
KENYA NATURAL RESOURCE MANAGEMENT ASSESSMENT

Volume 2

Policies, Institutions, and Capabilities

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.c. Introduction

Kenya has a long record of political commitment to environmental management. This is reflected in the consistent inclusion of environmental considerations in national development plans, policy papers and political pronouncements. Considerable investments have been made by the government and non-governmental organizations (NGOs) in raising environmental awareness. There has been considerable growth in the number of governmental and non-governmental institutions working on environmental issues.

These efforts, however, have not been matched by significant improvements in environmental quality. Although there has been no comprehensive review of the state of the environment in Kenya, sectoral trends in natural resource management (NRM) show major signs of deterioration. The changes in the state of the environment are also associated with the decline or stagnation in the institutional capacity of the country to deal with NRM. This is mainly because the need for institutional capacity is occurring at a time when the country is reducing its support for the public sector as part of its macro-economic reform programme.

The participation of the country in international environmental agreements has increased over the years although the integration of many of the treaties into national legislation has been slow. Some of the international agreements have required implementation measures that are conflict with the stated policies regarding land use and as a result the government has been slow in implementing them. The country has been active in conforming to international agreements in specific areas such as international trade in wildlife because of the role of wildlife conservation in the country's economy as well as international identity.

This report argues that improving the effectiveness of NRM will require major reforms in existing laws and policies as well the introduction of enabling provisions in the Constitution of Kenya. This argument is based on the view that although the country is dependent on natural resources for its economic activities, the current requirements for their effective management are limited by outmoded laws, inadequate legal machineries, weak enforcement mechanisms, mild penalties for environmental offenses and environmental institutions that have been rendered irrelevant with time. The problem is compounded by the existence of provisions in the Constitution which limit the extent to which the government can introduce environmental regulations that affect private land holdings.

An overhaul of the situation is long overdue and has been recognized by the government and reflected in a number of official documents including the National Environment Action Plan (NEAP) formulated in 1994. The report notes that there is considerable scope for donor agencies to provide strategic support that can contribute to a wide range of governmental and NGO efforts aimed at improving the situation. The support needs to focus on creating a national environmental system (emphasizing

critical areas such as agriculture, water, forests, wildlife and marine and coastal resources).

The report recommends the creation of inter-institutional mechanisms for regulating, managing and monitoring environmental activities. Other areas that require support include legal and policy reform, particularly in the framework of state-sponsored initiatives on land use and environmental policy; policy research and environmental advocacy institutions; formulate innovative pilot projects that strengthen institutional cooperation; and inspirational activities such as the preparation of a regular "Status Assessment of Natural Resources in Kenya", or a national equivalent of the "World Resources Report" produced by the World Resources Institute (WRI).

The report recommends the formation of a National Consultative Group on Environment and Development (or a National Consultative Group on Natural Resource Management) as an independent body that would guide the design and implementation of inter-sectoral programmes. The report concludes by suggesting that there are prospects for greater institutional cooperation in Kenya (involving donors and recipients) and stresses that the lead for such cooperation should be taken by recipient institutions under the auspices of the proposed consultative group. Financial support for NRM activities, on the other hand, could operate through a consortium of donors.

.c.1. GOVERNANCE AND ENVIRONMENT

.c2.1.1 Environment and governance

Kenya's political history has been largely influenced by questions related to access to land. The design of most of its political institutions and the overall scheme of governance have been influenced by historical factors related to land. Much of the concern over land in Kenya has been over its distribution and agricultural use. But its unsustainable use is undermining the resource base, which in turn is leading to renewed determination by the government to pursue policies that aim at sustainable natural resource utilization. The government is starting to recognize that the issue is not simply a question of management, but that it relates to the overall scheme of governance in the country. For example, the need to involve local communities in NRM is being increasingly recognized, and so are the impacts of some of the provisions of the national constitution on NRM.

Issues of governance are also becoming evident in the way productive resources are acquired and distributed in the country. What is evident, though, is that the issue of land ownership and management of the related natural resources is increasingly being recognized as the most important item on Kenya's agenda for governance reform. The manner in which the various sectors of society interact in the process of NRM will to a large extent determine the outcome of current NRM efforts. So far, NRM is

still viewed as monopoly of the government and little effort has been made to ensure that the responsibilities are redistributed to other actors in society. The process of economic liberalization is likely to influence this process and include the private sector as key stakeholders. The outcome of this process will be greatly influenced by the rate and direction political change in the country.

Another important area of governance is the rights and roles of local communities in NRM. This process is closely linked to the process of decentralization although it entails expanding the scope for social liberties and not simply the decentralization of executive authority. So far many projects are designed under the assumption that local communities have the legitimacy and the capacity to effectively participate in NRM activities. Unfortunately, this is not always the case because of the extensive powers vested in the executive branch of government to intervene in development affairs.

.c2.1.2 Stakeholders analysis

To understand the possible direction of policy reform on natural resources, it is important to understand the distribution of the key stakeholders in the country. The first and the most powerful stakeholder in the country is the government, which has extensive powers to regulate, acquire, own and use natural resources. Responsibility for NRM lies with various line ministries such as those responsible for agriculture, water, energy, health, and marine resources and dry lands. Moreover, within general sectoral jurisdictions, responsibility is frequently sub-divided among ministerial departments.

Procedurally, formulation of policy and legislation proposals are the responsibility of individual ministries. Once ministry staff have finished a draft, it is reviewed by the Permanent Secretary. The document approved by a ministerial committee is then sent to the minister for approval and forwarding to the Cabinet, whose approval is final and can authorize the minister responsible to propose legislation to Parliament. This process is not always informed by research, but is often legitimized by the jurisdictional authority of the ministry or political influence.

Kenya has always had a ministry charged with the responsibility of managing natural resources. At its creation in 1974, NES was conceived as a central agency to coordinate and monitor cross-sectoral activities and to harmonize policy. However, NES received no legal mandate and could not coordinate sectoral activities. The issue of coordination has dominated policy discussions in Kenya over the last decade. More recently, the preparation of the NEAP has highlighted this concern and efforts are underway to look into the prospects for creating an apex agency to coordinate environmental activities. Other government agencies such as the National Council for Science and Technology (NCST) have been empowered to provide the government

with advice on science and technology issues (including matters related to environmental management).

One of the features of the NEAP is that it is expected to lead to the formulation of an investment plan. This plan already presupposes an increased role for the private sector. At the moment, the private sector is not seen as a major stakeholder in environmental management, except in traditional areas such as agriculture. In forestry, water and fisheries, the regulatory hand of the government has been too strong to allow for a private sector voice to emerge. But with the on-going liberalization, it is expected that the private sector will start to play a greater role in NRM.

NGOs are already major actors in NRM, but often as part of the government extension system. In energy, for example, the government has worked closely with a number of NGOs including the Kenya Energy and Environment Organizations Association (KENGO) which played an important role in implementing governmental policies and donor programmes. In the 1980s KENGO played a central role in the implementation of the Kenya Renewable Energy Development Programme (KREDP) whose aim was to develop and disseminate wood energy-saving technologies. The project, which cost over US\$4 million over a five-year period, was supported mainly by USAID and involved a wide range of governmental and non-governmental institutions. The energy-saving charcoal *jiko* (stove) which is now widely marketed in Kenya and other eastern African countries is a product of this initiative. This project became a basis upon which KENGO was able to design follow-up environmental activities.

Advocacy NGOs are also starting to emerge and some of the traditional conservation organizations are starting to work on policy-related issues. One of the most active NGOs is the East African Wildlife Society (EAWLS) which has been instrumental in influencing government decisions on wildlife and wetlands issues. The EAWLS has been able to mobilize technical and scientific expertise on wildlife and wetlands issues and to bring it to bear on public policy discussions. In addition, it has also relied on support from its members as well as local newspapers in articulating its position on wildlife conservation. Such organizations, especially where they have links with local and international research institutions, will increasingly play a bigger role in policy formulation in the country.

Environmental education has also been an important area of NGO participation in Kenya. One of the oldest NGOs in this field is the Wildlife Clubs of Kenya (WCK) which has been working closely with institutions such as the National Museums of Kenya. WCK has focused on the youth and has been instrumental in raising environmental awareness in schools. Other NGOs that have active in raising environmental awareness include KENGO, Uvumbuzi Club, Climate Network Africa (CNA) and the Africa Water Network (AWN). The African Centre for Technology Studies (ACTS), through its publications, has focused on providing technical and policy information to researchers and policy makers. Many of these institutions work closely with local newspapers.

There is a growing environmental readership in the country and specialized newsletters such as *Econews Africa* are starting to expand this niche. Daily newspapers routinely carry environmental articles. Dedicated rural news gathering NGOs such as the Inter-Link Rural Information Service (IRIS) are also increasingly covering environmental issues. Other periodicals such as *Resources* produced by KENGO have also been important sources of environmental information. The area of environmental journalism is still underdeveloped and its growth could make important additions to the growth voice of the civil society. Indeed, the popular press has been instrumental in covering local pollution cases and bringing them to the attention of the public and the government. The media and church leaders, for example, have worked together to bring to public attention cases of industrial pollution in Thika.

It appears from recent examples of policy formulation that the effectiveness of stakeholders in influencing policy directions will depend largely on how well they cooperate with other institutions. Advocacy institutions require cooperation with the media. Local newspapers are cashing in on increasing advocacy activities by selling advertising space on the account that the issues are partisan. This trend of institutional alliances is likely to increase and the process of policy reform will become more complex.

While most social groups, especially in urban areas are organized through particular institutions, farmers and herders generally lack effective mechanisms through which they can articulate their interests. Most of the existing channels are regulated by the government which often influences the way the farmers and herders formulate their development needs. The extensive powers given to the executive branch has over the decades weakened the ability of farmers and herders to function as genuine stakeholders in NRM.

Much of the power, however, lies with those who combine political power with the ability to mobilize administrative authority to intervene in development affairs. Many of these are influential people who may or may not be making full use of the land and could stand in the way of government efforts to seek reforms in land ownership and land use. It is probably because of this reason that the often promised Land Use Commission has never been launched. Whatever the reasons are, the issue of land use and land ownership is so intricately linked to local and national politics and cannot be resolved without the requisite political support. This, however, does not preclude efforts to clarify the issues and to reduce the sensitivities associated with land tenure.

.c2.1.3 Political change

Kenya has been undergoing major political changes in recent years. The one-party system has been replaced by a multi-party system. This change has created new space for political actions and new possibilities for reform in public policy related to

environmental management. The political changes have resulted in the initial enrichment of the political terrain and growth in its complexity. There is increased political activity in most sections of society and a number of issues are openly being discussed.

The focus, however, has been on political liberties. Underneath these discussions are fundamental issues of intra-generational and intergenerational ethnic equity. The former is reflected in the current debates regarding regionalism and the wish of some communities to reserve the land in their areas for the use of populations indigenous to those areas. The issue of inter-generational ethnic equity is often articulated in the wish to have a rotational presidency. It would be politically unacceptable to a large section of Kenya to have successive presidents from the same ethnic groups.

This creation of political space in the political arena has allowed open discussion on national development policies and strategies. Politicians have expressed their opinions on a number of issues, ranging from the suitability of the 8-4-4 education system for national development, to the decision-making process adopted by the government over the years. Another issue that is being openly debated is the nature of the Constitution of Kenya and options for its reform. The debate and its outcome will have far-reaching implications for NRM in Kenya and deserves the attention of those interested in providing support for environmental management.

Of particular importance is the issue of land ownership in Kenya. Also related to this is the question of Maasai lands which were acquired during the colonial rule through a series of "agreements". The Maasai are now demanding part of the land back as a precondition for supporting a new constitutional order in Kenya. The historical background to the current agrarian law and institutions in Kenya is starting to play an important role in shaping current political discussions in the country in general, and the constitutional debate in particular. The outcome of the constitutional debate and the related reforms will affect the systems of governance as a whole, which have implications for land use and the related activities such as NRM.

.c2.1.4 Constitutional framework

One of the key aspects of the Kenyan Constitution is the emphasis placed on private property. Section 75(1) of the Constitution says that "no property of any description shall be compulsorily taken possession of, and no interest in or right over property of any description shall be compulsorily acquired." Property can only be compulsorily acquired where it "is necessary in the interest of . . . public health, town and country planning or the development or utilization of property so as to promote the public benefit." The acquisition can only take place if "the necessity thereof is such as to afford reasonable justification for the causing of any hardship that may result to any person having an interest in or right over the property." Other requirements for

justifying the "taking" are proof that the action will promote the public interest and that there will be prompt payment of compensation.

The outcome of these provisions has been a strong institution of private property related to land ownership articulated through a number of laws. This institution allows individuals acquire and dispose of land as they wish (under the principle of "willing-buyer-willing-seller"). The state, however, can acquire land in the public interest under the provisions of the Land Acquisition Act. The provisions for regulating land use are deposited in statutes such as Agriculture Act, the Public Health Act, the Chiefs' Authority Act, the Local Government Act, the Town Planning Act and the Land Planning Act. The ability of the state to regulate land use on environmental grounds is severely limited. Under the Agriculture Act, for example, the Director of Agriculture is authorized to issue land preservation orders to land owners prohibiting them to undertake certain activities or requiring them to take certain land management measures.

One of the most interesting features in the Constitution regarding land is the triple function of the state as public trustee, public landholder and a land banker for development interests. These roles have had different impacts on NRM and at the same time resulted in extensive land use conflicts. As a public trustee, the state was expected to protect the interests of the public in unoccupied land. But the state has been converting such lands to private use without considering their functions. Some of these areas, for example, the Tana River Delta, have been serving as important wetlands providing ecological services as well as meeting human needs.

As a land banker, the state has also been gradually converting gazetted forests to agricultural use. The conversion process is implemented through the provisions of the Forests Act. In areas where land is managed through local authorities as trust lands, the process of gazetting may facilitate the transfer of land from local uses to other government-sponsored activities. As a public landholder, the state has also been converting communal lands into parks and game reserves thereby creating land use conflict between food provision and wildlife management.

Government policy has also facilitated the conversion of communal land to private and in the same areas and heightened land use conflicts. The privatization of land in pastoral areas has often undermined the livelihoods of local communities by denying them access to grazing zones and watering points during dry seasons. This has resulted in the reduction of the carrying capacity for livestock and undermined social welfare among the pastoral communities. In other cases, privatization of land has also affected the migration of wildlife. The process of privatization of land has not often been carried out in a transparent manner and conflicts often arise from the lack of clarity over ownership.

The Constitution also links private property with the ability of individuals or groups to file suits in the courts. The issue of *locus standi* (or standing in law) is often

related to whether one has a property interest in the matter being considered. In the *Wangari Maathai v. Kenya Times Media Trust* case, an individual attempted to stop what was seen as a violation of the public interest in the integrity and aesthetics of a recreation park. The defendant was to build a 60-story building in Nairobi's Uhuru Park. The case fell on the test of *locus standi*. It was held that for an individual to bring a suit against the proposed construction, he or she had to establish an injury to himself or herself, over and above the injury that would be caused to the general public. The only person with the competence to institute such proceedings is the Attorney-General.

The future of Kenya's economy and political system will depend on how well the country manages its natural resources, particularly soils, water, forests and wildlife. But efforts to manage this natural capital base are currently undermined by limitations in the country's constitutional provisions and laws that relate to access to and control over natural resources. For example, the 1994-96 Development Plan says that there "has been overemphasis on the protection of property rights and inadequate provision for the regulations of the said rights in the interest of soil conservation."

The main problem with the current constitutional provisions is that they restrict opportunities for creating multiple land uses which are necessary for the conservation of resources such as wildlife. For purposes of soil conservation or the conservation of other natural resources, the state can expropriate land provided that the owner has been required to carry out certain measures and has failed to do so. Other environmental needs such as corridors for wildlife migration on private land cannot be easily accommodated under such provisions.

While it is necessary to include in the constitution the right of individuals to a healthy environment, it is also critical to review the provisions relating to private property (especially land tenure) and bring them in line with the requirements of sustainable development in general and NRM in particular. The specific nature of the provisions need to be carefully studied in light of the current debate on constitutional change and land issues in Kenya. While there are general provisions that relate to the right to a healthy environment, specific issues such as the legal standing to instruments such as environmental impact assessments (EIA) and the right of access to environmental information may need to be reflected in the constitution.

The last item is particularly relevant because of the public cannot play a vital role in environmental management unless it has access to scientific and technical information. Such a constitutional provision would also legitimize activities such as environmental monitoring. Finally, the ability for individuals or institutions to bring file suits in the interest of the public (especially on environmental matters) need to be recognized in the constitution.

.c2.2.5 Effectiveness of governance scheme

The scheme of governance influencing NRM has a number of deficiencies. The first is that it has relied heavily on public sector institutions and will not be able to cope well under conditions of market liberalization and increased demand for public participation in policy-making. Second, the role of local communities in managing natural resources is becoming an important factor in policy formulation and project design. A viable scheme of governance under the current Kenyan conditions has to take into account the growing role of the private sector as well as local communities. At the community level, issues such as the role of women in NRM become evident.

An NRM-sensitive governance scheme will need to reflect at least three factors: citizen influence and oversight; responsive and responsible leadership; and social reciprocities among citizens. This is an area that requires that emphasis be put on democratic practices but it goes beyond the traditional call for good governance. A number of reforms will need to be introduced in the current Constitution as well as in a number of sectoral laws to safeguard the rights and interest of local communities in NRM.

.c.2. POLICY AND INSTITUTIONS

.c2.2.1 Policies and laws

Kenya's policies on environment have been expressed in a number of policy documents and political statements. However, a comprehensive policy statement on environment is yet to be issued by the government. Previous efforts to formulate such a policy has not been possible, partly because of the existence of a large number of sectoral ministries which have environmental responsibilities whose implementation are likely to be affected by new environmental policies and laws. These laws, however, deal mainly with occupation safety. Those that deal with natural resources (especially forests) were formulated to reserve areas for future use; they were intended to legitimize land banking.

An indication of the direction of policy development on environmental matters is often provided in National Development Plans and was more clearly reflected in the National Environmental Action Plan formulated in 1994. There are a number of landmarks in the evolution of environmental concerns in Kenya's policy development. The Sessional Paper No. 10 of 1965 on *African Socialism and its Application to Planning in Kenya* made clear statements on NRM and anticipated the current interest in sustainable development. It stressed that "the concern for the quality of the environment must be put on equal footing with the need for exploitation." But this concern could not be immediately implemented because environmental management was for a long time associated with coercive measures which were applied during the colonial period. These included the soil conservation measures in areas experiencing

land degradation due to high livestock density. Since the mid-1960s, every development plan has recognized the need for environmental management.

In many cases, the government has also recognized specific areas of concern such as land use conflicts. The 1974–78 Development Plan said that Kenya had “reached a situation where land use interests—each of them valid and nationally productive uses of land—are in some cases in competition and in conflict over large areas of the country. Not only are the various arms of Government in disagreement or confusion on these issues, but this is compounded by the demands of the landless and the burgeoning population growth which are haphazardly realized in the absence of clear policies.”

In the 1989–93 Development Plan, the Government was more specific and promised to set up “an Independent Land Use Commission . . . to review questions related to land and advise on optimal land use patterns for present and future generations in various agro-ecological zones.” Policy statements on environmental management can be gleaned from a wide range of policy documents. However, the translation of these statements into action has been hampered by the limited institutional capacity to deal with issues.

The 1994-96 Development Plan is the most advanced in environmental awareness. It has adopted “Resource Mobilization for Sustainable Development” as its theme and says that the Government is committed to tackling key environment and development problems and to launch Kenya’s transition to sustainable development.” It stresses that “success in achieving social sustainability will largely depend on conserving and protecting the natural resource base on which future development depends.” It explicitly calls for the integration of environmental considerations into the policy-making process.

The lack of a coherent environmental policy has also been associated with the existence of sectoral laws which deal directly or indirectly with environmental issues. These laws relate to: land use (covering agriculture, land control, chief’s authority, local government, mining, trust lands, land planning and government lands); water (covering agriculture and water); environmental health, public health and the working environment; hazardous waste; fisheries and marine environment; forests; and wildlife. Other areas covered by national legislation include regional development authorities.

Many of the sectoral laws have provisions which deal with environmental management. Part IV of the Agriculture Act, for example, deals with “The Preservation of the Soil and its Fertility” and vests extensive authority in the Minister responsible for agriculture to make rules regarding land clearing, grazing and watering of livestock. The rules relate specifically to soil conservation, protection of dams or water catchment areas, prevention of soil erosion and protection of soil fertility.

The Minister may also make rules regarding afforestation, deforestation, land drainage and repair of natural or artificial infrastructure. The extensive soil conservation work carried out in areas such as Machakos was guided by those provision of the Agriculture Act relating to the preservation of soil and its fertility. It should be noted that the provisions were not formulated to protect the environment but to safeguard agricultural productivity through soil conservation. It does not refer to other aspects of environmental management such as agrochemicals and fertilizers.

The Land Control Act has provision that can allow the Land Control Board to refuse granting permission for land transactions which are likely to go contrary to the requirements for good land husbandry. Similar regulatory provisions are found in the Land Planning Act. The Chief's Authority Act empowers local chiefs to regulate the cutting of trees, control grass fires and mobilize local population to carry out natural resource management activities. The Local Government Act and the Trust Land Act allow local authorities to undertake a wide range of NRM activities including setting up game reserves and parks, regulating occupation and grazing, and the protection of forests in specific areas. But they also give power to the President and the local authorities to use land for a wide range of other activities which may not be compatible with NRM objectives.

The Water Act has a wide range of provisions regarding the conservation, control, apportionment and utilization of water resources. Except for waters wholly situated on ones private land, the Act vests rights over surface and ground water in the state. The rights are then extended to individuals through a licensing system. The powers of the Act are exercised by the Minister responsible for water and the Director of Water Resources in consultation with the (Tana, Rift Valley, Athi, Ewaso Nyiro, Lake Victoria (North) and Lake Victoria (South)) Catchment Boards.

The Forests Act and the Wildlife Act provide for the protection of specific areas through a gazettelement process. The Minister responsible forests may declare an area a forest reserve whose use would be regulated by the law. Similar provisions are contained in the Wildlife Act which promote the protection of wildlife through parks, game reserves and sanctuaries. In both cases, the ministers responsible may degazette areas or vary their boundaries. In practice, the Forest Act have given the state power to degazette forest areas and turn them into agricultural land while the Wildlife Act has been used to expand the area under wildlife protection. The two contradictory trends underline the different roles that the government performs regarding land use management.

Also of relevance to governance issues is the provision in the Forests Act which allows a forest officer to demand compensation from a person suspected of violating the Act. Section 10(1) of the Act says that a duly empowered forest officer, is satisfied that a person has violated the Act, may "accept from that person a sum of money by way of compensation for the offence together with the forest produce, if

any, in respect of which the offence has been committed." This provision creates considerable avenues for abuse.

The inadequacy of existing laws in dealing with environmental issues has been widely acknowledged by the government. For example, the 1994–66 Development Plan says that "under the existing Land Planning Act . . . there is no provision to prosecute a developer who contravenes land use standards and regulations. In addition the Government is unable to collect land revenue because of inadequate machinery to prosecute defaulters." To seal this loophole, the Plan promises that the government will enact a law which will enforce conformity to various Physical Development and Part Development Plans and other planning regulation and standards so as to direct the growth of urban areas.

The lack of environmental coordination mechanisms has also resulted in conflicts between different government agencies. The 1994–66 Development Plan gives the example of "Chyulu Hills where there is a water reservoir for Mombasa administered by the National Water Conservation and Pipeline Corporation, a settlement scheme administered by the Ministry of Lands and Settlement, Water conservation measures executed by the Ministry of Land Reclamation, Regional and Water Development, protection of wildlife and tourism administered by Kenya Wildlife Service, and Environment Protection by the Ministry of Environment and Natural Resources." The Plan calls for measures to "harmonize the different development activities in order to foster optimal land use and control environmental degradation."

Since 1974 the government has been promising to set up a commission to review existing policies and laws relating to land use. The 1994–96 Development Plan says that the "Government will establish a Land Use Commission . . . under the direction of the Ministry of Lands and Settlement. The Commission will review the land tenure laws and practices and recommend legislation that will bring the law in conformity with Kenya's development needs. The commission will deal with issues such as optimal land utilization, land taxes, sub-division, land leasing, environmental management, land disputes, urban land development and the provision of land for public utilities.

The existence of a wide range of sectoral laws on environmental issues is both an advantage and a disadvantage. It is an advantage because there is a sectoral basis upon which to undertake conservation efforts. It is possible to strengthen the provisions of these laws to meet new conservation requirements. Indeed, more recent revisions in some of the laws have tended to place more emphasis on conservation. This is the case with the Wildlife Act. However, the existence of the sectoral laws has also created vested interests in environmental matters in a wide range of ministries and departments. This has been worsened by the absence of clear mechanisms for resolving conflicts or undertaking integrated NRM activities. The government has over the years acknowledged that there is a need to create mechanisms that would

coordinate conflict resolution activities, provide overall regulatory frameworks and undertake activities such environmental monitoring.

To achieve this, it may be necessary to formulate framework legislation that provides the necessary regulatory guidance and undertakes monitoring activities. Such a law should clearly distinguish between regulatory and implementation function. The latter should be left in the sectoral ministries and departments while the former should be undertaken by an apex agency with regulatory and monitoring functions, preferably located in an office that has the responsibility of harmonize the operations of other ministries.

But the process of legislative reform regarding environmental matters has attracted considerable controversy in government circles. Efforts by NES to promote a new law have not been successful. In recent years, other actors have assisted in strengthening the case for a comprehensive law on environment. The most important initiative has been the requirement by the World Bank that the country formulate a National Environment Action Plan (NEAP) as a prerequisite for investment in the environmental sector. The NEAP preparation process, which was initiated in 1993, also coincided with other efforts to formulate comprehensive environmental policy and legislation.

The view of the government has been that a national environment policy should guide the formulation of the NEAP. In this respect, the government made attempts through an inter-ministerial task force to formulate a national policy on environment. This effort built on previous efforts by NES. This initiative has resulted in the promise in the current Development Plan to formulate a sessional paper on "Sustainable Development" which would be the policy framework for environmental management.

Over the same period, the Ministry of Environment and Natural Resources sought the support of the United Nations Environment Programme to review Kenya's environmental laws and recommend ways of harmonizing them. A report, "Review of the Policy Framework and Legal and Institutional Arrangements for the Management of Environment and Natural Resources in Kenya" was prepared and discussed by the government in 1994. The Presidential Law Review Commission, on the other hand, has proceeded to draft framework legislation on environment for the consideration of the Attorney-General.

Also of relevance is a project supported by the Netherlands and implemented by KENGO to review environmental laws in Kenya and submit proposals for amendment to the government for consideration. The project ends in June 1995. It is notable that a number of donors are considering including the need for constitutional reform (covering issues such as environment) as part of their bilateral negotiations with the government. What seems clear, though, is that some of the proposed legislative amendments may require reforms in the Constitution.

However, there is little research of significance to generate the relevant substantive information that could guide constitutional discussions on environmental issues. The African Centre for Technology Studies (ACTS) has been carrying out detailed sectoral studies on constitutional law and natural resources (started in 1989) with the aim of providing suggestions for constitutional reform. The scope of this work will be limited by the resources available to the institution to mobilize the available knowledge internationally and to bring it to bear on the Kenyan analysis. Experience has shown that local organizations which have established research links with counterpart institutions as well as individuals in other parts of the world have been more effective in influencing public policy. Also related to this has been the mode of interaction between the local research institution and the government.

.c2.2.2 Institutional arrangements

The current structure of institutional arrangements for environmental management reflects the overall organizational logic of government. Before 1974, all institutions dealing with environmental issues were organized along sectoral lines. When the National Environment Secretariat (NES) was formed in 1974 it was located in the Office of the President. This allowed it to serve as a coordinating agency and it yielded considerable political power because of its location. However, it did not use that position to formulate supporting legislation nor to build capacity in environmental management. Its position was considerably weakened when it was merged with the Ministry of Natural Resources to form the Ministry of Environment and Natural Resources (MENR) in 1981. More recently, the authority of NES has been greatly challenged by the establishment of the NEAP Secretariat in MENR with the expectation that the latter would become the lead environmental agency in Kenya.

But NES has continued to lack the legislative mandate to carry out its functions except in raising environmental awareness. NES has been largely ineffective in implementing many of its objectives including promoting the enactment of laws and regulations, enhancing enforcement of legislation, encouraging scientific research and furthering conservation of flora and fauna. Other institutions such as the National Museums of Kenya (NMK) have been more active in conservation and scientific research than NES. It should also be noted that legislative mandate is not sufficient in enhancing the standing of an institution. Often the presence of dynamic leadership in an institution has helped to secure the needed legislative and political support.

Other institutions such as the Kenya Rangelands Ecological Monitoring Unit (KREMU) showed considerable dynamism and technical competence and subsequently became the Department of Resources Surveys and Remote Sensing (DRSRS) in the Office of the Vice-President and Ministry of Planning and National Development. It can be argued that NES spent too much time arguing for legal mandate instead of building a track record through technical capacity building. It played an important role in the 1980s in preparing District Environment Reports (with support from

USAID) which were important sources of information for planning but did not use this process to build in-house capacity for environmental management. Neither did it seek to establish strong links with international agencies for purposes of building environmental management capacity.

To respond to critical environmental issues such as soil erosion, the President formed the Permanent Presidential Commission on Soil Conservation and Afforestation (PPCSCA) in 1981. The commission was given powers to respond to environmental problems related to soil, water and forests. It was designed to go beyond the limits of ministerial boundaries and to call upon any institutions in the country to respond to particular problems, especially in emergency situations. But the commission, although representing a novel institutional approach to environmental management, did not lead to the creation of a similar institution that dealt with overall guidance on environmental matters. Much of the discussion on environmental institutions in Kenya has been informed by the requirements of particular institutions rather than the need to protect the environment.

In order to coordinate activities at the national level, the government set up the Inter-Ministerial Committee on Environment chaired by the Ministry of Environment and Natural Resources. The Inter-Ministerial Committee on the Environment (IMCE) has not been effective and its role has remained unclear. Its potential role is limited because it lacked the legislative mandate and has to implement its decisions through the sectoral ministries anyway. Institutions such as the regional development authorities (the Lake Basin Development Authority, the Kerio Valley Development Authority, the Tana and Athi Rivers Development Authority and the Coast Development Authority) provide a basis for approaching environmental issues from an ecosystem perspective although their power has been limited by lack of resources and expertise. They have played a greater role in promoting the generation of electricity and agricultural production.

In recent years Kenya has increased its efforts to support agricultural production in areas that were previously considered to be wastelands. The Ministry of Reclamation and Development of Arid, Semi-Arid and Wastelands was established in 1989. Although the ministry's main mandate was to facilitate development in the arid and semi-arid areas, it also aimed at reclaiming wetlands. This function has been a subject of considerable concern among environmentalists in Kenya, especially in connection with the fate of wetlands. It has been suggested that Kenya has been slow to implement the provisions of the 1971 Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat because of its interest in reclaiming the lands for agricultural production. The Convention's aim is to curb the "progressive encroachment on and loss of wetlands now and in the future, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value." It is the only international convention on a particular ecosystem.

At the provincial level, there are the Provincial Environment Officer or the Provincial Environment Protection Officers all coordinating environmental matters at that level. At the district level, some districts already have District Environment Officers (DEOs) and some District Environment Protection Officers (DEPOs). The DEOs who are senior general administrators, are under the technical guidance of the Presidents Office. The DEPOs, who are already junior technical officers, are under NES. However, the relationship between the DEOs and DEPOs, and between them and the other district level officers and authorities varies from district to district. Their activities and duties are coordinated at the district level through the respective District Development Committee (DDC).

.c2.2.3 Community-based management

Local government comes under the jurisdiction of a ministry with a similar name, which is responsible for the functioning and supervision of all local authorities. A hierarchical structure of district, divisional and sub-divisional and village authorities is responsible for implementing development programmes on NRM within their areas of jurisdiction. This structure was set up to deal specifically with development issues but also handles all matters related to NRM. In effect, the authority of local communities have been extensively weakened by the powers of government officials at all levels of development endeavor.

Local authorities are empowered also to interpret national law through promulgation of by-laws. Local authority by-laws cover such sectors as produce and livestock, marketing, cattle dipping and hide dressing fees, animal diseases, retention of soil erosion, water and forest conservation, construction of village roads and human welfare matters. From the point of view of the environment, the most important challenge is to find ways to bring sector specialists together as a team with village and district leadership to work out viable approaches that are acceptable to all parties.

The NEAP stresses the importance of local level participation with the understanding that people's lives are the cause and the effect of environmental conditions and should be involved in effecting environmental decisions and actions. Successful participation of local communities would produce a mutual agreement between them and the government over the actions and policies that affect them. This is also bringing management capabilities closer to the implementation level and taking advantage of local level knowledge.

Strong links with the local communities would provide channels by which information can be exchanged between national level policy-makers and the local level resource users whose world is cross-sectoral in nature. Following adoption of the District Focus Strategy for Rural Development Strategy (DFSRD) in Kenya in 1983, there was an attempt to decentralize government decision making. The districts were intended to be the focal points for decision-making. In theory, this structure provides a vehicle

for the spread of information of local level concerns and intended actions back up into the national level. Under this attempted "bottom-up" approach, villages can communicate their needs to the ward's development committee. From here, they are brought to the divisional level for transmission to the DDC. Projects must be deemed relevant before being placed into the district plan. Once in the plan and approved by the DDC, financial resources must be secured from the district budget. It should be noted that the choice of projects is a highly political process and involves more actors, including the local Members of Parliament.

Though this structure provides a potential vehicle to transfer local development needs and concerns to the national level, the constraints under which it operates make it a slow and tedious process to achieve popular participation. And while this is the case for community development as a whole, it is especially true in the case of environmental issues which are inter-sectoral in nature and therefore require collaboration among government bodies as well as with other organizations.

.c2.2.4 Analysis of effectiveness

Existing environmental policies and laws are ineffective in addressing the problems facing the country because of a number of reasons. First, the current sectoral environmental provisions have failed to provide a basis for strong regulatory action. The ministries responsible for implementing these provisions are sometimes the sources of environmental problems. The fact that the government is one of the largest economic actors (because of its participation in economic activities) has limited its interest in implementing some of the laws. For example, many of the factories releasing effluents into water systems are partly owned by the government. Second, some of the laws are simply outdated and need urgent review. Third, the existing scheme of penalties is too lenient to serve as a deterrent and many private firms find it cheaper to pay court fines than to invest in pollution abatement measures. It is not possible to effectively use economic instruments for NRM under such conditions.

Other factors such as limited environmental monitoring capabilities and the absence of legal standing for instruments such as environmental impact assessments (EIA) have greatly undermined the prospects of effective environmental management in Kenya. Finally, existing policies and legislation have also limited NRM by excluding certain domains such as wildlife outside protected areas and trees outside gazetted forests and trust lands. The inability of the government to give the Forest Department the authority to regulate forest management on private land is linked to the sanctity given to private property in the constitution. In addition, the government's role as a land bankers also provides a basis for limiting the entrenchment of certain management practices on trust lands.

Indeed, the government has promised that it will enhance its policy to preserve land for public utilities such as transport and communications facilities, schools, hospitals, recreational areas, forests, historical and archaeological sites, ports, car parks, harbors and aerodromes. The reservation of land for such public utilities has not prevented the government from passing off the land to private individuals. It is not the privatization of the land *per se* that is an issue, but the fact that this process is occurring at great environmental costs because of the lack of relevant regulations.

.c.3. NATURAL RESOURCE MANAGEMENT CAPABILITIES AND ACTIVITIES

This section analyses the environmental activities and capabilities of different public and private institutions in Kenya. The evaluation is carried out under five main themes which are: infrastructure, financial resources, human resources, capacity formation and utilization, and programme development and planning capabilities. These dimensions are critically important to effective NRM activities in Kenya. The central message in this section is that the infrastructure for various NRM institutions has been deteriorating over the last decade because of the decline in public sector funding.

Although there has been an increase in the number of people trained in NRM-related areas, the human capacity has not been directly related to conservation needs. In addition, much of the capacity lies in non-NRM institutions and is therefore not fully utilized. The ability of these institutions to develop sectoral plans has increased over time but their ability to translate them in practical programmes still needs to be strengthened. The situation, however, is different in international institutions based in Kenya. These agencies have over the last decade increased their capacity for NRM.

The public agencies incorporated in the analysis include: the Ministry of Environment and Natural Resources (MENR) and its various departments (Forestry, Mines and Geology, NES and The NEAP Secretariat); Ministry of Tourism and Wildlife (including the Fisheries Department); relevant research institutes under the Ministry of Research, Science Technology and Technical Training (including the Kenya Agricultural Research Institute, Kenya Forestry Research Institute and Kenya Marine and Fisheries Research Institute), the Kenya Wildlife Service (KWS), the Ministry of Land Reclamation, Regional and Water Development; and various private sector local and international organizations such as the World Conservation Union (IUCN), International Centre for Research in Agroforestry (ICRAF), African Wildlife Foundation (AWF), EAWLS, World Wide Fund for Nature (WWF), KENGO and Society for Environmental Protection in Kenya (SPEK).

.c2.3.1 Infrastructure

Although the quality of infrastructure varies considerably from one institution to the other, most public sector institutions need major improvements to operate effectively. The institutions are suffering from infrastructural decay which includes a degradation of the buildings, equipment, and logistical support. These conditions make it difficult for natural resources management, training or research institutions to operate at an optimal level. Public agencies may overcome some of the problems by collaborating with private local and international organizations which may have more resources at their disposal. Examples of this collaboration include the KARI/KEFRI/ICRAF collaboration in agroforestry research and KWS/AWF/WWF collaboration in wildlife conservation activities.

The Kenya Forest Department (KFD) has a fairly sophisticated infrastructure. The Department manages all the gazetted forest lands and also provides extension services on the farms through its Forestry Extension Services Division (FESD). There are 1.7 million hectares of gazetted forest land and 0.5 million hectares of ungazetted forest land. National parks and game reserves also contain smaller areas of forests which are managed by the KWS. The KFD and KWS have a memorandum of understanding for the joint management of selected forests. A general decline in the area under plantations took place during the early 1990s due to establishment problems following the discontinuation of the *shamba* system, low rainfall in some areas, and a departmental move to plant more indigenous tree species, often at the expense of exotic plantations.

The Forest Department has a variety of activities. Resource utilization, timber production, non-timber forest products, gene pools, water catchment, and soil conservation. Its regulatory activities are specified in the Forest Act. The major commercial forest products include industrial roundwood from exotic softwood plantations and high value indigenous hardwood.

The responsibility for forestry research falls on KEFRI, which was established in 1986 from what was previously the Forest Research Department of KARI. Its mandate is to implement forestry research and development. The major areas of research activity include agroforestry, dryland forestry, plantation silviculture, forestry ecology, forest pathology and mycology, forest entomology and zoology, social forestry, forest products, and socio-economic and policy studies. The headquarters (including offices, laboratories, nurseries, research forests and demonstration plots) is at Muguga on the outskirts of Nairobi. Other facilities include: dryland agroforestry field station in Machakos, trial demonstration sites in Siaya District, a research site in Maseno, a research sub-centre in Ramogi and several research forest stations. The KEFRI research system is organized in such a way that there are national, regional and satellite research centers. This enables the institutions to address forestry research problems that are unique to different agro-ecological zones.

KWS was established in 1989 as a parastatal organization pursuant to expansive amendments to the Wildlife (Conservation and Management) Act, enacted in 1976. Its sole mission is to conserve and protect the environment and to develop a sound foundation for environmentally sustainable wildlife based tourism, that has the support and participation of the Kenyan people. KWS is first and foremost a management agency responsible for wildlife management in parks and reserves. Tourism development, security and routine management all require that parks and reserves have adequate road networks, proper housing and offices, functional plant, vehicles, aircraft equipment and an efficient communication network. KWS has eight regional chief wardens who are key figures in its devolution strategy.

KARI works through a strong scientific capacity of national and regional research centers. There are 31 such centers in the country. The headquarters of KARI is at Muguga and has a network of specialized agencies throughout the country. KARI executes its research activities on the basis of identified priorities with strong collaborations and inter-linkages with relevant national and local agricultural institutions and organizations. It also works with extension ministries and local agricultural centers. These linkages have enabled easy communication of knowledge, collaboration in undertaking research and dissemination of technology.

The question of infrastructure development for environmental management has to be viewed in the context of jurisdictional responsibilities and the limited range of collaborative activities. For example, the Department of Nuclear Physics and the Department of Chemistry at the University of Nairobi have sophisticated equipment and experienced expertise to undertake analytical work on a wide range of pollutants. However, the use of these facilities is relatively low although institutions such as the Nairobi City Commission have been using their services to monitor pollutants in Nairobi's sewage system.

One of the reasons why such facilities are not used, especially by public interest groups, is the question of legitimacy. The government is more likely to give standing to the findings of the Government Chemist. The provision of legitimacy to independent scientific analyses will create a market for technical knowledge and increase the role of the private sector in the enforcement of environmental laws. The provision of legitimacy and legal standing to environmental monitoring and EIA would also create markets for Geographic Information System (GIS) activities and environmental monitoring services.

.c2.3.2 Financial resources

In recent years, Kenya's economy has experienced reductions in growth as well as drought, famine, political instability, and declining levels of donor assistance. Structural adjustment programmes (SAPs) have also forced the country to take austerity measures such as currency devaluations, reduction in government

expenditures, and market liberalization. Drought, poor markets for major exports, and the reduction of aid in the early 1990s slowed down economic growth significantly.

Given the above constraints, the government has in many cases had to cut back in both recurrent and development (i.e. new physical structures, equipment and personnel) expenditures. The public agencies involved in NRM, research and training have been seriously affected by those constraints. The possible exceptions are institutions such as KWS which have managed to obtain funds from various donor agencies to support their programmes. Such aid is, however, often restricted to specific programmes. Such support, though very helpful, may be insufficient to allow institutions realize all their goals in NRM, research and training.

Recurrent expenditures for the KFD have been fairly constant in real terms since FY 1983/84 and labor costs have accounted for 80-85 per cent of the total. The total allocation in 1993/94 was Kshs.1200 million with approximately half the funds being recurrent and the other half development. Political and financial factors have adversely affected the KFD in the recent past. Development funds from external donors have been instrumental in building up the KFDs production capacity. A World Bank project played a major role in plantation development in the 1970s and 1980s. In recent years, salaries and wages have generally been low and this has led to low morale. Due to budgetary restrictions, there has been an inadequate and often poor supporting infrastructure. In commercial plantations, wood is often sold at stumpage prices that do not fully reflect the social costs of removing the trees. This practice lowers the revenue base of the department.

For 1994/95, KEFRI's current expenditure estimates amounted to Kshs.131.2 million. The development expenditure estimates amounted to Kshs.597.9 Million. KEFRI's strategic plan estimates a total recurrent expenditure of Kshs.917.1 million and a total development expenditure of Kshs.676 million between 1995 and 1999. Some of this funding is expected to come from donors. The Japan International Cooperation Agency (JICA) has been a significant contributor to the infrastructural development of KEFRI. It has also supported the training of KEFRI research staff in Japanese institutions.

According to the 1994/95 estimates, the recurrent expenditures allocated to Fisheries Development within the Ministry of Tourism and Wildlife amounted to Kshs.138.4 million. The previous year's allocation was Kshs.113.0 million. Sustainable utilization of marine and inland fisheries resource is essential. Investments in raising potential production are required in order to achieve those goals. The fisheries department is institutionally housed within the Ministry of Tourism and Wildlife. The Department's goal is to ensure optimal exploitation of fisheries on a sustained yield basis. Kenya has both marine (Indian Ocean) and inland (lakes, rivers, farms, ponds) fisheries.

In 1989, inland fisheries produced 94% (138,800 tonnes) of total fish production. Fish provides 40-50% of the animal protein consumption in the Lake Victoria, Western and Coastal regions. Fisheries production has been growing rapidly. For example, there was an 8% increase in the sector's contribution to the GDP between 1985 and 1989. Approximately 300,000 Kenyans are dependent on fish harvesting and production for their livelihood. In 1990, Kenya earned Kshs.412.0 million from external trade in fish and fish products.

The major mining activities in Kenya include gemstones, limestone, gold, fluorspar, soda ash, diatomite, vermiculite, and sand. If not properly managed, mining activities can lead to serious environmental degradation. The recurrent expenditure estimates for Minerals Development within the Ministry of Environment and Natural Resources in 1994/95 amounting to Kshs.25.0 million while the development expenditure estimate stood at Kshs.9.0 million. The level of activity in this sub-sector is smaller relative to the other departments in the Ministry of Environment and Natural Resources.

The funding level of NES is a limitation to its effectiveness given the enormous responsibility it has. In the 1994/95, it had a recurrent expenditure of Kshs.12.0 million and a development expenditure allocation of Kshs.85.6 million. Because of financial constraints, NES has diverted almost 50% of its staff to work of donor-funded projects. While this provides additional income, it also reduces the number of staff involved in other activities such as promoting environmental legislation and raising environmental awareness.

KWS has sought cooperation with other groups, for example, NGOs especially in forestry, rural development, education, tourism, infrastructural development and international cooperation. Some of the NGOs include WWF, AWF, and EAWLS among others. It has been one of the objectives of KWS to mobilize sufficient funds to meet the recurrent costs of effective wildlife management, service its debts and invest in further development of the park system. KWS has relied on its funding from gate fees and donor funds to boost its revenue base. Recently, it has been able to initiate the formation of a Trust fund at the international level to seek for donations for additional capital investment. Most of its pledges have been honored. In its five years development plan (1991-96), KWS anticipates a capital investment expenditure of over Kshs.3920 million (US\$171 million). If all planned activities go ahead with the recurrent budget is expected to increase to almost Kshs.700 million annually by the fifth year (1995/96).

KARI's agricultural sector has been inadequately funded. An inspection of the government's contribution to agricultural research in 1991/92 showed that the allocation amounted to only 10% of what was originally estimated in the budget. Financial estimates for 1994/95 for KARI amount to Kshs.496.2 million. KARI's NRM sectoral activities are undertaken under its soil and water management division which investigates all facets of resource inventory, development management and

utilization. The institute, however, has the capacity to generate additional revenue through the sale of its research results, especially seed varieties.

The problem, however, is that seed distribution is done through the Kenya Seed Company (KSC). This problem is not unique to KARI. Other research institutions are not able to commercialize their products because of legal and institutional constraints. In addition, the attitudes of many researchers in public institutions are inimical to commercial operations. They have been trained to believe that the only way they can render public services is to do it free of charge. This is expected to change as reductions in public expenditure start to erode the financial bases of these institutions.

Although the economy has started to recover, it is unlikely that support for the public sector will increase. The stress on public institutions will therefore increase at a time when economic activities putting pressure on natural resources are likely to increase. For example, the pressure to increase manufactured exports is will increase the potential for industrial pollution. This trend requires greater regulatory capabilities in government.

.c2.3.3 Human Resources

Well-qualified and experienced personnel are necessary in the effective management of natural resources. For many of the public natural resource management agencies mentioned above there are significant numbers of well trained personnel who can effectively plan and execute various programmes. They are, however, confronted by problems such as the rigidity of institutions, political interference, financial and infrastructural limitations.

In research and academic institutions, there is a much smaller pool of professionals with graduate level training. Public agencies have generally not been very successful in attracting and retaining highly qualified staff. In some cases, professionals have been moving from one agency to another in search of better working conditions and terms of service. This lack of long term stability in the personnel reduces the potential contributions of experienced staff to specific institutions. The private and international non-governmental agencies generally have a stronger financial base and have often managed to attract and retain very skilled and experienced personnel. Their activities often complement those of the public agencies. In some cases, however, unnecessary duplication does take place leading to a wastage of scarce human and financial resources. The agencies below illustrate the main human resource issues facing NRM agencies.

NES has appointed District Environmental Protection Officers to enhance coordination of environmental affairs at the grassroots level. It has also advocated the use of Participatory Rural Appraisal by the government and NGOs to ensure community participation in environmental activities. NES's programme of activities also includes

desertification monitoring and advocacy in the conservation of biodiversity. NES, despite the scope of its activities, is greatly understaffed. There are about a dozen professionals at the headquarters of whom about half are now engaged in implementing donor-funded projects. The low level of staffing at NES has reduced its ability to attract funding. The staff, however, argue that receiving funding will enable them to expand their capacity.

The Forest Department had 23,434 authorized positions in 1993/94 and only 75% of those positions were filled. The technical staff (including foresters/engineers and technical support) totalled 1,442 persons. The remainder were administrative staff, forest guards and other subordinates. To improve efficiency in the department, it has been suggested in the Master Plan that some of its operations should be privatized. The options include: (i) retaining the KFD as it is now; (ii) creating one or more forest plantation enterprises to operate alongside the KFD; (iii) creating an extensive forest enterprise that would operate alongside the KFD; and (iv) creating a forestry commission.

Except for the field staff, the other KFD staff are based in the Karura forest headquarters in Nairobi. East division has its own offices and support services. At the field level, the basic unit of management is the forest station which often has a basic infrastructure of offices, houses, nurseries, staff, vehicles and other accessories. The forester in charge of the station is, together with his staff, responsible for management decisions on the ground. The district and provincial forestry offices play coordination roles.

On the whole, Kenya's human resource base in environmental management has to be viewed in the context of institutional arrangements through which their expertise can be articulated. In the past, it was institutional incentives (such as secure employment opportunities) that influenced career choices. For example, the presence of demand for wildlife lawyers in Kenya has not necessarily led to training in that field. There are no lawyers in Kenya who specialize in this field and the few with interest in this field are employed in other sectors of the economy.

However, the fact that there are institutions that employ people with qualification has resulted in an increase in expertise in those fields. The creation of capacity is not determined by market incentives but by institutional incentives; young people tend to choose employers and not careers. The current reduction in public sector employment and the associated graduate unemployment are already changing the perceptions of young people and forcing them to respond to market incentives.

.c.2.3.4 Capacity formation and utilization

This section discusses the strengths and weaknesses associated with the development and use of human resources in critical natural resources management areas. At

independence, the Kenyan natural resources management and research agencies were dominated by expatriate staff in the professional cadres. Training of Kenyans to take over those institutions was therefore considered critical. There were very few professionally trained Kenyans in fields such as wildlife management, forestry, fisheries or natural resources management and planning.

Most of the training in NRM in the first decade of independence was done overseas and in regional institutions. The first University level undergraduate programme in forestry began in 1977 at the University of Nairobi, range management followed a few years later. Training in wildlife management began in the mid 1980s. Programmes in fisheries management and tourism are very recent (1990s). It can thus be observed that given this lack of training capacities, many areas of natural resources management and planning remained understaffed. Graduate level training opportunities in the country have also been lacking at the national level. Where programmes have been put in place, they are beset with problems such as lack of adequate equipment and space, lack of experienced staff to supervise graduate student research and lack of funds to run programmes.

In the research institutions, the result of the above problems has been lack of adequate research. There are many cases of idle PhD holders who, because of institutional resource constraints, can only work at full capacity for part of the year when allocated resources are available. The lack of equipment and logistical support have remained major problems affecting these institutions.

KEFRI is still characterized by large numbers of assistant research officers at the Bachelors degree level. During the 1989/90, 28 researchers had masters degrees and above. The majority of the researchers, however, only had bachelors degrees. It is very important to have a significant proportion of the research staff with advanced degrees. Experience is also vital in charting out new areas and programmes of study. A significant emphasis towards further training is present but most of it is dependent on donor support. The KEFRI strategic plan projects a training need of 10 MSc and four PhD holders annually to the year 2000.

KARI, on the other hand has invested more in its research capacity. KARI works through a strong scientific capacity and has embarked on a heavy training programme through the National Agricultural Research Programme (NARP). It has 23 PhDs, 41 PhD trainees, 206 MScs. 32 MSc trainees and 244 BSc holders. Overall, given the scope of activities at KARI presently, the existing financial and personnel resources are inadequate.

During ICRAF's first decade (1977-86), its concern was the creation of a core multi-disciplinary team of scientists, the development of an agroforestry diagnosis and design methodology, and the dissemination of the methodologies to research and development institutions in developing countries. ICRAF shifted its emphasis between 1989-90 and became more focused in its research and development activities. The

major emphasis became the generation of appropriate agroforestry technologies as well as strengthening national research capabilities. The organization has been restructured over time and now has three divisions (Research, Training and Information, and Finance and Administration) to enable it achieve these goals. The Research Division has programmes on characterization and impact, multi-purpose tree improvement, components interaction and systems. It had an annual budget of US\$10 million in the early 1980s. The 1994–98 medium term strategy estimates annual funding requirements of US\$18.6–24.4 million during that 5-year period.

In the early 1990s, the institution's professional staff had 26 PhDs, 27 Msc, 12 Bachelor's and seven diplomas. The major disciplines represented were agriculture (20), forestry (14), social sciences (7), and others (31). It is projected that senior staff at the doctorate level will increase to 72 by 1998. The institution is well positioned to attain its objects in agroforestry research and information dissemination.

National universities have training and research capabilities in a variety of natural resources management fields. The University of Nairobi offers training in agriculture, range management, and conservation biology. Moi University offers courses in forestry, wildlife management, fisheries, tourism, and environmental sciences. Egerton University has programmes in natural resources management and agriculture. Kenyatta University has a programme in Environmental Sciences while Jomo Kenyatta University of Agriculture and Technology has programmes that address agricultural and other land-use related questions.

The most advanced academic training programme is at the Moi University School of Environmental Studies (MUSES). The programme is funded by the Kenya Government and the Netherlands Government, with the latter supporting library and laboratory facilities and field studies and visiting professors. It is linked to the University of Amsterdam and aims to train 13 doctoral candidates in the first eight years. So far an average of 14 MPhil candidates have been graduating from MUSES every year. The employment potential for the graduates is very high and most of them are absorbed by various environmental institutions in the country. There are indications that there is considerable demand for specialized training in fields such as environmental law and environmental economics. However, there are no specialized programmes in the region to train people in these fields except an effort by the Swedish government through Gotenburg University to provide academic training in environmental economics.

The universities are mostly supported through government funds. Donors have also targeted certain programmes and institutions at different times. For example, Egerton University has received support through USAID while Jomo Kenyatta University has received support from JICA. In general, national universities have been short of funds and this has limited their ability to develop and run innovative training and research programmes that adequately address national needs. Recruitment and retention of

highly qualified staff has also been difficult. It is necessary to rationalize the on-going natural resources management programmes in the national universities.

One of the key developments in the educational sector has been the rapid reduction in state university intakes from over 20,800 students in 1989 to nearly 8,300 in 1995. This reduction is aimed at raising the quality of higher education in state universities while at the same time providing opportunities for private universities. This reduction is likely to affect capacity building for NRM because most of the private universities specialize in liberal arts while NRM requires a strong base in the natural sciences. In addition, the reduction in state university opportunities is likely to discourage the creation of new courses. Fields such as environmental studies which are relatively new are more likely to be affected than traditional subjects.

One of the areas that has received little attention as far as training is concerned is policy research. So far there are no dedicated training programmes in Africa in policy analysis related to environmental management. The African Centre for Technology Studies (ACTS) has started responding to this need by launching a three-month course in policy analysis related to technology and sustainable development. The centre aims to train 60 people over the next three years. The course is supported by the Government of Norway and was developed in conjunction with the World Resources Institute (WRI) in Washington, DC and the Pew Scholars Program at the University of Michigan in the United States. ACTS has also started an internal doctoral training programme in "Technology and Environment" which is linked to the University of Amsterdam.

.c2.3.5 Programme development and planning capabilities

The ability to develop suitable plans and programmes for natural resources management is critical. This ability is necessary at all levels (i.e., local, regional and national). There are, for example, very commendable efforts in developing master plans on water, forestry, and wildlife resources. These national master plans are, however, likely to remain as statements of intent unless they are translated into funded regional and local plans and programmes. At the national level institutional, policy and legal reforms are necessary for the new master plans to be implemented. The Forest Department, for example, needs executive and legislative support to privatize some of its operations as recommended in the Kenya Forestry Master Plan. Similarly, KWS requires that kind of support in implementing its community wildlife programmes.

The major problems of the KFD include: failure to adopt modern management techniques that could optimize resource use for stated goals; failure to develop and use new methods of forest plantation planning and control; failure to design and implement efficient inventory and management information systems; failure to find workable and economically efficient alternatives to the shamba system; limited

funding for various programmes and activities, inadequate policing; excisions and political interference.

Regulatory activities of the Fisheries Department include, enforcing strict controls on fishing methods during breeding periods and licensing to control the number of fishermen. Extension services to fish producers (which have been cut back severely in recent years due to financial constraints) are also necessary. Where regional development authorities (e.g. Lake Basin Development Authority) exist, they have tended to take up this extension function. They are, however, faced by many financial and managerial problems.

Fisheries management activities include protection of catchment areas and water quality, appropriate soil conservation activities and provision of relevant management skills through training. Research and environmental monitoring should be coordinated by agencies whose activities have impacts on fisheries. KEMFRI plays an important role in this regard. Basic and applied research on potentials for improving production and marketing should also be carried out.

The overall goal in minerals development is to obtain optimum benefits at present and in the future without adversely affecting the environment. The Mines and Geology Department provides technical and legal guidance in geology and mining. It also has an information gathering mechanism that enables it guide and regulate mining activities. Soda ash has been the major component in Kenya's mineral production. The government encourages and expects the private sector to play the lead role in exploiting mineral resources. It invests a lot of resources in technical surveys which can provide useful information for investment.

Proposed activities by the government in the mining sector include: reviewing policies legislation and strategies for increasing investments; developing a computer database giving technical information and opportunities for investments; and ensuring sustainable development in the sub-sector. The major constraints for the sector include limited funds allocated by the government for mineral resources development, and insufficient incentives to attract private sector investment.

Management capabilities are vital for programme implementation. The management of parks and reserves by KWS needs an efficient, accountable system of planning, backed by a research programme to provide essential information. Reform of management systems and the development of a secure financial base independent of government support is important for capacity formation in NRM agencies. The relative freedom of operation granted to KWS provided it with the opportunity to develop its managerial capabilities and financial base, so that given the necessary capital, it can implement its programmes. KWS has undergone restructuring to enhance its capacity and has exhibited ability to understand a broad range of public policy issues including the bureaucratic and political factors essential to its functioning.

The Ministry of Tourism and Wildlife is charged with overall coordination of the management of tourism and wildlife. Kenya's wildlife resources are protected in a network of National Parks under the control of KWS. National Wildlife Reserves are mostly under the control of county councils while Gazetted Forest Reserves are under the control of the Forest Department. The Ministry of Tourism and Wildlife aims at tourism development in general and especially wildlife-based tourism, which is the most significant sector.

It also aims at the following resource management activities: improving security; marketing and promotion, including promoting domestic tourism; tourism management and education, improving visitor experience, reduction of adverse environmental impacts, improvement of tour guide quality, tourist driver education; redistribution tourist activities, and diversification of forms of tourism; increasing KWS revenue from tourism through pricing and fee structure reviews; increasing local benefits from tourism; raising standards of roads in parks and reserves; developing additional roads and airport infrastructure to improve access to underdeveloped wildlife tourism areas; licensing and regulation to control insensitive or inappropriate development; and foreign exchange retention in the country. Much of the implementation has been done by KWS.

Income from tourism and related economic activities is currently a major source of revenue for the central government. Tourism development has important implications on sustainable development. With the creation of the KWS in 1989 with mandate of planning, development and management of protected areas, the ministry's role in wildlife management has remained supervisory.

.c.4. DONOR ACTIVITIES

.c.2.4.1 Integrated resource management

Natural resource management questions cut across sectors and donor support has had to take this into account. A good example is biodiversity which covers the entire spectrum of life and includes genes, species, biomes and ecosystems. The area of biodiversity taken as a whole receives considerable support from international and local donors. According to a study carried out by ACTS for the World Conservation Monitoring Centre (WCMC), 21 institutions working on biodiversity in Kenya receive mean annual support of US\$111.3 million of which 91% comes from external sources. More than half of the support (61%) comes from multilateral donors. The bulk of the funding (US\$106.9 million or 96%) went to governmental agencies. The study also showed that the funding was shifting from grants towards loans.

To ensure sustainable management and long term conservation of biodiversity, it is imperative to have appropriate funding for the various facets of biodiversity conservation. UNDP with funds from the Global Environment Facility (GEF), has

taken the lead in supporting biodiversity conservation. Its project on Institutional Support for the Protection of East African Biodiversity, which cost US\$1.5 million aimed to strengthen the institutions concerned with conservation and management of biodiversity in East Africa through provision of training and infrastructure.

UNDP/GEF have also supported the protection of biodiversity through demonstration centers, training of environment club leaders in five schools in collection, propagation, planting and management of indigenous trees and support of school gardens. This project had a funding level of US\$14,600. Another UNDP project aimed to conserve indigenous food plants through articulation of their superior nutritional value and feasibility in product development. This project was executed by KENGO and is valued at US\$23,888 and was implemented via the Kupima Women Group between 1993–94. KENGO was also involved in organizing an important workshop in 1994 to promote awareness on environmental problems among the NGO community.

Community reforestation activities in mangrove and immediate hinterland have also benefited from UNDP support. The Coast Conservation and Education Awareness Project undertaken by the Society for the Protection of the Environment in Kenya (SPEK) aims also to promote interpersonal communication amongst the Coast people in dealing with NRM at the grassroot level. The level of funding for this project US\$28,083 and is being implemented between 1993–95.

A project at the Lake Kanyaboli, executed by the Friends of Conservation, supported also by the UNDP, aimed to conserve biodiversity around Lake Victoria, and develop strategies for environmental education at the community level. The project was funded to a level of US\$32,284 and was designed to end in 1994.

The Swedish International Development Authority (SIDA) and the German Agency for Technical Cooperation (GTZ) collaborated in supporting the Gene Bank of Kenya through KARI. The aim of this project was to assist in germplasm collection, multiplication, regeneration, characterization and utilization in crop improvement programmes. The total funding level for this project was US\$623,332, with the Government of Kenya contributing US\$8,000. The project was implemented between 1991 and 1994.

The EEC supported the National Museums of Kenya (NMK) through its Institute for Primate Research to strengthen biodiversity conservation. The funding was to a level of US\$2.8 million. This project was implemented between 1991–93. The ODA has supported a Plant Conservation and Propagation Unit at the NMK. The aim of this US\$833,929 project is the establishment of a unit to promote, co-ordinate and where appropriate undertake the conservation and propagation of wild plant species. It also aims to collaborate with other plant resource organizations. The project is still being implemented.

One of the most comprehensive efforts to build capacity in environmental management is the Dutch-funded initiative at the School of Environmental Studies (SES) at Moi University. The training programme is implemented in conjunction with the University of Amsterdam and trains people at the post-graduate level (covering PhD and MPhil training). The Dutch contribution to the programme was US\$1.9 million over the 1991–94 and US\$ 2.3 million over the 1994–98 period.

The area of environmental policy research is starting to attract donor support. USAID, through WWF (USA) is supporting research at ACTS to develop the concept of environmental governance. The project is linked to a policy-related research effort supported by the Ford Foundation which is applying the concepts to community-based water resource management. The Netherlands Government is supporting a project at KENGO to review Kenya's environmental legislation. Another related policy research effort is the Policy Analysis Matrix (PAM) group at Egerton University which is focusing on agricultural policy. Although PAM does not deal specifically with environmental issues, its work is relevance to NRM.

.c2.4.2 Sectoral resource management activities

The most significant sectors include water, agriculture, wildlife, forestry and marine. Efforts and performance within these sectors has been somewhat skewed, with some experiencing disproportionate donor support. One reason for this is the perception of some sectors as being strategic in overall economic development than others. What follows is a brief analysis of donor NRM activities focusing on specific sectors. Both bilateral and multilateral donors are considered.

.c3.4.2.1 Agriculture

The agricultural sector is one of the most extensively supported fields in Kenya with most of the donors providing support for various activities which include NRM elements. One of the most extensive support for NRM activities in agriculture has been SIDA which has supported soil and water conservation activities in Machakos and other parts of Kenya for over two decades. The Dutch have also supported land reclamation activities (under the Baringo Fuel and Fodder Project) for over a decade. Denmark has also been active in supporting agricultural and livestock activities in Kitui and other parts of Kenya.

FAO's country programme for Kenya under its guiding principle of sustainable development has outlined some of the projects the organization has supported. This support has been technical and direct funding. Some of these projects include: National Irrigation Board (NIB), Lower Tana Basin (LTB), Yala Swamp Reclamation Project, Bunyala Pilot Irrigation Project, Ahero Irrigation Scheme, Small Scale

Irrigation in arid and semi-arid areas and a programme on soil and water conservation in Embu.

JICA, SIDA, GTZ and the Food and Agriculture Organization (FAO) have supported programmes on agroforestry with support going to ministries and other departments charged with this responsibility. They have also been active in soil and water conservation, mainly to increase agricultural production.

.c3.4.2.2 Forestry

Donor support in forestry resource development has been extensive and mainly aimed at conservation. The widespread deforestation in Kenya poses great danger to forests which are being turned into farmland and grazing land, and also fuelwood. Fuelwood, for example, accounts for more than 70% of fuels used in the country and caters for 95% of the energy needs in the rural areas.

JICA has taken the lead here with programmes on conservation of forests and afforestation. In 1992, for example, the agency spent KSh2.8 billion in its country programmes in Kenya which forestry and agriculture ranking highest in its priority areas. The Finnish International Development Agency (FINNIDA) has also had a strong Forestry component in its programming with support in the preparation of the National Forestry Master Plan being the latest. It has also supported national programmes in forestry for the Forest Department with 10 such programmes earmarked for completion in 1995 with a total cost of US\$7 million, in such areas as palm forests, indigenous forests, institution building for management of forests and environmental forest management.

The ODA through Kenya Indigenous Forest Conservation Programme (KIFCON) and the Forest Department spent US\$8.5 million in 1991-94 to improve the conservation and management of Kenya's indigenous forests including an appraisal of resources uses. The project also aimed to determine the status of Kenya's Natural Forests estate to create a sound planning basis for sustainable use. On the multi-lateral level, UNDP has supported a Forest Management Project at Moi University (1993/94) at the cost of US\$91,000. Its aim was to strengthen awareness and capability within the Forest Sector by supporting Faculty development at the University.

The World Bank group has given support mainly through its International Development Association (IDA) loan facility to reforestation activities in the Country, some targeted at the fuelwood or community forestry problems and others for industry. The Bank has recently prepared an overall Forestry Policy for the Africa Region. Even more importantly for Kenya, the Bank has recently initiated an environmental and natural resource evaluation and activity programmes in the NEAP, which has a strong forestry component. The NEAP provides a framework for integrating environmental considerations into Economic and Social development. The

World Bank through another Forestry Project also assisted in the establishment of round wood plantations in the country to the tune of US\$40-50 million.

A careful assessment of the foregoing donor activities reveals that forestry development concentrated on plantation forests of mainly exotic species, and to a lesser extent on closed canopy indigenous forests, mainly in highland areas of the country. Little efforts were put in the conservation of savannah woodlands, mangrove, scrub and bushlands in the marginal areas of the arid and semi-arid lands.

.c3.4.2.3 Water

As a natural resource, water acts as a social and economic good. Kenya's development strategies on water have been guided by efforts towards an integrated and multisectoral water resources management. Donors have continued to support these efforts by engaging in various activities and projects. JICA is such a donor. Among other water-based projects it assisted greatly in the preparation of the National Water Master Action Plan (NWMAP) that was finalized in 1992. JICA provided both funding and technical assistance for this project.

FINNIDA has also been extensively involved in Rural Water Supply Programmes in Kenya. The most significant project here is the one in Western Province (KENFICO) which has run for nearly 15 years. FINNIDA is also assisting districts in Western Province to develop district-based Water Master Plans. The Swedish Government through SIDA has also incorporated activities on water resource management in its Kenya Country Programmes.

The Swedish government is considering launching a long-term programme in eastern Africa which will cover technical, social, economic and policy aspects of the water resources management. This programme is expected to build on their long experience in soil and water conservation in Eastern and Southern Africa which was coordinated through the Regional Soil and Water Conservation Unit (RSCU) which has been operating under the Swedish embassy in Nairobi and is now functioning as an autonomous agency.

The Ford Foundation is supporting a three-year policy research project at ACTS on environmental governance with particular emphasis on community-based water resource management. Other donors supporting activities in water resource management include SDC whose main work is in Laikipia area.

.c3.4.2.4 Wildlife

As indicated earlier, some sectors have received a disproportionate share of donor support. Wildlife is one such sector where donors (bilateral and multi-lateral) have

spent millions of dollars on a variety of activities within the sector. Perhaps wildlife conservation and management has had the most successful international appeal. UNDP has had programmes to assist KWS to modernize itself by setting up efficient data collecting, and monitoring capabilities at a cost of US\$700,000.

The World Bank group initiated programmes to strengthen the management of wildlife in Kenya and promote community wildlife. One such project aimed to design a rural services programme with regard to community wildlife at a cost of US\$20.9 million between 1991 and 1993. The Protected Areas Wildlife Service (PAWS) represents a high profile, multi-donor project spearheaded by the Bank. This project whose total value is US\$73.6 million is intended to halt the decline of Kenya's wildlife and its system of National Parks and reserves. By so doing, it intends to develop a sound foundation for an environmentally sustainable wildlife-based tourism. Another objective is to build the capacity of KWS to undertake scientific research. The project is a 10-year wildlife sector development programme and the start date was 1989. Other donors involved in this endeavor are FTC (German), the Netherlands Government, ODA, European Union, and USAID.

USAID has also had an extensive programme on wildlife development focusing on community wildlife, institutional development and support to field projects all intended to foster sound resource management policies and programmes. For instance, it is contributing US\$5.0 million to the Conservation of Biodiversity Resource Areas (COBRA) over a seven-year period. The project also aims to develop community wildlife programmes, institutional development for KWS and training and design of field projects leading to sound resource management policies and practices. USAID, together with a local NGO, Friends of Conservation (FOC) supported ecological monitoring and wildlife conservation in the Masai Mara region. The total funding for this project was US\$260,000.

Another Masai Mara Project by FOC aimed at involving local community in the conservation of wildlife and natural resources while preserving the community's lifestyles (The Maasai) cost US\$351,617 and was implemented between 1991-94. The EEC together with other donors supported the Mara Conservation Project through KWS, intended to improve infrastructure around Mara Reserve as well as encourage activities which improve the economic well-being of the Communities affected by wildlife. The total funding level for this project was US\$1.8 million.

The Japanese Government through the activities of JICA has supported many programmes in Kenya on wildlife conservation through dispatching of experts, accepting trainees and giving funding. It has given a grant aid to the tune of ¥722 million intended for wildlife conservation. JICA has also considered a proposal to support a wildlife research institute in Kenya but little is known about this effort. The field of wildlife research requires attention, especially in light of sporadic reports of wildlife diseases affecting elephants, lions and wild dogs.

The conservation of wetlands has been a matter of considerable controversy in Kenya, especially in light of government efforts to convert these areas into farmlands. The Netherlands Government is supporting efforts to formulate a national master plan on wetlands. On the whole, the area of wildlife conservation is the largest recipient of donor support for NRM. The support is both in the form of grants and loans. The shift towards loans suggests that there is increased activity in long-term investment in wildlife conservation. This trend is also associated with the rise in the private sector activities such as game ranching and ostrich farming.

.c.5. IMPLEMENTATION EFFECTIVENESS

.c2.5.1 Legal arrangements

The current legal arrangements are extensive in their coverage and can address most of the environmental concerns. In addition, they can also be amended to cover emerging issues. However, recent attempts to amend environment-related laws have had limited impacts because of the inter-relatedness of environmental problems. For example, amendments introduced in wildlife legislation in 1989 have resulted in increased concern over land use conflict in various parts of the country. Revisions in water legislation have also required revisions in a wide range of other pieces of legislation. In addition, certain laws needed to protect wildlife and other natural resources cannot be introduced unless there are corresponding revisions in the Constitution of Kenya.

These challenges are worsened by problems related to the limited enforcement capabilities in the countries. These limitations are a result of weak institutional arrangements, outmoded laws, low levels of penalty for environmental offenses and limited environmental awareness in the legal community. In many cases, the laws do not reflect the magnitude of environmental damage related to certain activities.

The fragmented nature of the laws and the lack of apex institutions as well as a framework legislation often makes it difficult for one to establish the government agency responsible for certain action. Land-based marine pollution, for example, cannot be easily linked to agricultural practices although the problems cannot be solved without improving land use management.

Piecemeal review of the legislation will not be sufficient. What is required is a major overhaul starting with constitutional amendments, enactment of framework legislation and harmonization of sectoral laws and regulations. Such revisions will also need to take into account the need to use economic instruments and conflict resolution methods. They will need to give legal standing to instruments such as environmental impact assessments (EIA) and environmental monitoring. Principles such as the right-to-know and the right-to-know-more will need to provide a democratic basis for the law and should be accompanied by institutions such as the ombudsman.

.c2.5.2 Institutional arrangements

The existing institutional arrangements for NRM need to be reviewed and reformed. There are clear areas that require immediate action. These include the formation of an apex environmental institutions as proposed in the NEAP. In addition selected institutions dealing with planning, research and monitoring need to be strengthened or established. Also of particular importance is the establishment of a national environmental information system. There is a need to rationalize some of the existing institutions so as to reduce conflict and enhance effectiveness. The PPCSCA, for example, has well-defined responsibilities but lacks the necessary financial resources. NES, on the other hand, lacks the legislative mandate to carry out its duties. Because of the complexity of environmental issues, it is important that some of the key institutions created to deal with environmental affairs (such as the apex regulatory agency, an environmental Ombudsman and an environmental tribunal) are created as constitutional offices.

So far, institutional arrangements for environmental management are not being considered in the context of the overall situation regarding advisory and regulatory agencies in the country. The National Council for Science and Technology (NCST) has a number of environmental functions but it is also located in a functional ministry. Another institution of relevance is the National Population Council which is under the Office of the Vice President. It may be necessary to consider the formation of a Presidential Commission on Sustainable Development which would incorporate the various advisory and regulatory agencies that deal with sustainable development. Issues related to human development (population, food production, education and health); environmental management; science and technology; and industry and international trade could be constituent parts of such a commission.

.c2.5.3 Planning capabilities and human resources

The NRM planning and implementation capabilities of most of the institutions in Kenya is weak because of the nascent state of the organizations and lack of legal support for NRM activities. The few institutions that exist in the country that provide training in NRM are focusing on building capacity for academic and training purposes and only a few are dealing with management issues. At the national level, the current reductions in public spending has affected the functioning of a number of NRM institutions. In addition, the recent freezing of donor support for Kenya has also created considerable decline in the functioning of many of these institutions.

.c2.5.4 Budgetary factors

The issue of financial resources for NRM has been discussed extensively, especially in the context of magnitudes of support. However, in some cases, the nature of

funding may be more critical than the levels of support. The issue of funding is closely related to the long-term institutional development associated with the activities being funded. The institutions that have long-term support have been able to maintain a certain level of stability which allows continuity in activities. Moreover, such stability allows for long-term planning which assists to attracting additional funding.

It should be noted that the government has become increasingly resistant to seemingly donor-driven reform initiatives. This problem is compounded by the cumbersome donor requirements and delays in disbursing funds. Because of the secretive nature of policy-making, independent institutions are often not given enough time to prepare inputs into the process. Often the opportunities available to these institutions last no more than three months. The general lack of flexible funding in these institutions makes it difficult for them to respond in timely manner. A change in donor funding, especially through the use of non-project or institutional support may strengthen the ability of independent institutions to provide inputs into the policy-making process.

.c.6. PROGRAMMING OPTIONS FOR USAID

.c2.6.1 Assisting the constitutional change process

The current Constitution of Kenya was drafted at a time when environmental issues were of little concern. Over the years, it has become obvious that the Constitution needs to reflect the need for sustainable development in general and NRM in particular. The government, in recognizing the limitation of existing land laws, has promised that a task force will be set up to review their provisions and make suggestions for amendment. Some of the recommendations refer to the need to introduce specific amendments in the Constitution that would create a balance between land use and NRM. There is a need to support research activities aimed at clarifying the issues and identifying options for reform in the Constitution. This is a matter of urgency given the current debate on the Constitution in general and on land issues in particular. Such support may also be linked into activities aimed at improving the scheme of governance in Kenya.

This is important because some of the emerging issues such as community-based conservation of natural resources may need to be reflected in the Constitution. It is our view that the field of NRM offers a substantive entry point into broader issues of governance. It should be noted that the most important political issue in Kenya is land and many of the political debates in the country have been footnotes on the land question.

.c2.6.2 Contributing to legal and institutional reform

One of the key challenges facing Kenya is the formulation of a national environmental policy and the related institutional arrangements. These reforms, however, will need to be supported by NRM-sensitive provisions in the Constitution of Kenya. Introducing such amendments will require research, advocacy and government support. So far there is little research underway on this issue. It is only now that the government is starting to acknowledge the link between constitutional provisions and NRM.

The formulation of a national policy will not be sufficient unless it is accompanied by the creation of relevant institutional arrangements as well as the strengthening of existing ones. The options put forward in the NEAP warrant careful consideration. The creation of an apex environmental institution will require considerable support, especially in the field of capacity building for policy formulation, programming, regulation, and coordination. In addition, it will also require that other institutions working on natural resources issues operate as part of holistic network of activities rather than isolated entities. This will place high organizational demands on the apex institution.

Another area that might deserve support is the establishment of a Land Use Commission as promised in the current Development Plan. The commission, if established, could provide an acceptable mechanism through which to highlight the various constitutional and legal issues affecting NRM. It is also expected that the government will set up a task force under the Law Reform Commission to review the laws relating to land use. Support for this effort will also contribute to the overall efforts to improve constitutional and legal basis for environmental management.

.c2.6.3 Creating a national environmental management system

One of the main problems associated with the current environmental management scheme for Kenya is that most institutions as well as donors operate in isolation. There is considerable rivalry and competition between institutions which is fuelled by the "individualistic" nature of donor funding. One of the ways of improving the situation and creating synergy among the institutions is to work towards the creation of a national environmental management system which would include the key stakeholders in Kenya.

The system would be kept together by specific project activities which are implemented by a number of institutions in an integrated manner. The responsibility for establishing such a system and coordinating its activities would lie with national institutions. One of the ways to do this is to build the system around some of the existing projects such as COBRA whose implementation requires the cooperation of a wide range of institutions.

The system would also be linked to the apex environmental management institution. Its operations would be guided by a Consultative Group on Natural Resource Management (or a Consultative Group on Environment and Development) which would operate as an independent body. The initial membership of the system would include the key institutions in agriculture, water, forestry, wildlife and marine resources. The group would agree on specific programme areas as well as strategies for implementing the programmes. Other specific needs such as capacity building and training would be considered in the context of particular programmatic needs.

It is also through this group that mechanisms for donor cooperation would be formulated. It may be easier to coordinate donor activities through mechanisms created by a coalition of recipients than through donor-led initiatives. Even if the group did not have programming responsibilities, it may be necessary to give it a more limited mandate which involves information exchange. At the moment, there are no effective mechanisms for consolidating and exchanging the available information and as result there is considerable duplication of effort and repetition of studies.

.c2.6.4 Strengthening policy research and advocacy

The field of policy research and advocacy is critical to policy implementation for two reasons. First, independent policy research activities would help generate a range of ideas and options for action that can be considered for implementation. Second, policy advocacy is important in promoting certain policy options and keeping the issues in the public limelight. So far there is little environmental policy research underway in Kenya and advocacy activities are limited to a few non-governmental organizations (mainly in the wildlife sector). Policy research is often required when there is a crisis and is often done as contract research or consultancy. A way of supporting policy research and advocacy activities would be to associate the related institutions with the proposed national systems of environmental management as well as the consultative group.

One of the key issues that needs to be considered is the manner in which the support is provided. Project-based support is not suitable for policy research and alternative approaches need to be considered. The long delays in preparing project proposals and government suspicion over donor-funded initiatives makes it difficult for independent institutions to contribute in a timely and effective manner to policy reform. Creative ways of providing support for such efforts need to be identified and implemented.

.c2.6.5 Supporting innovative pilot projects and inspirational activities

There is considerable scope in the field of NRM to formulate innovative pilot project as well as inspirational activities which can lead to new activities. In the design of

new pilot projects, it is important to consider two approaches. The first one is to build on existing projects such as COBRA and extend its operations to other sectors such as forestry, agriculture, water or marine resources. The second is to initiate new activities. The advantage on building on existing activities lies in the importance of capitalizing on the social learning that is already occurring under existing projects. It may be possible to design a COBRA-like project around the issue of watershed management in a place like Chyulu Hills in Kitui District which has been recognized by the government as presenting critical land use conflict issues.

The field of inspirational activities has received little attention among donors in Kenya. These are activities that aim at creating awareness and generating ideas for projects. One area that could be considered for support is the production of an annual "Status Assessment on Natural Resources in Kenya" along the lines of the World Resources Report produced by the World Resources Institute (WRI). The value in producing such a report is that it highlights emerging or persistent issues and provides the basis for generating new programmes and implementation strategies. An Environmental Profile for Kenya produced in 1989 by the Government of Denmark was used extensively as a source of ideas for projects.

The government has recognized the value of this kind of report and has promised in the 1994–96 Development Plan that the "Office of the Vice-President and Ministry of Planning and National Development and the Ministry of Environment and Natural Resources will take the lead in organizing and facilitating the acquisition, processing and publication of reports on the state-of-the-environment and trends in Kenya to ensure that policy and decision-makers have the necessary and current information for assessing the likely consequences of development activities on the environment and natural resource base on which future development depends." While it is important to support the efforts of the government in producing such reports, activities by independent institutions also deserve consideration. Environmental report by citizen groups in India and Sri Lanka have played important roles raising environmental awareness and contributing to policy reform.

.c2.6.6 Creating markets for environmental goods and services

One of the impacts of the low levels of environmental regulation and enforcement has been the suppression of the growth of the market for environmental goods and services (EGS). A strong regulatory and enforcement environment requires a wide range of environmental monitoring technologies and services. In the absence of such an environment, much of the technical infrastructure and expertise in Kenya will remain underutilized and there will be little demand for expanding capacity in other areas.

For example, more effective enforcement of pollution-related regulations would create demand for technical expertise in industry as well as in government. The extension

of environmental rights to the public will further generate demand for scientific and technical information. Reducing the monopoly of the state in environmental matters will entail the legitimization of technical information generated by the private sector and will thus create a market for EGS.

.c2.6.7 Forging institutional partnerships

Experience has shown that institutional cooperation is often driven by the formulation of an integrated programme which requires cooperation between different institutions. Such cooperation must be guided by a coordinating mechanism. The concept of a Consultative Group on NRM would provide a basis for cooperation. What is needed is support to start the process of institutional cooperation among recipients as well as donors. It is important that this cooperation is recipient-driven and be designed by the recipients. It must be seen to be an open process and not influenced by the needs of specific institutions.

There is a certain degree of specialized experience among donors which can be brought in to a collaborative effort on NRM. USAID, ODA and DANIDA have been active in supporting agricultural production. Much of the experience on soil-related issues has been accumulated by SIDA. JICA and FINNIDA have been supporting forestry activities while FINNIDA, JICA and the Swiss Development Cooperation have invested in water resource development. The World Bank, AID, ODA and EU have been supporting wildlife conservation. The Netherlands Government and the Ford Foundation are supporting environmental policy research and training. The donors, together with their respective recipients, can form a strong basis for institutional partnerships.

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.c. Annex 1

Statutes Relevant to Natural Resources Management

Agricultural Produce (Export) Act, 1979
Agricultural Produce Marketing Act, 1983
Agriculture Act, 1989
Animal Diseases Act, 1989
Antiques and Monuments Act, 1984
Canning Crops Act, 1980
Cattle Cleansing Act, 1972
Chattels Transfer Act, 1981
Chiefs' Authority Act, 1988
Civil Procedure Code, 1985
Co-operative Societies Act, 1972
Coast Development Authority Act, 1990
Coconut Industry Act, 1983
Coconut Preservation Act, 1983
Coffee Act, 1979
Constitution of Kenya, 1992
Cotton Act, 1990
Crop Production and Livestock Act, 1977
Dairy Industry Act, 1984
Dangerous Drugs Act, 1983
Electric Power Act, 1986
Equitable Mortgages Act, 1982
Ewaso North River Basin Development Authority Act, 1989
Ewaso South River Basin Development Authority, 1989
Export Processing Zones Act, 1991
Factories (Amendment) Act, 1990
Fertilizers and Animal Foodstuffs Act, 1977

Fisheries Act, 1991
Food Drugs and Chemical Substances Act, 1980
Forests Act, 1992
Geothermal Resources Act, 1982
Government Fisheries Protection Act, 1977
Government Lands Act, 1984
Grass Fires Act, 1972
Hides and Skins Trading Act, 1988
Housing Act, 1990
Industrial Property Act, 1989
Irrigation Act, 1986
Kenya Meat Commission Act, 1990
Kenya Tourist Development Corporation, 1988
Kerio Valley Development Authority Act, 1991
Lake Basin Development Authority Act, 1991
Lakes and Rivers Act, 1983
Land (Group Representation) Act, 1970
Land Acquisition, 1983
Land Adjudication Act, 1977
Land Consolidation Act, 1977
Land Control Act, 1989
Land Disputes Tribunal Act, 1990
Land Planning Act, 1968
Land Titles Act, 1982
Local Authority Government Act, 1986
Malaria Prevention Act, 1983
Maritime Zone Act, 1991
Meat Control Act, 1977
Merchant Shipping Act, 1983
Mining Act, 1987

National Museums Act, 1984
Non-Governmental Organizations Coordination Act, 1990
Penal Code, 1985
Pests Control Products Act, 1985
Petroleum (Exploration and Production) Act, 1984
Pig Industry Act, 1991
Plant Protection Act, 1979
Prevention of Cruelty to Animals Act, 1983
Protected Areas, 1980
Public Health Act, 1986
Public Roads and Roads of Access Act, 1972
Public Trustee, 1982
Pyrethrum Act, 1991
Rabies Act, 1967
Radiation Protection Act, 1985
Registered Land Act, 1989
Registration of Titles, 1982
Science and Technology, 1980
Seeds and Plant Varieties Act, 1991
Sisal Industry Act, 1991
Standards Act, 1981
Suppression of Noxious Weeds Act, 1983
Tana and Athi Rivers Development Authority Act, 1991
Tea Act, 1991
Timber Act, 1972
Town Planning Act, 1948
Traffic Act, 1988
Trust Land Act, 1970
Use of Poisonous Substances Act, 1983
Valuation for Rating Act, 1984

Water Act, 1972

Wildlife (Conservation and Management) Act, 1976

Annex 2

Kenya's Participation in Environmental Treaties

- 1946 International Convention for the Regulation of Whaling
- 1951 International Plant Protection Convention
- 1954 International Convention for the Prevention of Pollution of the Sea by Oil
- 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas
- 1958 Convention on the Continental Shelf
- 1958 Convention on the High Seas
- 1958 Convention on the Territorial Sea and the Contiguous Zone
- 1962 Convention on the African Migratory Locust
- 1963 Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water
- 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space including the Moon and other Celestial Bodies
- 1968 African Convention on the Conservation of Nature and Natural Resources
- 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat
- 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage
- 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter
- 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons, and on Their Destruction
- 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- 1982 United Nations Convention on the Law of the Sea
- 1985 Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region

- 1985 Protocol Concerning Co-operation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region
- 1985 Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern Africa Region
- 1985 Vienna Convention for the Protection of the Ozone Layer
- 1987 Montreal Protocol on Substances that Deplete the Ozone Layer
- 1991 Treaty Establishing the African Economic Community
- 1992 Convention on Biological Diversity
- 1992 United Nations Framework Convention on Climate Change
- 1994 Agreement on the Preparation of a Tripartite Environmental Management Programme for Lake Victoria