmental degradation. The Energy Program addresses two main issues of introducing new and renewable sources of energy to substitute for fuelwood: increasing the amount of cultured fuelwood through community forestry management programs and reducing depletion of natural forests.

To implement these programs, the GEAP identifies four implementation strategies for effecting policy-level changes. The first is institutional framework development, which includes improving such areas as inter-sectoral coordination, NGO coordination, institutional structures for environmental planning and management, environmental legislation and regulation enforcement, and the study of property rights issues. The second strategy calls for the application of fiscal measures to improve environmental protection; the third strategy recognizes the need for public awareness actions including environmental extension and education, media campaigns, and specific programs aimed at women, teachers, and media practitioners. The fourth strategy develops the requirements for environmental information management, addressing such issues as data standardization, collection, sharing, and dissemination.

Following approval of the GEAP, the unit that had overseen the planning process was formalized as the National Environment Agency (NEA) in July 1993, attached to the Office of the President, through the NEMC. The NEMC, for with the NEA serves as the secretariat, is chaired by the President and includes the Vice President, the Secretary General, the ministers of MNR, Agriculture, Local Government and Lands, Health, and Finance.

The NEA is a small planning, coordinating, and monitoring body, which orchestrates implementation activities by sectoral ministries, or other organizations designated by them, such as area councils, local communities, or NGOs. The NEA's functions are designed to build upon the successful elements of the GEAP process, and in many ways represent the formalization of the working groups and their coordination. Its hierarchical attachment to the Office of the President in principle gives it appropriate authority to fulfill its cross-ministerial functions.

The NEA is augmented by a network of implementing entities. The network structure is designed to facilitate harmonization of activities of sectoral ministries, take advantage of and build upon existing capacity, in each core technical area to promote, monitor, and assess the various elements of environmental management. Three of the most important ministries with regard to NRM are the Ministry of Natural Resources (MNR), the Ministry of Agriculture (MOA), and the Ministry of Local Government and Lands (MLGL). Although sectoral ministries, many of the problems they address defy a simple sectoral approach (e.g., community forestry management, watershed management, integrated livestock and range management, etc.). Four characteristics of the status of ministry-level implementation stand out: a) numerous activities are going on that fit within the objectives and strategies of the GEAP; b) the ministries acknowledge they have limited human and financial resource capacity to articulate and implement national programs; c) important donor projects provide a large share of operational funds, although their individual objectives and strategies have often made it difficult to create coherent, permanent national programs; and d) valuable pilot project experience exists for creating conditions for sustainable community resource management, but a great deal remains to be understood and undertaken before this experience can be replicated on a level that would allow national-level impact.

At the local level, implementation arrangements involve both government and NGOs. The MLGL's Department of Community Development, whose field agents work with village development committees on self-help activities, is the public-sector point of contact at the local level. NGOs, mainly international ones, have a history of work on community services, and have only recently become involved in NRM projects. NGOs participated in the formulation of the

GEAP and their comparative advantage is recognized in the document, particularly their close links with villages and a decentralized structure that facilitate grass-roots programming. The GEAP discusses the need to improve government/NGO coordination, stating that the lack of coordination "remains an impediment to integrated environmental management" (Gambia, 1992: 34).

However, some successes have been registered. For example, sand mining on beaches was recognized as a problem due to the negative environmental impact and beach front degradation it was generating. But no single ministry held the jurisdiction to deal with it. The NEA took on the issue and brought it before the NEMC, which worked with numerous agencies to develop a solution restricting beach sand removal while simultaneously identifying an alternative mining site. Likewise, the NEA has taken a lead role in representing the general interests of society by overseeing (coordinating) the functioning of a pesticide management board and loosening the influence of the MOA and the pesticide vendors.

Progress on the GEAP has been assisted by donor-funded projects. However, external assistance was interrupted by the 1994 coup that ousted the Diara government. In the case of several of the bilateral agencies, funding was not simply suspended, but terminated. For example, USAID's Agricultural and Natural Resources Program combined project and non-project assistance to strengthen planning and implementation of several ministries in linking macro-level policies and program actions to create appropriate incentives for sustainable natural resource use and sustainable development. It addressed improving the policy and institutional framework than governs NRM in order to allow local communities to assume management control of, and benefit financially from, local land-based resources. This project was shut down.

Thus political instability has dealt a major blow to GEAP implementation, although some activities are continuing. Recently, for example, as a way of extending GEAP outreach to the local level, the development of Local Environmental Action Plans was initiated.

3. Madagascar's Environmental Action Plan

Madagascar was among the first developing nations to recognize the need for a strategy to manage the conflicts posed by development and conservation needs. Prompted partly by its great biodiversity and high species endemism, Madagascar is considered to be one of the ecologically richest countries in the world and this has led to much international attention. But the pressing needs of a growing human population are threatening those riches.

In 1984 the Government of Madagascar adopted a national strategy for conservation and development. This strategy served as a springboard for environmental awareness among the public and private sectors and it helped to catalyze action by international donors and conservation groups. This, in turn, led to the formulation of a National Environmental Action Plan (NEAP) in 1988. What follows is a brief overview of key elements of the NEAP as well as experience setting up the mechanisms to implement it and launch it into the 1990s. An IPC team visited Madagascar in 1993.

The objectives of the NEAP were fourfold: 1) to conserve and manage the heritage of biological diversity; 2) to promote sustainable development by better management of natural resources; 3) to improve rural and urban living conditions; and 4) to develop human resources and institutional capability. The strategy for implementing the NEAP contained six elements: 1) an integrated perspective on problems and solutions; 2) a long-term perspective with coordination and continuity of international support; 3) an emphasis on communication and dialog rather than a hierarchical transmission of information and commands; 4) a focus on benefits rather than constraints in program content; 5) a high involvement of local citizens in community-level projects; and 6) a major role for NGOs and other private sector entities in achieving NEAP objectives.

Support for implementation of the NEAP is almost totally based on international donor agency funding. The World Bank's EP-1 program has become the core of funding support. To launch the NEAP, EP-1 focuses on coordinating activities, revitalizing existing organizations, drafting new legislation, and creating new institutional capabilities. Because the on-the -ground impacts of EP-1 stress biodiversity and conservation, critics have charged that NEAP implementation reflects the interests of the international community and slights local concerns for socio-economic development and pollution. But government and World Bank officials contend that the long-term nature of the NEAP requires a sequencing that puts biodiversity first. Other

concerns can be developed in subsequent phases, but if biodiversity conservation is not pursued now none will remain for later protection.

NEAP oversight and coordination is entrusted to three national-level government organizations and three national-level non-governmental organizations established as part of the conditions attached to the EP-1 funding mechanism. They are:

1. National Coordinating Committee for Development and Conservation Activities: chaired by the Prime Minister and composed of representatives of all ministries and other relevant organizations;

2. Scientific Committee (CS): technical and scientific experts providing advisory support services to the coordinating committee and coordinate research activities;

3. National Environmental Bureau: executive arm of the Prime Minister's committee and the agency with primary responsibility for the EAP, renamed "Office National de l'Environment (ONE), on the public sector side; and, on the NGO side

4. National Association for the Management of Protected Areas (ANGAP): a semi-autonomous private agency that oversees the management of selected park reserves and coordinates integrated conservation and development projects;

5. National Association for Environmental Actions (ANAE): a private foundation with individual and organizational memberships including national and international NGOs, businesses and religious groups, it emphasizes watershed protection, soil conservation, reforestation and similar activities;

6. Steering and Oversight Committee (COS): comprising all the major donors and key executing agencies and ministries it meets annually to discuss policy, program progress and future funding.

These entities are among the major strands of a complex network of government agencies, donors, and NGOs that implement the NEAP. But the state-civil society linkage that the network creates has its tensions. Various government agencies have had difficulty devolving responsibility and authority to NGO actors. The critical partnerships for local NRM have been between the NGO umbrella organizations (ANGAP/GMU, and ANAE) and the NGO contractors that are implementing ICDPs at the community level, under delegated authority from the government. According to the NEAP's design, ONE is intended as the central coordinating and monitoring hub for NEAP activities. Various other coordination mechanisms have been used — interagency contracts, overlapping memberships on committees and boards of directors, and interagency information systems. But none have operated as smoothly as hoped. Coordination in this complex network remains an enduring implementation challenge.

The implementation demands of the NEAP have been compounded by political turmoil. Popular pressure, including an eight-month strike, led to the downfall of the government, a transition government and democratic elections in 1992. Under the transition the number of government ministries jumped from 18 to 36, further complicating NEAP implementation. Although the proliferation of ministries has since been trimmed, local and regional governing structures are in flux as the government, with donor support, re-examines its approach to decentralization and NRM. Thus the Madagascar NEAP implementation experience has been one of complexity and uncertainty at the very time that environmental threats have grown.

4. Mali's Forestry Policy

The roots of Mali's forestry policy experience extend back into the Sahel's French colonial period. Over the decades, however, the administrative and legal frameworks developed at that time became increasingly incompatible with the problems and pressures bearing on the forest resources. Accordingly, the move to reform forestry policy gained momentum in recent years. And as the need to reform policy came under scrutiny, the need to change institutional arrangements to accommodate the new policy thrusts became more obvious. In the late 1980s this led to experimentation with local-level natural resource management. But the difficulty of fostering local NRM resulted in the evolution of a co-management approach in the 1990s. What follows is a brief elaboration of this experience.

The forest service was created in 1935 to enforce the provisions of the forestry law and it was directed by a small cadre of expatriate colonials. The initial

mission was to provide woodfuel for the railroad and steamship lines and to protect forest resources from fire hazard and overexploitation. This protection mandate included the authority to classify forest lands into use categories and enforce different levels of restricted access. The forest service alternated between independent status and attachment to the agricultural service from 1935 to 1972. At that time the Direction Nationale des Eaux et Forets (DNEF) was established as an independent body, putting in place a national institutional structure that has lasted till the present time.

The regulatory and restrictive operating style of DNEF and its operating capacities came under scrutiny during the drought years of the 1970s and 80s. Assistance by the international donor community led to a questioning of the appropriateness of command and control approaches when sustainable exploitation was needed to get through the crisis years. In 1981 the mandate of DNEF was expanded to include forest management and conservation-based utilization. This involved the provision of technical assistance to peasants. It was the equivalent of grafting an extension service onto a policing operation, and the fit was not comfortable for the organization or its clients. Indeed, it led to increasing contradictions in implementing the new policy. This resulted in a rethinking of the role of the state in NRM.

A series of studies of indigenous NRM practices in both the pre- and post-colonial periods provided a foundation for experimentation, in the late 1980s, with local resource management approaches. Local NRM emerged as either an alternative or supplement to the state-driven model of forest protection and management. But the studies also revealed some complicating factors.

The effectiveness of local NRM practices varied with different circumstances. Village social structure and culture influenced the way different customs worked. And in some locations traditional institutions were still in place whereas in other locales they had been suppressed and weakened or destroyed by the history of state command and control. So a renaissance of traditional, local resource management practices did not appear to be the key to sustainable NRM in Mali.

A series of public hearings were held in 1991 to help develop an alternative approach. The result is the evolution of a co-management perspective whereby DNEF, local leaders and NGOs have all become parts of a network of collaborating actors promoting forest conservation and sustainable utilization. Revision of the forestry code, restructuring of Eaux et Forets, improved operating procedures within DNEF, decentralization of actions and functions both to local offices and local communities and to NGO partners, cross-sectoral collaboration, retraining of staff in participating organizations, and a public information campaign are all elements of this new thrust, as reported to the IPC field team in early 1993.

5. Zimbabwe's Forestry Commission and CAMPFIRE Program

Experience with the reform of Zimbabwe's Forestry Commission, as analyzed by the IPC team, covers the decade of 1985 to 1995. Through 1985 the commission was a bastion of white interests. But the inception of the World Bank-supported rural afforestation project brought the enclave nature of the commission to public attention as the project engaged in outreach to the communal lands. Changes in leadership in 1987 began a process of institutional reform that continues to this day. Indeed, the organization is about to be divided in two so that the reform agenda can be pursued in an unfettered way.

The CAMPFIRE (Communal Areas Management Programme For Indigenous Resources) initiative dates from 1979 when the acronym was coined. Beginning with a single pilot effort in the early 80s, CAMPFIRE now covers some 22 localities, in various stages of implementation. The core of the approach is to establish a network of NGO, government and local organizations to build a grass-roots capacity for communities to manage wildlife resources for their own benefit. More details of the Forestry Commission and CAMPFIRE experiences are noted below.

The reform of Zimbabwe's Forestry Commission (FC) and Department of National Parks and Wildlife Management (DNPWM) into co-management operations resulted from a unique combination of historical dynamics. The independence struggle of the Zimbabwean people gave them an antagonistic perspective on organizations that had been used to deny them access to natural resources — it also eroded the legitimacy of those organizations in the independence period that began in 1980. This created a need for real reform if the organizations were to be able to continue to protect natural resources from burgeoning populations and the increased demand for access to the resources.

Simultaneously, eroding budgetary resources affected the ability of the organizations to perform their functions. The problems were growing and their capacities were diminishing. The old approach of patrolling and controlling was not tenable. A new strategy was needed, and the opportunity to rethink direction emerged in the wake of changes in agency leadership. In the Forestry Commission, the dismissal of the Managing Director led to the appointment of an interim one from outside the country, followed by an indigenous one, in the late 1980s. These personnel shifts introduced radical departures in thinking about the organization's mission. In DNPWM, an alliance among internal professionals and members of NGOs generated a new strategy for wildlife conservation and sustainable use. Zimbabwe's stock of human resources was high at independence and it is even higher now. Local resources in the form of NGOs and the local university combined with a well-educated civil service to make institutional reform possible.

In the case of DNPWM, the CAMPFIRE effort represented a reform strategy that spread resource control outside the department. The recruitment of NGOs and District Councils as teammates established a bond between parties that were previously competitive. Wildlife management became a partnership enterprise that crossed organizational boundaries.

In the case of the Forestry Commission, an internal change was an important element in the reform process. That change was a new work planning system begun in 1994. The newly implemented five-year workplans are organized to include activity categories that include "resource sharing" and "building stakeholdership." This represents a massive reorientation from more traditional workplans. It suggests the mission of the organization has been cast in radically new terms. Moreover, the plans are actually used to judge staff performance — flexibility and rolling readjustment are encouraged because the plans are taken seriously.

The reform of these institutions began as a political process reflecting a new alignment of power in independent Zimbabwe — the majority demanded access to resources under the purview of organizations that symbolized white domination. But the reform soon became an organizational process demanding new ways of conducting routine business. And it continues. The FC will soon lose its commercial division and will become an organization focussed on people-resource interactions from both regulatory and facilitative perspectives. Its workplans and personnel evaluations must reinforce the new modus operandi or it will stall. The DNPWM is in the process of designing a trust fund and a new organizational mission. It too will need new standard operating procedures and performance criteria to succeed. But the key point is that what were inflexible institutions controlled by a minority have evolved into innovative organizations concerned about the majority. This shift is a major institutional transformation reflecting the political transformation that preceded it.

II. ENR TRENDS AND THE CO-MANAGEMENT THEME

Each of the five countries in the study sample has confronted special problems and issues that emerged from its own historical and geographic circumstances. There are, however, common threads among their implementation experiences, and some of those commonalities reflect worldwide changes in ENR management. This chapter identifies some of these threads and examines their implications for promoting policy reform and institutional change in the natural resources realm in Africa. First, some general trends in environmental and natural resource management are sketched out. Then a theme that is central to two of the cases, but also quite relevant to the others, is elaborated. This discussion sets the stage for the analysis of policy implementation and management in the final chapter.

A. TRENDS IN ENVIRONMENTAL AND NATURAL RESOURCES MANAGEMENT

Africa is not isolated from the changes sweeping the planet. The resurgence of democratic political systems, the communication revolution, and the liberalization of economic regimes are all influencing the course of African development. In the realm of ENR management these changes are reflected in two trends. The first is less reliance on control-oriented policies, which involves a move away from centralized regulation and proscriptive policies, and toward positive incentives and increased participation. The second is a growing mismatch between the new tasks associated with ENR policy

innovations and the old organizations charged with their implementation**.**

1. Decreased Reliance on Command and Control

African countries have traditionally relied heavily on regulatory and administrative policy strategies for environmental and resource management. These policies are often the legacy of colonial practices. For example, the legal framework for forestry policy in the francophone nations of the Sahel derives from the French colonial administration's forestry code of 1935. This law defined the authority of the colonial power to: a) protect forests from overuse by regulating extraction of such forest products as firewood, charcoal, and lumber; and b) protect and restore forest areas that had become degraded (Elbow and Rochegude, 1990). The law distinguished between forest and non-forest lands, created the distinction within the forest lands category between classified and protected forests, imposed restrictions on access to and use of natural resources depending upon the category of forest, and established a system of permits and fines to enforce the restrictions. Further, the law called for the creation of a forest service charged with the responsibility for implementing the law, and specified the police powers necessary to carry out the regulations and prohibitions enumerated in the decree.

This legal and administrative framework established several principles that have shaped NRM policy and its implementation since the turn of the century (see Wunsch, 1990). Foremost among these are: the primacy of the centralized state as the legitimate source of governing authority over all natural resources, the state ownership of all lands deemed empty, and the precept that productive use establishes the legal basis for ownership of land (McLain, 1992). Policy changes in the direction of reduced command and control in the environment sector have been reinforced by the general rethinking of these principles that has taken place across Africa in the context of economic and political liberalization (see Rothchild, 1994), which has included issues of resource tenure and the appropriate role of the state.

The limitations of centralized regulatory approaches are both operational, that is, emerging from the implementation and management burden they impose (you can't do it, even if you want to); and structural, deriving from the incentive structures they create for regulators and regulated inherent in the rules and regulations (you shouldn't do it, even if you could). Turning to the operational weaknesses first: command and control strategies emphasize regulation, impose quantitative restrictions on resource use or pollution outputs, and require screening of investments for environmental impacts. These tasks are administratively intensive; requiring detailed rules and procedures, eent and financial systems, and trained and committed staff at all levels to carry them out. They place a premium on information, for example: transmission of information downward to field staff and outward to resource users regarding norms, procedures, and regulations; data collection on resource use and compliance with regulation, both for local monitoring and transmission upward to the center; analysis of environmental impact data, plus determination of environmental trends and outcomes, both short- and long-term; and financial data collection and tracking of fees and fines. In addition, to work appropriately, they require flexibility for adaptation to local conditions. A single set of uniform regulations cannot address local variation in resource endowments, exploitation patterns and practices, and the balance between conservation and use. Yet in many countries this critical adaptation step has not been taken. The local application of national rules and regulations is frequently left to the discretion of local officials and staff, who possess few guidelines and often inadequate technical skills to undertake such finetuning.

Given the well-documented weaknesses of African public sectors, the reliance on command and control strategies, administered by centralized agencies, has not resulted in effective resource protection or sound environmental management, despite the existence of a legal framework. Morell and Poznanski's observation of ten years ago remains broadly applicable today:

> ... many of the statutes, laws, and regulations in developing countries contain admirable rhetoric: strong environmental goals, relatively strict standards, actions designed to alleviate ecological damage and avoid new environmental problems. In reality, however, enforcement of these laws has been weak or non-existent, particularly in rural areas (1985: 139).

These enforcement agencies, like the rest of the public sector, tend to be overly hierarchical, starved

for budgets, inadequately staffed, and limited in their outreach. While there is an appropriate role for regulation as part of any national strategy for ENR management, many analysts and practitioners highlight the constraint that weak implementation capacity poses, and note in particular the incentive distortions created when governments pursue command and control policies without regard for their ability to implement.

Changing Policy "Don'ts" to "Do's:" There are also structural limitations of the regulatory approach to ENR policy. The content of most ENR policies is embodied in systems of rules and regulations that are essentially proscriptive, imposing penalties and fines for violations. The emphasis is on "don'ts" rather than "do's" or “may’s.” In the African context, where administrative and political factors lead to selective and spotty enforcement, policy implementation opens the door to distortion of incentives as users seek to circumvent regulations, and to corruption as enforcers engage in rent-seeking. Besides leading to a failure to protect resources from overexploitation and degradation, these results breed cynicism, perceptions of unfairness, and reduced commitment to NRM goals among resource users and implementors alike.

The shift to "do's" in the 1990s is reflected in several types of policy modifications, many of which are evident in NEAP programs and projects in Africa. The first type contains education/sensitization actions designed to inform people variously about: a) the need for resource conservation and environmental protection, b) the linkages between current resource user behaviors and resource/environmental degradation, and c) existing and/or new policies and alternative practices and behaviors. The orientation is essentially to demonstrate the rationale for pursuing sound NRM and environmental policies, on the assumption that users can and will respond positively based on acquiring new information and understanding.

The second type of policy modification includes attempts to integrate sustainable development with resource protection, in recognition of the fact that traditionally many of the policies relating to the latter are filled with "don'ts." Stressing the responsible use of resources with an eye to sustainability allows for the introduction of more positive policy messages where the benefits to users are more immediately visible and realizable. For example, "do these things because they will make your agricultural production systems sustainable," rather than "don't do these things because they degrade the resource base and the environment." A good example in this category are policies designed to promote resource-conserving agricultural technologies, for which the benefits to farmers are more readily apparent, such as the use of windbreaks, terracing, drip irrigation, and so on. As one multi-country study found, small farmers are quite knowledgeable regarding the micro-environments they operate in, and respond positively to NRM innovations (Shaikh et al., 1988; see also Western and Wright, 1994).

The third type of positive policy modification is the design of market signals, whereby individuals, groups, or firms undertake resource-conserving and non-degrading actions in response to the structure of the marketplace because it is in their economic self-interest to do so. Policy instruments here include: market information systems, use or elimination of subsidies, price reforms (domestic and/or export), resource tenure reforms, and tax policy (see, for example, Schramm and Warford, 1989; Pearce and Warford, 1993). The array of possibilities here is broad. An example from the energy sector is pricing reform where cutting subsidies and raising energy prices to reflect marginal costs reduces wasteful energy use throughout the economy, with positive effects on resource consumption and air pollution. An example from the forestry sector is the adjustment in the price timber firms pay for trees through reform of stumpage fees.

In most real-world applications, these three types of policy interventions are mixed. For example, education can be combined with market signals in information-based enforcement strategies where the regulatory agency does not seek to identify and fine polluting industries; it simply makes public its findings regarding pollution levels and/or environmentally damaging products, thus introducing this information into the marketplace. Consumers are informed and may choose to avoid patronizing firms that pollute, and the firms may change their behaviors in the interest of maintaining or building a reputation. Another common practice is pairing the introduction of new, sustainable technologies with price, tax, and/or tenure reforms that encourage their adoption and use.

Incentives and disincentives define choices for people through the cues they give regarding the consequences, either favorable or detrimental, of certain actions. Thus incentives promote some forms

of behavior and sanction others. Appropriate incentives are as important for policy implementors as they are for resource users. As pointed out above, a key problem for command and control strategies is the negative incentives structure they tend to foster, particularly in situations where administrative capacity is low. Within the regulatory agencies charged with implementation, opportunities for rent-seeking are created (see Gallagher, 1991). Underpaid, under-supervised field staff have strong incentives to supplement their incomes with bribes and side-payments for preferential enforcement of regulations, reduction in fines, and so on. In forestry agencies, for example, this problem is well documented. Forestry agents in most African countries have police-like powers, and control access to a set of resources upon which local communities are highly dependent for their livelihoods, and commercial interests are interested in as a source of profits.

When command and control strategies are selectively and ineffectively implemented, the impact on resources can be disastrous. For example in Mali, villagers risked unlicensed tree cutting, knowing that they could bargain forestry agents down to a lesser fine since the agents preferred to maintain their paying sources of under-the-table revenue rather than jail them. Because negotiated fine amounts bore no relationship to the magnitude of the infraction, peasants cut as much as they wanted, recognizing that the fine for cutting a single branch or fifty would be the same. Rural residents came to view fines as the price of access to forest resources, rather than measures that discouraged particular types of behaviors and encouraged others (see McLain, 1990 and 1991).

In many African countries, the resource-conserving incentive structures embodied in local institutional arrangements governing resource use were overshadowed by state assertion of control through central regulatory agencies. However, in the absence of effective enforcement, common pool resources have been essentially transformed into open access resources, where the incentives for individual users are to consume the resources to the point of overexploitation, since authority for control and exclusion rests with the outside agency (see Thomson, 1992). Forests, fishing stocks, and grazing land are all examples of resources that have been seriously overexploited and degraded across the continent as a result of de facto open access resource regimes.[4]

A critical task for NEAPs and other ENR policy frameworks is the search for incentives compatibility at all levels, from the local up to the national, and extending to the international. As Bromley notes, regarding community-based conservation, "Incentive compatibility is established when local inhabitants acquire an economic interest in the long-run viability of an ecosystem that is important to people situated elsewhere" (1994: 429). The recognition of the primacy of incentives and the need to align them such that the behaviors of the various actors reinforce, not derail, the desired outcomes is one of the driving factors behind the trend away from command and control strategies. All three types of policy strategies that seek to emphasize inciting positive behaviors, rather than proscribing negative ones, are firmly based on new thinking about incentives.

Increased Participation of Communities and NGOs: Participation has long been recognized as instrumental for the achievement of sustainable development objectives (Brinkerhoff and Goldsmith, 1990; Cohen and Uphoff, 1980; Finsterbusch and Van Wicklin, 1987; Honadle and Van Sant, 1985). Further, grassroots NRM highlights the centrality of local participation to resource utilization decisions and practices, based on a mix of conviction and empirical assessment that the mass of rural residents who depend on the NR base for their livelihoods are most appropriately situated for NRM (Chopra et al., 1990; Shaikh et al., 1988). The role of increased participation for ENR policy management shows up in several areas. At the policy and program design stage, participation of resource users can ensure that indigenous local-level knowledge about NRM is included in policy prescriptions (e.g., Niamir, 1990; Thompson, 1991b). Analysis of NEAP experience cites increased participation as contributing to the realism of the plans (Talbott, 1990; Opsal and Talbott, 1990). At the implementation stage, broadening participation serves to help offset the administrative weaknesses of the state in carrying out ENR programs and projects, and to counter state tendencies to seek to exert excessive control over access to NR.

The trend in addressing administrative capacity gaps in public sector ENR agencies has been to establish partnership arrangements in which certain implementation functions are devolved to NGOs and/or NGO associations, which then undertake participatory NR conservation and protection activities in concert with local communities. One of

the major forces pushing for public-private partnerships is the above-mentioned lack of government capacity to implement ENR programs effectively. The performance record of African public agencies in protecting NR and promoting sustainable NRM is, with a few exceptions, uniformly poor. While some ENR policy functions must necessarily reside with the state, others can be accomplished by non-governmental entities.

As their label implies, NGOs are reputed to be everything government is not. Their characteristics include: small size, internal flexibility, community and participatory orientation, local-level knowledge, autonomy and creativity, quick response and adaptability, and cost-effectiveness (see Gregerson et al., 1989; Otto, 1991; Wellard and Copestake, 1993). These features make NGOs especially appropriate partners for local-level ENR activities. Donor agencies, interested in NGOs' outreach and results capacity, and pressured by the international NGO lobby, have become strong proponents of NGO partnerships for ENR. Most African NEAPs include a role for NGOs in the implementation of the local ENR activities they finance.

On the ground, however, the partnership is on occasion an uneasy one, both from the government and the NGO sides (Farrington et al., 1993). As the PVO-NGO/NRMS Project's 18-country assessment found, African governments are not uniformly receptive to NGO participation in ENR management (Brown et al., 1993). Governments tend to be concerned that the very features that give NGOs their grassroots implementation advantages also provide a potential springboard for political activity. In some cases, governments are sensitive to the presence of NGOs in service delivery and technical assistance roles as implicit criticism of their lack of capacity to fulfill those roles, and resentful of the donor resource flows going to NGOs instead of to ministries. From their side, NGOs are often suspicious of government intentions, particularly in the case of regimes with limited commitment to the needs of the poor and/or to NR protection. Further, NGOs are rankled by government attempts to monitor and control their activities, often perceiving such efforts as unwarranted interference.

National-local and public-NGO partnerships represent a form of co-management strategy for ENR. But much of the rhetoric that surrounds these partnerships adopts the ideal of local self-management. Community self-management strategies differ from co-management approaches in the degree to which local communities have the authority and autonomy to determine NRM rules and incentives, and to apply them within a broader sustainable development framework. Self-management implies higher levels of devolved discretion and local empowerment than co-management, where local participation takes place within a policy framework that pairs government agencies with local groups more closely.[5] Examples are: community self-help groups ("mobisquads") in Ghana working on agroforestry (Veit et al., 1995), self-help water management groups in Kenya (Thompson, 1991a), and community cooperatives in Niger's Guesselbodi Forest (Heermans and Minnick, 1987). Integrated conservation and development projects (ICDPs) are another example of NRM that relies on community self-management, though usually mediated by NGO involvement (see, for example, Hannah, 1992).

In some cases, community self-management strategies tap into traditional institutional structures for rule determination and application, turning to village chiefs, councils, courts, and local tenure arrangements (see Shaikh et al., 1988; Thomson, 1991b). These strategies are often combined with NGO partnerships, where the NGO serves as the guarantor of the community's ability to manage the resource, and as the source of technical assistance to strengthen community NRM capacity. For example in Mali, CARE, with USAID funding, has supported a village self-help organization — the Ogokana — to manage forest resources on a contract between the Ogokana and the Malian Department of Water and Forests (CARE, 1992).

Rhetoric aside, there is a clear shift away from the historical regulatory functions used by both colonial and independent regimes toward new functions. But this shift often takes place using the institutional forms designed to exercise command and control. It is akin to equipping prison guards with counseling videos and expecting relationships to change within the old walls and reward systems. It will not happen. As any student of organizations knows, this can lead to a mismatch between new task needs and old management practices and administrative behaviors.

2. Mismatched Task Needs and Institutional Capacities

The trends analyzed above describe the changes in the ENR policy mix that most African countries are

pursuing, supplementing command and control policy regimes with market-based reforms and positive incentives, and opening up the policy process to a wider circle of participants in both policy design and implementation. Though such changes have some degree of support from domestic constituencies, the major impetus — and the resources to engage in action — has come from the outside: the multi- and bilateral donor agencies and the international NGO community. In this sense, ENR policy change shares the peculiar features of the wider economic and political reforms underway in Africa that Bates (1994: 26) identifies: "Reformism has strong domestic roots, but it is powerful because it is backed by international agencies and foreign capital. It opposes Africa's governments, but it is often initiated by them."

Because of these peculiarities, the environmental policy agenda is, for the most part, far ahead of the institutional base necessary to implement the new policies. The public sector agencies charged with carrying out these new ENR mandates directly and interacting with non-state entities (e.g., NGOs, community groups, private firms) remain structurally, procedurally, and attitudinally set up for the old ENR strategy, i.e., resource protection through enforcement and policing. The result is a mismatch between policy goals and institutional capacity to reach them. Thus the soft states in Africa, with limited administrative capabilities in all sectors — not simply ENR — face some hard choices if they are to achieve the policy and impact outcomes contained in their NEAPs, NCSs, or TFAPs. A core theme in the story of ENR policy implementation in Africa focuses on how to deal with this mismatch between performance demands and management structures.

Appropriate management structures were important in the countries studied. In Zimbabwe, for example, the Forestry Commission was an organization with a split personality. First, it was divided between its state functions and its commercial functions — the former stressed delivering technical services to the population while the latter emphasized the production of wood and wood products. Second, it was split between acting as an enterprise exploiting forest resources and acting as a regulatory body protecting them. Historically, production and exploitation received the lion's share of the financial and human resources.

The enterprise mandate was carried out by three divisions: manufacturing, forest products and marketing. The regulatory mandate was implemented by three other divisions — indigenous resources, research and development, and forest extension services. Providing administrative support to these operational divisions were the human resources and administration division and the finance division. The remaining unit was Ngamo Safaris, a hunting safari company operated by the Commission in gazetted forest areas. All of the above were under a General Manager and Deputy General Manager. The parastatal answered to a Board of Directors under the general auspices of the Ministry of Environment and Tourism.

The evolution of the FC away from a command and control emphasis on trees and their separation from people toward the co-management of forest resources reflects a major reorientation. Reorganization is needed to support this new emphasis. The commercial forestry functions of FC will soon be hived off and privatized, making the extension, research and development and indigenous forests divisions the driving forces of the commission. And outside the Commission the former general manager is working through an NGO to assemble a working group of two donors and some NGOs in an effort to promote a community forestry emphasis based on the CAMPFIRE model. Thus an appropriate organizational structure is seen as key to future performance.

In Botswana, the placement of the NCS coordinating agency in the Ministry of Local Government and Lands and the use of liaison officers supported an advisory role. But with stakeholders clamoring for a more active, directive role, the appropriateness of the institutional placement was questionable. It certainly was proving to be inadequate to meet the expectations that many held for the NCS. Again, the mismatch between task needs and institutional capacities is key to understanding the implementation experience.

In The Gambia, the GEAP oversight unit functioned relatively successfully in part because, as a newly created and staffed entity, it did not carry with it pre-existing organizational baggage. This feature reduced the mismatch problem, and the quality of its leadership and staff provided appropriate institutional capacity. The unit was located in the Office of the President, giving it cross-sectoral responsibility and a national vantage point above the stakeholders and clients arrayed around the line ministries. Of course, this also had its costs since a political coup was

directed at the Presidential level and caused a slowdown in implementation.

In Madagascar as well, a newly created and staffed unit was charged with NEAP oversight: ONE. However, in this case the unit's strong coordination mandate did not fit with either its bureaucratic placement — at the same level as the ministerial entities it was supposed to coordinate — or its staff capacities. Further, the NEAP's program components have been implemented by a complex network of national- and local-level, public- and voluntary-sector organizations with donor funding. The resulting diffuseness of responsibility and accountability, and the interorganizational tensions reflect both the complexity of the ENR policy issues the NEAP confronts and the difficulty in developing a multiorganizational mechanism that can deal effectively with the implementation complexity that the NEAP has generated.

In Mali, the DNEF was designed as a regulatory agency and the decades of operation with this mandate had a deleterious effect on local resource management institutions. Thus, the main state organization charged with forestry policy implementation was not equipped to engage in outreach and extension activities, and the local-level organizations were not ready to step in to substitute for the national institution. The new tasks required a reevaluation of institutional relationships and configurations. It was not possible to stick with the existing form or to return to a previous profile — the new demands required new responses.

The problem of mismatched tasks and organizations permeated all five case experiences reviewed for this study, revealing a search for new responses to deal more effectively with new needs. An increasingly common type of response fits under the rubric of co-management.

B. THE CO-MANAGEMENT THEME

The trends overviewed in the previous section have formed a general NRM pattern, practiced both in Africa and other parts of the world, referred to as co-management. As Berkes et al. point out, definitions of co-management vary, encompassing various degrees of integration of local and state-level management systems that involve "the sharing of power and responsibility between the government and local resource users" (Berkes et al., 1991, p. 12). The rationale for NR co-management in Africa is that, despite de jure policies regulating NR use, de facto open access regimes prevail, leading to increasing levels of resource degradation (Bromley, 1992; Cleaver and Schreiber, 1994). Co-management offers the possibility of developing viable common property NRM strategies that combine centralized state control with local-level self-management. A characteristic of co-management is a perspective that sees the appropriate function of government as to empower and support local self-governing entities to manage NR through selective devolution of authority and the creation of key enabling conditions (see ARD, 1992a and 1992b; Murphree, 1995; Thomson, 1991b; Western and Wright, 1994).

Two dimensions of co-management approaches need to be addressed to make them function effectively. The first is the appropriate allocation and sharing of authority and responsibility between state and local entities. The second is the operational capacity of those entities at both levels to fulfill their responsibilities under a shared NRM policy regime.

1. Allocation of Authority and Shared Responsibility

The policy frameworks in the five countries, as reflected both in the NEAPs (Madagascar, The Gambia, Botswana) and in sector-specific policies (Mali and Zimbabwe), confronted the distribution of authority between state and local actors. In all the countries studied, the trend was clearly toward a reduction in centralized command and control, coupled with an increase in local participation in NRM decisions and local responsibility for NR actions.

Madagascar's NEAP set up linkages between central level agencies and local communities, through networks of public agencies overseeing a variety of integrated conservation and development programs and projects, mediated by NGOs and NGO associations. For example, the National Association for the Management of Protected Areas (ANGAP), an NGO created by the NEAP's enabling legislation and operating under delegated authority from the government, awards contracts to NGOs for integrated conservation and development projects located around national parks and reserves. Another NGO umbrella organization established by the NEAP, the National Association for Environmental Actions (ANAE), also serves as a vehicle for sharing NRM responsibility

with local community groups through a program of small grants.

A similar trend is evidenced in The Gambia's experience. The Gambia's EAP expands policy strategies away from state-led command and control approaches toward more market-based ones, incorporating fiscal incentives, awareness campaigns, and environmental information collection and dissemination. The GEAP moves in the direction of expanding policy implementation to include TANGO (The Association of NGOs), which serves as an umbrella entity, local NGOs, and local communities, thus reflecting an orientation toward NRM co-management that partners government agencies with external actors for NRM. It is exemplary among Africa's NEAPs in initiating environmental planning through a country-led, as opposed to donor-driven, participatory process that drew upon a range of actors, both inside and outside government, with interests and expertise in NRM at the early stages of EAP analysis and formulation. Indeed, shared responsibility is a key element of the GEAP strategy. This is demonstrated both by the implementation network established to support the GEAP and by the more recent initiative to formulate local environmental action plans to augment the national one.

Botswana's NCS also reflects the co-management approach. The Strategy established a simple linchpin structure. Center-local linkages were created in the form of liaison officers in the NCS Coordinating Agency, who ensure compatibility and coordination among NRM activities at the national and local levels with public officials, NGOs, and community groups. Field application of co-management has proceeded largely in the context of individual projects funded by international donors; for example, USAID's Natural Resource Management Project supports pilot experiments in community-based NRM in northern Botswana. This project brings together the wildlife and national parks department, international and local consulting firms, and international and local NGOs.

In Zimbabwe, both the experiences of the Forestry Commission (FC) and those of the Department of National Parks and Wildlife Management (DNPWM) illustrate co-management's characteristics of delegated authority and shared responsibility for NRM. CAMPFIRE distributes wildlife resource management between the DNPWM and local communities, and the FC developed mechanisms to involve local residents in determining ways to provide access to gazetted forest areas. Villagers and bureaucrats became partners in protection and sustainable use.

For example, the DNPWM provided technical assistance to communities participating in CAMPFIRE. DNPWM technical experts established the game quota parameters within which the community made its decisions. If DNPWM determined that an offtake of eight elephants was appropriate, the community would then decide how many would be reserved for sale to a safari operator and how many would be allocated to local hunters. Department staff would then assist in the negotiations with the commercial organizations to help the community receive benefits such as higher fees, employment and training for community members, and low-impact hunting practices to preserve the physical surroundings.

Likewise, the FC continued to regulate timber harvesting in the forests. Although local settlements could have access to parts of the forest, determining the conditions of access, managing the process, and establishing usage fees all remained the purview of the commission. Although local population pressure, the activism of political leaders, and the location of the settlement could all constrain the range of options open to the FC, nevertheless, it retained responsibility and authority over the gazetted forest.

The Mali case reinforces an important point: the transition to co-management has tended to occur gradually, rather than resulting from a deliberate policy shift at a particular point in time. The story of forestry policy in Mali reveals the progressive evolution away from a total emphasis on state authority toward shared NRM responsibility. The forest service was created as the enforcement agent for the provisions of the 1935 forestry law. Eaux et Forêts' approach to fulfilling its protection mission was to pursue policing and enforcement of regulations as vigorously as its staffing levels and operating resources allowed. But as part of Mali's government apparatus, it shared many of the operating constraints that characterize developing country public sector agencies. During the 1970s and 80s the effectiveness of the protectionist approach to forestry policy was increasingly questioned, and Eaux et Forêts' mandate began to shift toward "animation rurale" to provide technical support to peasants for the rational exploitation of forest resources, in short: NRM co-management. These new functions were essentially

grafted onto Eaux et Forêts' existing structure and procedures, with limited success. Top leadership espoused a participatory extension message while the service's field agents engaged in ongoing abusive policing practices.

Mali's coup d'état in March 1991 opened the door to a groundswell of popular expressions of discontent with the government in general, and with Eaux et Forêts in particular. The transition government organized a number of fora, such as the "Conférence Nationale," held in the summer of 1991, and the "Etats Généraux du Monde Rural," held in December of that same year. Specific to NR, the transition government held a series of hearings on the bush fire code, culminating in a national conference in October 1991. These seminars crystallized attention on local-level governance and NR co-management. For forestry policy, this new thinking led to a number of reforms: 1) a revision of the forestry code; 2) an information campaign on forestry laws and procedures; and 3) changes in the Eaux et Forets' structures and procedures that change its mission, decentralize functions and share some with NGOs and local communities, and promote cross-sectoral collaboration.

2. Operational Capacity

As noted above, co-management is not a turnkey operation that emerges from a one-shot policy shift. Rather, it is a dynamic and evolving process of redefining policy strategies and institutional relationships. The path of this process varies with context. One key element of that context is the operational capacity of the various partners to perform their allotted roles, and the concomitant need for capacity-building. A key aspect of the transition to co-management policy strategies has been the impetus for change deriving from the recognition that the traditional centralized enforcement agencies, in fact, do not have the capacity to implement NRM singlehandedly, but need the active participation of resource users. In each of the five country case studies, capacity-building issues emerge as critical, both to help public agencies deal with new mandates and stakeholders, and to help NGOs and local resource user groups engage in effective and sustainable NRM.

For example, at the local level, even though there may be a stock of indigenous technical knowledge regarding NRM, community actors often need skills and perspectives that are unavailable locally. In Zimbabwe's CAMPFIRE, for example, the ability to conduct game censuses was lacking at the community level. Likewise, the ability to interpret the studies was also lacking. Such interpretation is key to determining offtake targets. The DNPWM undertook these studies, and when the expansion of the CAMPFIRE program overtaxed the department's ability to respond, NGOs were able to step in and perform the services. The strong presence of international NGOs, such as the IUCN and WWF, combined with capable local organizations, such as Zimbabwe Trust, made this possible. Indeed, a key element in the CAMPFIRE effort is the participation of the NGO community in the provision of technical services.

This was not unique to CAMPFIRE. Implementation of the NEAPs in Madagascar and The Gambia is also NGO-intensive. The ENR sector is distinctive in that it contains international NGOs with relatively high levels of technical expertise. People with doctoral training in wildlife management, forestry, hydrology or conservation biology, to name a few specialties, are commonly found in the international NGOs. This makes a partnership among the donors, NGOs and national governments possible and it expands the range of options available for assisting local communities.

One of the common types of assistance is studies and analyses, such as the game census and culling targets noted above or the analytic policy studies prepared for Madagascar's NEAP. Technical studies are needed, sometimes in great quantities, as in Madagascar, or in great depth, such as the question of the diversion of water from the Okavango River in Botswana (Scudder et al., 1993). But besides technical capacity, there is another type of assistance need that is often underestimated and, as a result, undersupplied: management capacity building.

In cases such as Zimbabwe's CAMPFIRE this often involves assistance directly to local communities. But in situations such as Mali's forestry policy reform there is as great a need at the central government level as at the local level. National institutions are often ill-equipped to operate in a co-management mode. Assistance is called for to help them develop the competency demands of fulfilling new performance needs. This is especially true in what have been described as the "soft states" of Africa. Institutional design, including legal authority, performance incentives, organizational decision-making structures, reallocations of administrative

resources and resource control, staff training, and monitoring and feedback systems must go hand-in-hand with new policy directions. This holds true at all levels. Indeed, overly complex institutional design can thwart policy objectives.

In many African nations, as elsewhere in the world, the role of local, indigenous NGOs in co-management is increasingly important. However, the capacities of most local NGOs are also severely limited. Both management and technical support are necessary for them to fill the roles that are required for a transition from command and control to co-management. This transition involves adjusting old institutions to the task requirements of new policy regimes, as much as it calls for the creation of new organizations.

III. IMPLICATIONS FOR IMPLEMENTING ENR POLICY CHANGE

A key challenge for African ENR policy reform is aligning institutions, both existing and newly created ones, with the demands of the co-management approach. This alignment has both structural and management process dimensions. This chapter examines both of these, drawing on the findings of the five country case studies in the context of the broader streams of analytic work on ENR policy issues in Africa and the developing world. A final section offers some concluding remarks.

A. NEW STRUCTURES FOR NEW POLICY APPROACHES

An overriding common theme from the five-country study is the emergence of new, interorganizational structures for ENR policy implementation. The interconnected nature of ENR policies is reflected in the multi-agency networks that have emerged from the NEAPs and NCSs across Africa (Madagascar, The Gambia, Botswana), and in the state-NGO partnerships created for local NRM in the forestry and wildlife sectors (Mali and Zimbabwe). The shift toward sustainable ENR management that blends resource exploitation with conservation calls for more broadly participatory approaches than the earlier commodity-based NR policy frameworks. These approaches, which blend technical considerations with social ones to arrive at a balanced understanding of resource use within the context of people's livelihood strategies, expand the horizon of the NR policy implementation landscape far beyond the organizational boundaries of a single agency.

1. Implementation Networks

This expansion is represented in new organizational forms and processes. Bureaucratic hierarchical institutions are, in many instances, evolving toward more open and collaborative structures. For example in Zimbabwe, the evolution of the Forestry Commission and of CAMPFIRE illustrates this change. In Madagascar and The Gambia, for example, new organizational structures emerged from the allocation of implementation responsibility for components of the NEAPs among line ministries, NGOs and NGO associations, and freshly created coordinating units (ONE in Madagascar, and NEA in The Gambia). ENR managers now operate within networks of multisectoral and state-civil society interactions rather than just within the confines of agency or legislative mandates.

From the point of view of an individual network member, whether a public sector or non-governmental entity, operating within a network structure poses three problems. First, network structures, through their demands for coordinated action, impose limits on a member's autonomy. While the partnership may allow the member to undertake some activity that would not otherwise be possible, in exchange "strings" are attached. For example, NGOs may gain access to donor funds by working with local communities on ICDPs (integrated conservation and development projects), but they incur reporting and accountability requirements. Second, networks create the need for task consensus; that is, basic agreement on, for example, the NR user groups to be targeted, the environmental actions to be undertaken, the services to be provided, the methodologies to be employed, and so on. The member may not necessarily agree with the choices made, and may not be able to modify them to fit with its own preferences. But such agreement is crucial, for example, to developing the linked information and monitoring systems that are integral to ENR planning frameworks. Third, most members of an implementation network — particularly public agencies — belong to more than a single system, and frequently participating in network activities and programs places the member in a situation where it is subject to conflicting demands. The most common conflict is between the

requirements for participating in lateral coordinated action at the field level and in vertical hierarchies.

Implementing ENR policies through networks can be effective, but it can also be confusing and frustrating due to the difficulties in dealing with these problems. Interviews conducted by the country study teams revealed concern and sometimes conflict about how to make the new organizational arrangements function smoothly and effectively. Co-management policy implementation strategies are much more uncertain and complex than the traditional command and control approaches. They call for a rethinking of organizational issues such as: allocation of tasks and responsibilities, monitoring and reporting, accountability, and definitions of performance and success.

The case studies revealed that such a rethinking is an ongoing process, being pursued very much on a "learn-as-you-go" trajectory. For example, the assessment of forestry sector agencies found a common task-structure mismatch where regulatory and resource user support roles were combined in the same organizational units, and sometimes even in the same staff (Mali and Zimbabwe). When new entities were established to implement NEAPs or conservation strategies, such as in The Gambia, Botswana or Madagascar, the variation in the placement of the new agencies and their linkages to partners and stakeholders made a difference in what problems they encountered, in what incentives were created, and in the available options for dealing with those problems. The degree of political turbulence in the larger bureaucratic setting can affect the ability of key decision-makers to reach agreement on placement and linkage issues, as the Madagascar case clearly indicates.

2. Coordination

A shared issue in all the cases, arising from the interorganizational networks and partnerships employed as ENR policy implementation structures, is coordination. Because of the cross-sectoral, interagency, and public-private-NGO nexus of actors involved in policy implementation, coordination mechanisms are a core concern. Yet the cases showed that people continue to have difficulty defining what they mean by coordination, and the debate often reflects a lack of focus and/or agreement on the elements of the coordination issue (see also Talbott, 1993).

Getting specific about coordination leads to investigating questions about the nature of the linkages among the members of an interorganizational network. Honadle and Cooper (1989) address this question by distinguishing among three types of coordination: information sharing, resource sharing, and joint action. Information sharing involves communication, one agency or subunit informing others know what it is doing. This can be accomplished through various mechanisms, such as distributing reports, holding meetings, having key individuals meet together or establishing information units. Resource sharing involves allocating some resources controlled by one organization to another for specific purposes — loans of equipment, grants of finances, contracts and memoranda of agreement, or secondment of personnel are all examples. Joint action entails two or more entities collaboratively undertaking some activity together, either simultaneously or sequentially: training, data collection, service delivery, monitoring, or supervision are all examples. Each type of coordination implies a greater or lesser need for different types of linkages among the organizations involved.

There are other ways of examining coordination questions that can also be helpful. For example, coordination can be looked at in terms of whether actors emphasize control or assistance in their links to other partners. The purposes of coordination can be identified: does it serve administrative ends, or does it contribute to the technical aspects of getting the job done? Or coordination can be ranked according to its degree of formality or informality. All of these perspectives can be helpful in detailing the specifics of coordination and in seeking to make interorganizational structures function more effectively. Managing coordination, in terms of appropriate mechanisms, processes, and incentives, remains critical to ENR policy implementation using co-management strategies.

B. MANAGING ENR POLICY IMPLEMENTATION

The five cases all highlight the importance of management capacity and skills to achieving ENR policy outcomes. They also emphasize the significance of paying attention to the process side of ENR policy, recognizing that how things are done affects what results are obtained. Particularly in countries with NEAPs, NCSs, TFAPs, etc., the

managerial tasks associated with ENR policy implementation are daunting (see also, Dorm-Adzobu, 1995). A set of common management tasks and issues emerge as critical:

a) How to transform the strategic (and often vaguely stated) goals of NEAPs into action priorities and operational objectives, and how then to sequence them as the elements of a long-term implementation program.

b) How to maintain the participation of the coalition of both state and non-state actors who were involved in the policy planning stage, and how to incorporate new actors who perhaps were not involved in planning, but whose participation and support is key to implementation success over time.

c) How to develop procedures and processes to manage the new interorganizational and cross-sectoral networks created for ENR policy implementation, and how to address the incentive issues they create so that intended results are realized.

d) How to monitor and strategically manage the implementation process for the long haul, while maintaining stakeholder support and dealing with changes over time.

1. Objective Setting and Sequencing

Clear policy objectives facilitate implementation when those objectives are very broad, national ones that enjoy a consensus. However, when opinions are divided and conflicts exist, and when the concerted actions of a wide range of actors are needed, then fuzzier objectives may be beneficial during implementation of new policies. At some point, though, clarity is helpful, particularly later in the implementation cycle when adjustments and finetuning are called for based on experience. At the outset, however, "strategic vagueness" can assist efforts to engage the support of multiple stakeholders, which can help build momentum for change and lay the basis for a later process of goal clarification and operationalization.

The NEAPs and NCS studied all contained relatively broad goal statements relating to sustainable development and NR conservation. The level of generality masks potential inconsistencies or conflicts among specific policy targets. Similarly, the sectoral policies studied — forestry (Mali and Zimbabwe) and wildlife (Zimbabwe) — also contained potential tensions and conflicts lurking among the various subsections and articles of their enabling legislation. However, around the world, the debate over the appropriate valuation of NR and the weight accorded conservation relative to socio-economic needs and NR exploitation is far from resolved. The existence of conflicting and even inconsistent policy perspectives is an ongoing feature of ENR policy implementation.

One approach to moving toward policy clarity is proposed by Honadle (1996). ENR policy objectives can usefully be divided into two major sets with seven subcategories. These are:

1. Targeted consequences, consisting of five types — a) a decline in damaging human behavior, b) the restoration of a resource, c) the development of new human behavior, d) the preservation of a resource, e) an increased efficiency in the consumption or use of a resource; and

2. Systemic consequences, consisting of two types — a) the creation of a market for substitute materials or processes, and b) the development of adaptive capacity and new decision processes.

ENR policy frameworks contain a blend of these objectives, and sorting out the types of policies being pursued can help to develop more effective implementation approaches. Sometimes there will be a sequential relationship among different types of objectives. For example, CAMPFIRE initially attempted to reduce harmful behavior in specific localities. Then as it grew into a national program and focused on building local NRM capacity, it moved from targeted to systemic objectives.

2. Participation

The importance of participation for ENR policy implementation using co-management approaches is well documented, both by the five country cases in this study and the wider literature (e.g., McNeely, 1995; Western and Wright, 1994; Zazueta, 1995). Participation can expand the information base for ENR policy decision-making. It is essential for creating support for, and reducing opposition to, ENR policies and programs at all levels, from national to local. Without participation, few actors will feel ownership for, or accord legitimacy to, ENR reforms. In addition, participation is critical to building the

implementation capacity of ENR actors, both inside and outside of government. Finally, participation of local NR users is essential to changing behaviors toward more sustainable NRM.

Despite the generalized acceptance of the benefits of participation and its centrality to co-management strategies, obstacles to its incorporation into ENR policy implementation remain. To some extent, impediments can derive from the way policies have been developed. ENR reforms have often begun with analysis by scientists and technical specialists. For example, the point has been made that,

> In a specialised sphere such as wildlife management ... the formulation of policy detail is delegated to the technical agency. Policy is, therefore, generated at middle management levels but is formally adopted at higher levels; and this, we believe, occurs without a thorough appreciation by the higher government levels of the implications, consequences and requirements of the policy (Bell and Clarke, 1984: 471. Quoted in Murphree, 1995: 4).

But it is precisely these implications, consequences, and requirements that need to be considered to address the implementation feasibility of the policy (or policies). Many of these are, in fact, related to participation. At some point, other levels besides middle management and technical specialists need to understand and appreciate the policy so as to generate support and deal with potential opposition. Further, groups outside of government need to be brought in, given their role in ENR policy networks, through public fora, advisory boards or committees, and other consultative mechanisms.

Other barriers to participation result from the organizational mismatch discussed in the previous section, where agencies with a traditionally strong regulatory mandate have been assigned responsibility for working in a participatory mode with local communities and nongovernmental groups. Without significant shifts in operating norms and procedures and staff training, these agencies have had difficulty in becoming effective promoters and supporters of participatory ENR policy implementation. In the case of NEAPs, this problem has been addressed to some extent by bringing in NGOs to link local communities to public ENR agencies, capitalizing on the NGOs' greater capacity and experience with participatory approaches. A related obstacle to participation stems from the management processes and incentives associated with interorganizational implementation networks, which is the third set of critical tasks identified above.

3. Interorganizational Management Processes and Incentives

The institutional fabric in most African countries remains tissuepaper-thin, and few environmental agencies can claim to be in a position to effectively fulfill any but the most limited of functions. Management capacity issues are an enduring constraint, where ENR policy implementation calls for effective functioning of individual public agencies, as well as the creation and operation of new multi-actor implementation networks. NEAPs and NCSs, and the co-management networks they incorporate, place heavy capacity demands on weak institutions. Implementation networks are complex structures to manage, and call for management, political, and interpersonal skills that can be difficult to find in any country. NEAP/NCS performance targets in all the countries studied are quite ambitious in light of the capacities required.

Further, because ENR policies are implemented through a network of organizations, no single actor is "in charge" of implementation in the sense of being able to command compliance from other actors. Achievement of policy objectives will come from the aggregate result of the various actors pursuing their subgoals, assuming that appropriate implementation incentives can be created. Networks only operate effectively when governed by an accepted set of rules. This suggests the need to focus on developing agreed-upon "rules of the game."

The types of rules that need specification and negotiation include determination of: who is eligible to make which decisions in which arenas; what actions are allowed, required, or proscribed; what procedures must be followed; what information must be provided, to whom, and when; what benefits and costs are to be assigned to agencies (or individuals) as a result of their actions; and how enforcement will be undertaken. Rules are ineffectual unless the entities they affect know of their existence, expect that the rules will be used to monitor behaviors, and anticipate sanctions (formal and/or informal) to be applied for non-compliance.

In the ENR policy arena, many of these rules are already formally expressed in national legislation,

administrative regulations, bilateral and multilateral program and project agreements, and donor agency procedures. However, as noted above, most of these are expressed either as normative generalities (as in, for example, what a NEAP or NCS should accomplish) or as agency-specific directives (e.g., Mali's forestry code). What is often missing are rules (formal and informal) to govern the interactions among the various implementing partners. These are the ones in need of elaboration and discussion. Many African governments and public agencies are still "feeling their way" in terms of developing participatory interaction modes in the wake of transitions to more democratic governance systems.

ENR policy implementation networks, despite espoused commitment to overarching policy goals from individual partners, face strong underlying organizational incentives that reward non-cooperative and non-participatory behaviors. For example, looking at the cooperation between NGOs and public agencies in Madagascar, Hough confirms the IPC study team's finding that tensions exist, observing that individual agencies' rules limit the motivation of NEAP partners to work together. For this situation to change, "participating institutions would ... have to adjust their bureaucratic structures and incentives to `reward' collaboration and cooperation rather than the pursuit of a single institutional goal" (Hough, 1994, p. 123). Within the public sector, NEAP partners have frequently been preoccupied with bureaucratic turf issues, questioning the authority of newly-created ENR oversight units (such as ONE in Madagascar, NEA in The Gambia, and the NCSCA in Botswana). These negative organizational dynamics notwithstanding, the success of co-management approaches is highly dependent upon viable incentives for actors inside and outside of government to work together; in effect, as noted above, to manage coordination.

4. Monitoring and Strategic Management

As the five country cases plus the wider experience base demonstrate, ENR policy implementation is a long-term endeavor; intended results do not become apparent until long into the future. This feature of ENR policy has significant management implications, requiring the ability both to track incremental progress toward distant objectives and to manage the implementation process strategically in the face of shifting circumstances while maintaining some degree of forward momentum. The former has received much more attention than the latter. For example, the development of information systems, along with indicators and reporting frameworks, is an integral element in NEAPs' and NCSs' implementation. Similarly, sectoral policies such as forestry and wildlife management depend on census data and monitoring/tracking systems to gauge progress and make adjustments. As noted above, the co-management approach enlists local groups — with some technical assistance — to take part in these data collection and monitoring tasks.

ENR monitoring systems tend overwhelmingly to concentrate on following a set of technical indicators relating to NR use rates and user behaviors. Much less frequently monitored, and rarely in a systematic or formal way, are bureaucratic and/or political indicators relevant to ENR. However, the case studies highlighted the extent to which bureaucratic politics and the interests of various stakeholders played an important role in shaping implementation outcomes. ENR policy reforms challenge the equilibrium among a given country's dominant set of interests, because they often cut to the heart of people's livelihood strategies and rearrange the cost/benefit calculus of the economics of NR use. These groups have a strong stake in maintaining the status quo. ENR reforms seek to interfere with this equilibrium and, as a result, they create a potentially new distribution of winners and losers.

For these reasons, capacity in strategic management is essential for ENR policy implementation. The outward-looking focus of strategic management orients implementors' attention to identifying stakeholders (broadly defined), building supportive coalitions, developing information and education campaigns, and so on (Brinkerhoff, 1991). Because ENR policy managers are frequently drawn from the ranks of technical specialists, those with strategic management skills are the exception rather than the rule. NGO partners also tend to have weak strategic management capacity; yet such skills can increase their effectiveness too. A strategic orientation is important for dealing with the task-institution mismatch discussed above in the section on NR co-management, especially the new demands created by enlarging participation in NRM, and for addressing the need to adapt and finetune the co-management approach to particular national and/or local circumstances.

C. CONCLUSIONS

This research effort has focused on delineating the outlines of the factors that advance or impede ENR implementation progress in five African cases, using a conceptual map of policy implementation to direct the inquiry (see Annex). The analysis has highlighted the evolution of participatory co-management approaches to ENR in Africa, the need to realign implementing agencies' operating modes to better fit the demands of co-management, and the capacity issues associated with that shift. The discussion has noted the interorganizational and intersectoral nature of ENR policy implementation, and the prevalence of network arrangements for implementation that draw together public agencies, donors, international and local NGOs, universities and research institutes, and community groups. This concluding section concentrates on a couple of the facilitating/constraining factors and traces their ramifications for ENR policy implementors. The section ends with some remarks on the implications of the study for international donors seeking to support African ENR policy implementation.

1. Stakeholders and ENR Policy Implementation

Stakeholder support characterizes successful policy initiatives across all sectors (e.g., Grindle and Thomas, 1990; White, 1990; Brinkerhoff, 1991). The five African cases reconfirm the applicability of this observation to ENR policy implementation. Indeed, the strength of dominant interests in protecting the status quo was often a determining factor in thwarting or limiting policy and/or institutional change. But at this level of generality, the observation borders on a restatement of the fact that ENR policy implementation is a political process — not a new insight. To get beyond this, it is important to move to a deeper level of understanding, and address the balance of power among opposing and supporting groups on particular issues and concerns, and the resources those groups can muster to maintain or disrupt the balance. It is at this level that the interactions between a policy's technical and political dimensions are played out.

The debate over organizational placement for the agency assigned implementation oversight responsibility for ENR national plans is a case in point. The NEAP and NCS cases illustrate how the placement issue for the coordinating agency became a focal point for power struggles among bureaucratic stakeholders. These deliberations can be interpreted on several levels: a) as a technical discussion to make sure that the agency has an adequate structure, capacity and linkages to effectively implement the plan; b) as a political struggle to determine who gets access to resources and whose bureaucratic turf is jeopardized; as c) an avoidance tactic to delay implementation, allow opponents to regroup, consume resources, and avoid accountability; and/or d) as a smokescreen to maintain the interest of the international donor community while disguising the erosion of internal support for effective action. Sorting out these different levels and agendas is important for implementors' (and donors') understanding of stakeholder interests and for developing and managing implementation strategies.

From an implementation perspective, the significant issues are: a) the ability of implementors to establish effective linkages with existing stakeholders as well as other potential supporters, and b) the capacity of constituent groups to mobilize their support and respond to — or make demands on — implementors. Given their crosscutting nature, implementation of NEAPs, NCSs, or sectoral policies is invariably linked to the abilities of implementors to influence other actors whose support and collaboration they need to make progress. In all the cases, the agencies cooperating in an ENR policy implementation network do not control all the resources needed for success. Moreover, coordinated action among groups is not an automatic process — it must be induced, facilitated, and reinforced. When network structures fail to establish appropriate linkage mechanisms among actors, friction and frustration ensue. When those staffing these agencies lack skills in identifying and mobilizing stakeholders, and in influencing other actors, delays and ultimately stasis are the result. Likewise, when they have no or few resources to use toward this end, implementation is also handicapped.

The second issue concerns the capacity of NGOs and other allies key to successful implementation. Just as social capital was determined to be important in explaining the regional differences in Italy's socioeconomic development levels (Putnam, 1993), so too it plays a major role in ENR policy implementation in Africa. Without the mobilization of civil society and local resource users, policy targets for sustainable resource use cannot be reached. Support for national policy frameworks and implementing agencies needs to be accompanied by direct efforts to build and strengthen NGOs and local groups. In some situations these efforts will need to focus on

expanding the number of NGOs and associations (density) in civil society, as well as increasing the operational potential of those that already exist. The strengthening focus should cut two ways: building capacity to serve in partnership with other actors to implement ENR actions (supply), and reinforcing capacity to participate in policy fora and provide feedback to government on ENR issues (demand). Critical here are mechanisms to channel collective action so that resource users become stakeholders for, rather than against, sustainable NRM (see Uphoff, 1993).

Another important aspect of the stakeholder issue is the temporal one. What happens at one point in time can influence later events and possibilities. An early success in mobilizing stakeholder support creates momentum that garners more support. Conversely, failures, whether real or perceived, can make it very difficult to rally support and cng to a downward spiral of diminishing policy results and ultimately stoppage and reversals. Particularly because ENR policies typically do not show impacts in the near-term, managing stakeholder support over time is central to maintaining progress.

2. Getting ENR Policies Right

ENR policy implementation in Africa through co-management approaches is still in the experimental stage. Debates are ongoing about, for example, whether and how locally managed conservation and development can be combined (e.g., Gibson and Marks, 1995), how governments and NGOs can collaborate for sustainable agriculture (e.g., Farrington et al., 1993), what mix of incentives and sanctions will change NR user behaviors most efficiently (e.g., Honadle, 1993), how best to organize the environment sector (e.g., Eröcal, 1991), and so on. Certainly, policy measures that address the root causes of a problem are more likely to solve that problem than those that miss the mark, thus ENR technical specialists search for the right policy prescriptions.

However, the "perfect" policy solution is destined to remain elusive. If anything is ubiquitous in this world, it is uncertainty. Few cases of environmental degradation or non-sustainable NR use exist where decision-makers can make policy with clear knowledge of all the relevant causal factors. Most environmental alterations result from long, linked chains of cause and effect. Although point-source pollution and similar "smoking guns" (like CFCs) provide examples of clear and direct links between social and natural systems, counterintuitive, contingent, and convoluted connections are more common. The complexity of natural and human system interaction is so great that there is always room for doubt (Honadle et al., 1994). In sub-Saharan Africa the proximity and number of small eco-regions adds to the uncertainty. Even "simple" issues, such as desertification, contain unknowns and misinterpretations (Biot et al., 1992). Indeed, natural scientists argue that more research is needed to see whether, in fact, current ENR policy prescriptions are leading to expected outcomes (e.g., Pimm et al., 1995). New ways of framing issues and exploring connections are needed to anticipate emerging discontinuities (see, for example, Ornstein and Ehrlich, 1989).

This uncertainty calls into question reliance upon the identification of policy solutions at the formulation stage. Rather, it suggests that ENR implementation strategies need to generate a flow of policy-relevant knowledge and transform that knowledge into information that promotes learning and adaptation among decision-makers, policy implementors, and their co-management partners. Since complexity and uncertainty prevail, an alternative is to admit it and develop interventions that are based on a learning process that allows adaptation and flexible response to changing conditions.[6] The question for policy initiatives, then, is: to what extent are monitoring, analysis, learning, and redirection incorporated into the implementation strategy? This perspective posits cause/effect relationship knowledge not as an a priori condition for good implementation, but as a key area of discovery during implementation. In fact, it may become a standard for judging the success of implementation.

Thus, critical to getting ENR policies right is first, the recognition that policy formulation and implementation are continuous and iterative processes, not discrete linear steps; and second, the design and management of an iterative discovery process that integrates action and reflection. This feature of ENR policy implementation was recognized by many of the actors involved in ENR policies in the five countries studied. However, a common finding across the cases was the difficulty in setting up and managing such a process, given the complexity of the issues, the multiplicity of the organizations and groups involved, and the scarcity of resources. In sum, the management and institutional dimensions of ENR policies are integral to, and not easily separable

from, their technical components. Getting them right is not simply a technical issue.

3. Implications for Donors

The international donor community has been a major force behind environmental planning and NR co-management approaches in Africa, providing both financial and technical resources and ideas. More perhaps than in other sectors, donors have sought to coordinate assistance in ENR management in African countries. Often, the World Bank-supported NEAP process has served as the larger framework within which other donors and participating international NGOs have integrated their support and interventions. USAID, for example, has been at the forefront of efforts to identify and track the linkages among NRM practices and contextual conditions that have an impact on sustainable resource use (see, for example, USAID, 1993). In partnership with each other, the NGO community, and African governments, donors are seeking to maximize the impact of external resources on ENR problems at a time when resource flows for foreign assistance worldwide are shrinking. This situation puts a premium on alleviating key constraints and identifying leverage points.

Management and institutional constraints: This research effort has clearly demonstrated the importance of managerial capacity and an appropriate task-institution fit to successful ENR policy implementation. The implication for donors is the need to support management capacity-building and institutional design/reform as a major component of assistance for ENR policy in Africa. As the country cases have shown, the capacity demands of managing NEAPs, NCSs, and the sectoral policies those planning frameworks subsume are high. Implementation networks are complex structures to manage, and call for scarce management, political, and interpersonal skills. Across the continent, NEAP, NCS, or TFAP performance targets are quite ambitious in light of existing capacity levels. Although the need for capacity-building has been recognized from the start, the speed with which capacity can be be built and then translated into performance has been consistently overestimated. Often, the perspective of various donor oversight missions during the first years of ENR policy implementation is that things are "behind schedule." Building sustainable capacity is a long-term endeavor, and one that is best accomplished gradually, allowing actors to progress incrementally along their own path (see Brinkerhoff and Goldsmith, 1990). A donor-driven, "crash course" approach can be a ticket to frustration and failure. Thus, managerial competencies and institutional capacity need to be built up gradually, with flexibility included to deal with shifts in direction, and the learning pace of those involved.

Another implication of this research project's findings concerns the type of management capacity that needs to be built. The prevalence of network structures that seek to combine the actions of public agencies, donors, NGOs, and local communities points toward the salience of management techniques and tools that help can ENR implementors deal with diverse stakeholders and constituencies, develop long-term strategic plans and monitoring systems, and cope with the interorganizational bargaining and negotiation necessary to move policies forward. This suggests a ripe area for technical assistance, and the application of strategic management and associated influence-based tools.

ENR policy reform as leverage for democratic governance: As noted earlier, co-management approaches imply a changed relationship between government and NR users. The evolution of ENR co-management in Africa has taken place within a larger sociopolitical context characterized by sweeping changes toward reduction in the role of the state and democratization (e.g., Boye, 1993). The role of the state and democratization intersect with ENR policy implementation in the area of governance. As defined by the World Bank (1994), governance has four components: efficient public sector management, accountability, a supportive legal framework, and transparent information flows.[7] Governance arrangements constrain and shape the possibilities for stakeholder participation in co-management activities, and thus are important mediating factors in the links between ENR co-management approaches and policy outcomes. In turn, broadbased participation is integral to good governance; without it, governments risk reverting to old patterns.

For example, mobilizing stakeholder support for ENR is far more difficult when transparency is limited and information cannot be distributed widely. Honadle (1993, 1996) noted this as a key factor in ENR policy implementation. Many of the environmental awareness and education campaigns that are integral

components of NEAPs and NCSs are intended explicitly as accountability-enhancing measures to ensure performance of national environmental agencies by creating stakeholders for ENR reforms. Non-governmental actors must have access to information and be empowered to use that information; co-management cannot function effectively if all the information and power lie with the government partner.

The implications for donors are twofold. First, ENR policy reforms can offer leverage points to address larger governance issues that donors may be interested in promoting. ENR policy dialogue and joint donor-country planning offer an opening to introduce indirectly governance considerations that may meet with resistance (overt or covert) if confronted head-on. Because co-management approaches stress government-civil society partnerships, delegation of authority to the local level, and responsiveness of government to external stakeholders, ENR reforms also create opportunities to reinforce ongoing democratization and/or governance reform programs. The features of the partnership that make ENR co-management work are closely associated with the characteristics of democratic governance.

Second, appreciating the links between ENR policy implementation through co-management and democratic governance sensitizes donors to the need to pay attention to the context within which they are supporting ENR reforms. Differences in context will call for adaptation in co-management implementation strategies. For example, in some countries reforms may need to emphasize training and financial assistance for the media for environmental reporting, or changes in legislation to allow local communities organize themselves into legally recognized entities that can enter into contracts with public agencies. Furthermore, unless the larger context for ENR co-management changes toward more democratic forms of governance, donor-supported initiatives will be limited to site-specific pilot experiments with limited potential for wider application and impact.

BIBLIOGRAPHY

IPC NRM Study Documents

Brinkerhoff, Derick W. 1993. "Coordination Issues in Policy Implementation Networks: Managing Madagascar's Environmental Action Plan." Research Notes. No. 4. Washington, DC: U.S. Agency for International Development, Implementing Policy Change Project.

Brinkerhoff, Derick W. and James Gage. 1993. Forestry Policy Reform in Mali: An Analysis of Implementation Issues. Washington, DC: U.S. Agency for International Development, Implementing Policy Change Project.

Brinkerhoff, Derick W. and Jo Anne Yeager. 1993. Madagascar's Environmental Action Plan: A Policy Implementation Perspective. Washington, DC: U.S. Agency for International Development, Implementing Policy Change Project.

Brinkerhoff, Derick W., James D. Gage, and Veronica Clifford. 1992. Implementing Natural Resources Management Policy in Africa: An Annotated Bibliography. Washington, DC: U.S. Agency for International Development, Implementing Policy Change Project, IPC Bibliography No. 2.

Brinkerhoff, Derick W., James D. Gage, and Jo Anne Yeager. 1992. Implementing Natural Resources Management Policy in Africa: A Document and Literature Review. Washington, DC: U.S. Agency for International Development, Implementing Policy Change Project.

Gustafson, Daniel and Veronica Clifford. 1994. Implementation of the Gambia Environmental Action Plan. Washington, DC: U.S. Agency for International Development, Implementing Policy Change Project.

Hall, Robert and George Honadle. 1996. Fostering Community Resource Management in Zimbabwe: An Assessment of Policy Implementation in the Forestry Commission and the Department of National Parks and Wild Life Management. Washington, DC: U.S. Agency for International Development, Implementing Policy Change Project.

Honadle, George. 1994. Botswana's National Conservation Strategy: Organizing for Implementation. Washington, DC: U.S. Agency for International Development, Implementing Policy Change Project.

Other References

Associates in Rural Development, Inc. (ARD). 1992a. Decentralization and Local Autonomy: Conditions for Achieving Sustainable Natural Resource Management. Burlington, VT: Decentralization Finance and Management Project, funded by the U.S. Agency for International Development.

ARD. 1992b. Decentralization and Local Autonomy: Conditions for Achieving Sustainable Natural Resource Management, Volume II - Appendices. Burlington, VT: Decentralization Finance and Management Project, funded by the U.S. Agency for International Development. December.

Bates, Robert H. 1994. "The Impulse to Reform in Africa." In Jennifer A. Widner, ed. Economic Change and Political Liberalization in Sub-Saharan Africa. Baltimore: Johns Hopkins University Press, pp. 13-29.

Bell, R. and J. E. Clarke. 1984. "Wildlife Management Policy." In R. Bell and E. McShane-Caluzi, eds. Wildlife Management in Africa. Washington, DC: U.S. Peace Corps.

Berkes, Fikret, Peter George, and Richard J. Preston. 1991. "Co-management: The Evolution in Theory and Practice of the Joint Administration of Living Resources." Alternatives: Perspectives on Society, Technology, and Environment. Vol. 18, No. 2, pp. 12-20.

Bertrand, Alain. 1985. "Les nouvelles politiques de foresterie en milieu sahélien." Les Cahiers de la Recherche-Développement. Vol. 8, pp. 25-34.

Biot, Yvan, Robert Lambert and Scott Perkin. 1992. "What's the Problem? An Essay on Land Degradation, Science and Development in Sub-Saharan Africa." Norwich: University of East Anglia, School of Development Studies, Discussion Paper No. 222.

Botswana, Republic of. 1990. "Botswana National Conservation Strategy." Gabarone: Author.

Boye, Abd-El Kader. 1993. "State and Society in Sub-Saharan Africa (Primarily in the Sahel Countries): Aid Agencies, Civil Society, and the Operating Logic of the State." Paris: OECD/Club du Sahel. Discussion Paper for the Donors' Advisory Group Meeting, Berlin. April.

Brinkerhoff, Derick W. 1996. "Coordination Issues in Policy Implementation Networks: An Illustration from Madagascar's Environmental Action Plan." World Development, Vol. 24, No. 9, pp. 1497-1511.

Brinkerhoff, Derick W. 1995. "African State-Society Linkages in Transition: the Case of Forestry Policy in Mali." Canadian Journal of Development Studies. Vol. 16, No. 2, pp. 201-228.

Brinkerhoff, Derick W. 1991. Improving Development Program Performance: Guidelines for Managers. Boulder, CO: Lynne Rienner Publishers.

Brinkerhoff, Derick W. and James Gage. 1994. "Natural Resources Management Policy in Africa: Implementation Challenges for Public Managers." In Stuart Nagel, ed. African Development and Public Policy. New York: St. Martin's Press, pp. 157-201.

Brinkerhoff, Derick W. and Arthur A. Goldsmith, eds. 1990. Institutional Sustainability in Agriculture and Rural Development: A Global Perspective. New York: Praeger Publishers.

Brinkerhoff, Derick W. and Marcus D. Ingle. 1989. "Between Blueprint and Process: a Structured Flexibility Approach to Development Management." Public Administration and Development, Vol. 9, No. 5, pp. 487-503.

Bromley, Daniel W. 1994. "Economic Dimensions of Community-Based Conservation." In David Western and R. Michael Wright, eds. Natural Connections: Perspectives in Community-Based Conservation. Washington, DC and Covelo, CA: Island Press, pp. 428-448.

Bromley, Daniel W. 1992. "Property Rights as Authority Systems: The Role of Rules in Resource Management." In P.N. Nemetz, ed. Emerging Issues in Forest Policy. Vancouver: University of British Columbia Press, pp. 443-471.

Brown, Michael, Jill Rizika, James Cawley, Ira Amstadter, Jeffrey Clark, and John Prendergast. 1993. Non-Governmental Organizations and Natural Resources Management: An Assessment of Eighteen African Countries. Executive Summary. Washington, DC: World Learning, Inc., CARE, World Wildlife Fund. PVO-NGO/NRMS Project, March.

Brown, M. Paul. 1992. "Organizational Design as Policy Instrument: Environment Canada in the Canadian Bureaucracy." In Robert Boardman, ed. Canadian Environmental Policy: Ecosystems, Politics, and Process. New York: Oxford University Press, pp. 24-43.

CARE. 1992. "Redynamisation des Ogokanas pour la Gestion des Ressources Naturelles — Rapport d'un Expérience Recherche-Action." Bamako, Mali: Author, Projet Agrosylviculture Villageoise de Koro, September.

Chopra, Kanchan et al. 1990. Participatory Development: People and Common Property Resources. New Delhi and Newbury Park, CA: Sage Publications.

Cleaver, Kevin M. and Götz A. Schreiber. 1994. Reversing the Spiral: The Population, Agriculture, and Environment Nexus in Sub-Saharan Africa. Washington, DC: World Bank.

Cohen, John M. and Norman T. Uphoff. 1980. "Participation's Place in Rural Development: Seeking Clarity through Specificity." World Development. Vol. 8, No. 3, pp. 213-235.

Davis, Ted J. and Isabelle A. Schirmer, eds. 1987. Sustainability Issues in Agricultural Development: Proceedings of the Seventh Agricultural Sector Symposium. Washington, DC: World Bank.

Dorm-Adzobu, Clement. 1995. New Roots: Institutionalizing Environmental Management in Africa. Washington, DC: World Resources Institute.

Elbow, Kent, and Alain Rochegude. 1990. A Layperson's Guide to the Forest Codes of Mali, Niger, and Senegal. Madison, WI: University of Wisconsin, Land Tenure Center, LTC Research Paper No. 139.

Eröcal, Denizhan, ed. 1991. Environmental Management in Developing Countries. Paris: Organisation for Economic Co-operation and Development, Development Center.

Falloux, François and Lee Talbot. 1992. Environnement et Développement: Crise et Opportunité. Paris: Editions G.-P. Maisonneuve and Larose.

Farrington, John, Anthony Bebbington, Kate Wellard, and David J. Lewis. 1993. Reluctant Partners? Non-Governmental Organizations, the State and Sustainable Agricultural Development. London: Routledge.

Finsterbusch, Kurt and Warren Van Wicklin, III. 1987. "The Contribution of Beneficiary Participation to Development Project Effectiveness." Public Administration and Development. Vol. 7, pp. 1-23.

Gallagher, Mark. 1991. Rent-Seeking and Economic Growth in Africa. Boulder, CO: Westview Press.

Gambia, Government of The. 1992. The Gambia Environmental Action Plan, 1992-2001, Volumes 1 and 2. Banjul: Author.

Gibson, Clark and Stuart Marks. 1995. "Transforming Rural Hunters into Conservationists: An Assessment of Community-Based Wildlife Management Programs in Africa." World Development. Vol. 23, No. 6, pp. 941-957.

Gregerson, Hans, Sydney Draper, and Dieter Elz. 1989. People and Trees: The Role of Social Forestry in Sustainable Development. Washington, DC: World Bank, Economic Development Institute.

Greve, Albert M., Julian Lampietti, and François Falloux. 1995. National Environmental Action Plans in Sub-Saharan Africa. Washington, DC: World Bank, Environmentally Sustainable Development Division, Africa Technical Department, Building Blocks Series, Paper No. 6, June.

Grindle, Merilee S. and John W. Thomas. 1991. Public Choices and Policy Change: The Political Economy of Reform in Developing Countries. Baltimore: Johns Hopkins University Press.

Hannah, Lee. 1992. African People, African Parks: An Evaluation of Development Initiatives as a Means of Improving Protected Area Conservation in Africa. Washington, DC: World Wildlife Fund, The Nature Conservancy, and World Resources Institute. Biodiversity Support Program.

Heermans, John and Greg Minnick. 1987. "Guide to Reforestation and Management in the Sahel Based on Case Studies at the National Forests of Guesselbodi and Gorou-Bassounga, Niger." Washington, DC: U.S. Agency for International Development.

Honadle, George. 1996. The Context Hypothesis: Implementing Environmental Policies in Developing Countries. Washington, DC and Covelo, CA: Island Press.

Honadle, George. 1993. "Institutional Constraints on Sustainable Resource Use: Lessons from the Tropics showing that Resource Overexploitation is not just an Attitude Problem and Conservation Education is not Enough." In G. Aplet, N. Johnson, J. Olson, and V. A. Sample, eds. Defining Sustainable Forestry. Washington, DC and Covelo, CA: Island Press, pp. 90-119.

Honadle, George and Lauren Cooper. 1989. "Beyond Coordination and Control: An Interorganizational Approach to Structural Adjustment, Service Delivery, and Natural Resource Management." World Development. Vol. 17, No. 10, pp. 1531-1541.

Honadle, George, Scott Grosse, and Paul Phumpiu. 1994. "The Problem of Linear Project Thinking in a Non-linear World: Experience from the Nexus of Population, Environmental and Agricultural Dynamics in Africa." Washington, DC: U.S. Agency for International Development, Environmental and Natural Resources Policy and Training (EPAT) Project.

Honadle, George and Jerry VanSant. 1985. Implementation for Sustainability: Lessons from Integrated Rural Development. West Hartford, CT: Kumarian.

Hough, John L. 1994. "Institutional Constraints to the Integration of Conservation and Development: A Case Study from Madagascar," Society and Natural Resources. Vol. 7, No. 2, pp. 119-124.

Hyden, Goran and Michael Bratton, eds. 1991. Governance and Politics in Africa. Boulder, CO: Lynne Rienner Publishers.

Jodha, N. S. 1992. Common Property Resources: A Missing Dimension of Development Strategies. Washington, DC: World Bank, Discussion Paper No. 169.

Korten, David C. 1980. "Community Organization and Rural Development: A Learning Process Approach." Public Administration Review. Vol. 40, No. 5, pp. 480-511.

Korten, David C. and Rudi Klauss, eds. 1984. People-Centered Development. West Hartford, CT: Kumarian Press.

Larson, Bruce A. 1994. "Changing the Economics of Environmental Degradation in Madagascar: Lessons from the National Environmental Action Plan Process." World Development. Vol. 22, No. 5, pp. 671-689.

Matland, Richard E. 1995. "Synthesizing the Implementation Literature: The Ambiguity-Conflict Model of Policy Implementation." Journal of Public Administration Research and Theory. Vol. 5, No. 2, pp. 145-174.

Mazamanian, Daniel A. and Paul A. Sabatier. 1989. Implementation and Public Policy. Lanham, MD: University Press of America.

McLain, Rebecca. 1992. Recommendations for a New Malian Forest Code: Observations from the Land Tenure Center's Study of Land and Tree Tenure in Mali's Fifth Region. Madison, WI: University of Wisconsin, Land Tenure Center, LTC Research Paper 109, June.

McLain, Rebecca. 1991. "Tenure, Tree Management, and Mali's Forest Code: Report of a Sample Survey in Central Mali." Madison, WI: University of Wisconsin, Land Tenure Center, March.

McLain, Rebecca. 1990. "Tenure and Agroforestry: Village and Household Studies in Central Mali." Madison, WI: University of Wisconsin, Land Tenure Center, October.

McNeely, Jeffrey A., ed. 1995. Expanding Partnerships in Conservation. Washington, DC and Covelo, CA: Island Press.

Morell, D. with J. Poznanski. 1985. "Rhetoric and Reality: Environmental Politics and Environmental Administration in Developing Countries." In H. J. Leonard, ed. Divesting Nature's Capital. New York: Holmes and Meier, pp. 137-176.

Murphree, Marshall W. 1996. "Wildlife in Sustainable Development: Approaches to Community Participation." Sunningdale, United Kingdom: Overseas Development Administration, Consultation on African Wildlife Policy, April 18-19.

Murphree, Marshall W. 1995. "Optimal Principles and Pragmatic Strategies: Creating an Enabling Politico-legal Environment for Community-based Natural Resource Management." Chobe, Botswana: Southern African Development Community, Conference of the Natural Resources Management Programme, keynote address, April 3.

Niamir, Maryam. 1990. "Community Forestry: Herders' Decision-Making in Natural Resources Management in Arid and Semi-arid Africa." Rome: Food and Agriculture Organization of the United Nations.

Opsal, Knut and Kirk Talbott. 1990. The Implementation of the Madagascar Environmental Action Plan: Possibilities and Constraints for Local Participation. Washington, DC: World Bank, Africa Region, Technical Department, Environment Division, AFTEN Technical Note No. 9, September.

Ornstein, Robert and Paul Erlich. 1989. New World, New Mind. New York: Simon and Schuster Publishers.

Ostrom, Elinor. 1990. Governing the Commons: The Evolution of Institutions for Collective Action. New York: Cambridge University Press.

Otto, Jonathan. 1991. "NGOs in the Sahel — Actors and Issues in Natural Resources Management." Amherst: University of Massachusetts.

Pearce, David W. and Jeremy J. Warford. 1993. World Without End: Economics, Environment, and Sustainable Development. New York: Oxford University Press.

Pimm, Stuart, Gareth Russell, John Gittleman, and Thomas Brooks. 1995. "The Future of Biodiversity." Science. Vol. 269, No. 21, pp. 347-350.

Putnam, Robert D., with Robert Leonardi and Raffaella Y. Nanetti. 1993. Making Democracy Work: Civic Traditions in Modern Italy. Princeton: Princeton University Press.

Rondinelli, Dennis A. 1983. Development Projects as Policy Experiments. New York: Methuen Publishers.

Rothchild, Donald. 1994. "Structuring State-Society Relations in Africa: Toward an Enabling Political Environment." In Jennifer A. Widner, ed. Economic Change and Political Liberalization in Sub-Saharan Africa. Baltimore: Johns Hopkins University Press, pp. 201-230.

Schramm, Gunter and Jeremy J. Warford, eds. 1989. Environmental Management and Economic Development. Baltimore: Johns Hopkins University Press.

Scudder, Thayer et al. 1993. The IUCN Review of the Southern Okavango Integrated Water Development Project. Gland, Switzerland: International Union for the Conservation of Nature.

Shaikh, Asif et al. 1988. Opportunities for Sustained Development: Successful Natural Resources Management in the Sahel. Washington, DC: U.S. Agency for International Development, Bureau for Africa, Office of Technical Resources and Sahel Office, Vols I and II.

Sweet, Charles F. and Peter F. Weisel. 1979. "Process Versus Blueprint Models for Designing Rural Development Projects." In George Honadle and Rudi Klauss, eds. International Development Administration: Implementation Analysis for Development Projects. New York: Praeger Publishers, pp. 127-146.

Talbott, Kirk. 1993. "Elusive Success. Institutional Priorities and the Role of Coordination: A Case Study of the Madagascar National Environmental Action Plan." Washington, DC: World Resources Institute, Issues in Development Series, May.

Thomson, James T. 1992. A Framework for Analyzing Institutional Incentives in Community Forestry. Rome: Food and Agriculture Organization of the United Nations, Community Forestry Note No. 10.

Thomson, James T. 1991a. "Cost Effective Renewable Natural Resources Governance: The Kayes Fisheries, Traditional Institutions, and the Forest Service." In Associates in Rural Development. Workshop on Democracy and Governance: Proceedings. Burlington, VT: Author, pp. 69-79.

Thomson, James T. 1991b. "Decentralization, Governance and Problem-Solving in the Sahel." Burlington, VT: Associates in Rural Development, Decentralization: Finance and Management Project, December.

Tunstall, Daniel and Mieke van der Wansem, eds. 1992. Directory of Country Environmental Studies: An Annotated Bibliography of Environmental and Natural Resource Profiles and Assessments. Washington, DC: World Resources Institute.

Turnham, David, with Leif E. Christofferson and J. Tomas Hexner. 1992. Toward Sustainable Development in Rural Africa. Paris: OECD, OECD Development Center Policy Brief No. 6.

Uphoff, Norman. 1993. "Grassroots Organizations and NGOs in Rural Development: Opportunities with Diminishing States and Expanding Markets." World Development. Vol. 21, No. 4, pp. 607-622.

U.S. Agency for International Development. 1993. Towards a Sustainable Future for Africa: Improved Natural Resources Management under the Development Fund for Africa, 1987 to 1993. Washington, DC: Author, Bureau for Africa, Office of Analysis, Research and Technical Support, Technical Paper No. 5.

Veit, Peter G., Adolpho Mascarenhas, and Okyeame Ampadu-Agyei. 1995. Lessons from the Ground Up: African Development That Works. Washington, DC: World Resources Institute.

Wellard, Kate and James G. Copestake, eds. 1993. Non-Governmental Organizations and the State in Africa: Rethinking Roles in Sustainable Agricultural Development. London: Routledge.

Western, David, and R. Michael Wright, eds. 1994. Natural Connections: Perspectives in Community-based Conservation. Washington, DC and Covelo, CA: Island Press.

White, Louise G. 1990. Implementing Policy Reforms in LDCs: A Strategy for Designing and Effecting Change. Boulder: Lynne Rienner Publishers.

Winter, Søren. 1990. "Integrating Implementation Research." In Dennis J. Palumbo and Donald J. Calista, eds. 1990. Implementation and the Policy Process: Opening Up the Black Box. New York: Greenwood Press, pp. 19-39.

World Bank. 1994. Governance: The World Bank's Experience. Washington, DC: Author, Development in Practice Series, May.

World Bank. 1992. World Development Report, 1992 - Development and the Environment. New York: Oxford University Press.

World Bank. 1989. From Crisis to Sustainable Growth: A Long-Term Perspective Study. Washington, DC: Author.

World Commission on Environment and Development. 1987. Our Common Future. New York: Oxford University Press.

World Resources Institute. 1994. World Resources, 1994-95: A Guide to the Global Environment. New York: Oxford University Press.

Wunsch, James S. 1990. "Foundations of Centralization: The Colonial Experience and the African Context." In James S. Wunsch and Dele Olowu, eds. The Failure of the Centralized State: Institutions and Self-Governance in Africa. Boulder, CO: Westview Press, pp. 23-43.

Yates, Brian F. 1994. "Implementing Coastal Zone Management Policy: Kepulauan Seribu Marine Park, Indonesia." Coastal Management. Vol. 22, pp. 235-249.

Zazueta, Aaron. 1995. Policy Hits the Ground: Participation and Equity in Environmental Policy-Making. Washington, DC: World Resources Institute.

ANNEX: THE DATA COLLECTION

FRAMEWORK AND METHODOLOGY

Within the field of policy analysis is a wide array of perspectives on examining policy implementation (see Matland, 1995). In the case of ENR planning and implementation, our search for an appropriate orientation was guided by the need to find a framework that: a) highlighted the implementation dimensions of policy within a broader conception of the policy programming cycle, and b) mapped relatively closely onto the process by which NEAPs and ENR policies are developed. The search led to the work of Mazmanian and Sabatier, whose research on policy implementation in the U.S. has concentrated on elucidating the relationship between policy outcomes and three categories of variables: the problem the policy is intended to solve, the way implementation is structured and managed, and the sociopolitical and economic setting in which implementation takes place (Mazmanian and Sabatier, 1989: 18-48).[8]

They define policy implementation as the process that runs from the development and passage of the basic statute, through the decisions and outcomes of designated implementing entities, to the compliance of target groups with the policy objectives. Policy implementation covers the transformation of policy prescriptions into goals and actions that specify the agents, procedures, capacities, and behaviors required to produce the intended outputs at various levels (national to local). This definition emphasizes the importance of implementation as mediating between policy intent and outcomes, something that we wanted to underscore in looking at African NEAP and ENR experience. Further, it mirrors the process employed in most international development efforts, where interventions begin with problem analysis and solution design, and move to implementation in pursuit of a particular set of objectives (see Brinkerhoff and Ingle, 1989). Assessment focuses on the extent to which actual policy outcomes match intended ones. For this reason, Mazmanian and Sabatier's model has been termed a top-down analytic approach (see Winter, 1990).[9] This fits closely, for example, with how NEAPs have come into being.

Mazmanian and Sabatier distill the findings of their field research into a set of six conditions associated with successful implementation (1989: 41-43). They offer these as a kind of heuristic checklist containing the following elements:

1. The policy and its statute(s) contain clear and consistent objectives, or some criteria for resolving goal conflicts.

2. The policy accurately identifies the principal factors and linkages leading to, and influencing, policy outcomes, including specification of target groups and incentives.

3. Policy implementation is structured to maximize the probability of compliance from implementing agents and target groups. This includes:

    - assignment of implementation responsibility to a capable and sympathetic agency,
    - integrated implementation structures with minimum veto points and adequate incentives for compliance,
    - supportive decision rules (e.g., appropriate authority and procedures),
    - adequate financial resources,
    - access to, and participation of, supporters.

4. Leaders and top managers possess substantial strategic management and political skills, and are committed to the policy objectives.

5. The policy receives ongoing support from constituency groups and key stakeholders within a neutral or supportive legal system.

6. Socioeconomic and political conditions remain sufficiently supportive and stable so that the policy is not undermined by changes in priorities, conflicts, and/or radical shifts in resource availability for implementation.

The first two conditions address the policy directive and the problem it engages, the third and fourth focus on organizational arrangements and managerial capacity for implementation, and the fifth and sixth consider the context for moving from intent to impacts.

This checklist was used both to frame the analysis in the document and literature review that preceded the field studies, and to focus the data collection activities in the five country studies. It promoted consistency in the fieldwork and it guided inquiry into significant aspects of a wide range of implementation experiences. The checklist was applied through reconnaisance methods such as document reviews, interviews (individual and group) and workshop sessions. Debriefings were provided to AID mission staff, and workshops addressing particular issues were conducted with local participants.

ENDNOTES

[1] The literature review is found in Brinkerhoff, Gage, and Yeager (1992); a shortened, published version is Brinkerhoff and Gage (1994). Brinkerhoff, Gage, and Clifford (1992) contains an annotated bibliography. The Mali forestry policy study is Brinkerhoff and Gage (1993), published in Brinkerhoff (1995). Brinkerhoff and Yeager (1993) presents the Madagascar NEAP review. Brinkerhoff (1993) addresses coordination issues in Madagascar's NEAP; an expanded, published version is Brinkerhoff (1996). The Gambia's EAP study is found in Gustafson and Clifford (1994). The Botswana and Zimbabwe studies are in Honadle (1994) and Hall and Honadle (1996), respectively.

[2] Figures cited here and below are drawn, unless otherwise indicated, from World Bank (1992) and World Resources Institute (1994).

[3] For more details on each case, see the complete country studies listed in the first endnote.

[4] An extensive and growing literature exists on the policy and operational aspects of "the tragedy of the commons." On the theoretical side, see for example Ostrom (1990). For an operational treatment see Jodha (1992).

[5] Among researchers and practitioners working in local governance of NR, there is a stream of thought that strongly advocates substituting local NR governance for state authority, arguing that governments should essentially "get out of the way" of local resource users (e.g., ARD 1992a and 1992b). The co-management strategy, as the term implies, supports government-NR user partnerships for NRM.

[6] One analytic stream in the international development literature on implementation and management has explored the consequences of attempts to assume perfect knowledge and reify it in a "blueprint" policy or intervention. These authors suggest an alternative perspective that incorporates a rolling, iterative process based on learning and flexibility (see: Sweet and Weisel, 1979; Korten, 1980; Rondinelli, 1983; Honadle and VanSant, 1985; Brinkerhoff and Ingle, 1989; White, 1990; Brinkerhoff, 1991).

[7] The World Bank's approach to framing governance issues has been widely accepted by other international donor agencies. For discussions regarding Africa see, for example, the chapters in Hyden and Bratton (1992).

[8] Mazmanian and Sabatier's framework has been applied to ENR policy in other countries by other analysts as well. See Brown (1992) for a Canadian case study, and Yates (1994) for an application to Indonesia.

[9] In international development, bottom-up frameworks emphasize local-level action, community development, and empowered participation as key policy issues. See, for example, Korten and Klauss (1984). Mazmanian and Sabatier suggest a synthesis of top-down and bottom-up approaches to implementation analysis in a postscript (1989: 288-316), as does Winter (1990).