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**ENVIRONMENTAL
MANAGEMENT IN KENYA'S
ARID AND SEMI-ARID
LANDS: AN OVERVIEW**

by

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1. INTRODUCTION

"The multiple environment and development challenges now facing Kenya are complex but interlinked, so that they can only be resolved through concerted efforts of all Kenyans, the institutions of Government, Non-governmental organisations and local communities and groups, with the support of international community at large" (ROK 1994: 169).

Ensuring that Kenya's arid and semi-arid lands (ASAL) are 'sustainably developed' is a task that has enormous local, national and international significance. At the local level, up to six million of Kenya's people (and particularly its poorer people) are dependent on natural resource exploitation in the ASAL. This means that ASAL areas are nationally important in terms of supporting rural livelihoods. They are also important for Kenya's tourist industry (the country's biggest foreign exchange earner) which is heavily dependent on the pulling power of ASAL wildlife. Internationally these concentrations of wildlife, and particularly the big mammal populations, are seen as elements of a natural heritage that must be conserved for intrinsic reasons and for the enjoyment of future generations. With an economy so greatly dependent on an already highly exploited natural resource base, economic and social development in Kenya is inextricably linked to issues of environmental protection.

This working paper provides a brief overview of the ASAL areas, describes the policies and institutions that guide development in them and explores a number of key issues that provide a background for the case study of Kimana Group Ranch (see Working Paper 4). It details the fragmented set of policies that are meant to guide environmental management in the ASAL and the complexity, and often ineffectiveness, of many institutions involved in environmental planning and monitoring. In the Seventh National Development Plan the Kenyan government has committed itself to Agenda 21 and to a more holistic approach to environmental policy (see the opening quote). However, integrating the activities and aspirations of the different institutions, organisations and actors involved in environmental management is likely to prove difficult especially if, as many believe, the government's commitment to sustainable resource use is largely rhetorical.

2. KENYA'S ARID AND SEMI-ARID LANDS

2.1 THE PHYSICAL AND SOCIAL ENVIRONMENT

While definitions vary, ASAL areas are generally regarded as having a ratio of rainfall to open pan evaporation of less than 50 percent. Under this definition twenty two districts lie at least partially within the ASAL (Table 1).

Table 1 a) Area of Kenya, and b) Proportion of Districts Classified as ASAL

a)	Agro Ecological Zone	% r/EO	Area (km ²)	% of Country
	IV (semi humid)	40 - 50	27,000	5
	V (semi-arid)	25 - 40	87,000	15
	VI (arid)	15 - 25	127,000	22
	VII (very arid)	<15	226,000	46

b)	Percent of District in ASAL Category	Districts	Percent of Total ASAL Area in Kenya
	100	Isiolo, Marsabit, Garissa, Mandera, Wajir, Turkana	62
	85 - 100	Kitui, Tana-River, Taita Taveta, Kajiado, Samburu	25
	50 - 85	Embu, Meru, Machakos, Laikipia, West Pokot, Kilifi, Kwale, Baringo	10
	30	Lamu, Narok, Elgeyo Marakwet	3

Source: Darkoh (1990)

The climate of ASAL areas is characterised by a bimodal rainfall regime associated with the migration of the Inter Tropical Convergence Zone (ITCZ). Periods of maximum rainfall occur between March and May, and between October and December. However rainfall is unpredictable and there is a cyclical occurrence of prolonged drought or excessive rainfall (Otichilo *et al* 1991). The main climatic anomalies recorded in Kenya this century are summarised below (Table 2). The agricultural potential of much of the ASAL is therefore constrained by the seasonality and unpredictability of rainfall. It should also be noted that in many areas agriculture is further hampered by the characteristics of ASAL soils, both in terms of their intrinsic infertility and their capacity to retain water.

Table 2 (A) Years of Severe Drought; and (B) Excessive Rainfall in Kenya, 1900 - 1990

	1911	1913	1917	1921	1923	1925	1929	1933	1937	1939	1942	1950	1953	1961	1968	1969	1972	1976	1980	1984
A	●		●	●		●	●	●		●			●			●	●	●	●	●
B		●			●				●		●	●		●	●					

Historically, a livestock based economy has dominated much of Kenya's ASAL and supported a large and diverse pastoral population (Table 3). While the pastoral population has risen rapidly over the past three decades, only slightly below the national average of 3.8 percent, cattle numbers during this time have fluctuated. Disease and drought have checked any long term increase in numbers and the present cattle population is close to the 1969 level of 2.8 million. Per capita livestock holdings have thus decreased, and many groups (the Turkana, Samburu, Somali and Pokot pastoralists in particular) are no longer able to maintain a purely livestock-based economy (Rutten 1992).

Table 3 Population Trends of the Nine Major Pastoral Groups in Kenya

Ethnic Group	Inhabited Districts	POPULATION (x1000)			
		1962	1969	1979	1989**
Somali	Garissa/ Mandera/ Wajir	249.5	315.5	383.0	
Maasai	Kajiado/ Narok	154.0	155.0	241.5*	
Pokot	West Pokot/ Baringo	76.5	93.5	170.0	
Turkana	Turkana	181.5	203.0	207.0	
Borana	Marsabit/ Isiolo	58.5	34.0	69.0	
Samburu	Samburu	49.0	55.0	73.5	
Orma	Tana River	11.5	16.5	32.0	
Gabbara	Marsabit	11.5	16.0	30.5	
Rendille	Marsabit	13.5	18.5	22.0	
TOTAL		705.5	907.0	1 228.5	

*Including 30,000 Ndorobo hunter-gatherers who registered as Maasai in 1979

** Awaiting publication of data

Source: Rutten (1992), ROK (1989)

Areas of relatively productive land in the ASAL have increasingly attracted settlement as diversification from pure pastoralism has occurred. Cultivation around the relatively humid margins of rangelands and around the sparse 'wetland in dryland' environments bordering rivers and swamps has grown rapidly. The expansion of cultivation has been

further accelerated by the immigration of agriculturalists from more humid areas of the country. As a result many traditional pastoral areas are today inhabited by highly heterogeneous populations. For example the proportion of Maasai inhabiting Kajiado District decreased from 91 percent to 57 percent between 1948 and 1989. As ASAL areas have become a focus for cultivation and subject to agricultural practices more suited to Kenya's humid highlands and coastal areas, so the fragile ASAL environment has become subject to increasing pressure and mounting concerns over environmental degradation. To understand fully the social and environmental problems currently being experienced in Kenya's ASAL, it is necessary to first reflect on a number of interventions undertaken by pre- and post-independence governments. As Deacon and Darkoh (1987: 34) note, "*colonial policies and independence initiatives (or lack thereof) have adversely affected Kenya, resulting in an impoverished population and environmental degradation.*"

2.2 ASAL MANAGEMENT IN HISTORICAL PERSPECTIVE

In the pre-colonial era, Kenya's pastoralists maintained close social and economic relationships with neighbouring agricultural communities. Cultivation was restricted almost entirely to the more humid upland margins of the ASAL, while the rangelands supported nomadic and semi-nomadic pastoral populations and large wildlife populations. Since the British colonised Kenya in 1895 policy for the development of the ASAL has been to expand agriculture, resulting in the social and economic marginalisation of pastoral groups. The alienation of land by the colonial government (especially between 1900 and 1915) and post independence land use policies have undermined traditional pastoral land use practices and brought agriculturalists, wildlife and pastoralists into conflict. The results of such policies have often been the exact opposite of the objectives they claimed to pursue. As Darkoh argues, "*Because of this intervention, traditional responses to hazards in these areas have weakened. The results have been endemic poverty, famine, severe soil loss and rapid loss of productivity. When drought comes ... the hazardousness of the environment and the processes of land degradation or desertification in these marginal lands are accelerated*" (1990: 14).

The expense of the railway linking Mombasa and Lake Victoria (constructed to secure passage to Uganda) and the cost of the colonial administration necessitated the establishment of taxable economic enterprises (Kituyi 1990). The more productive areas of central and western Kenya were annexed for ranchers and farmers from the United Kingdom and South Africa. In stark contrast, little attention was paid to African cultivators and pastoralists (Bernard 1985). Colonial policy on the ASAL revealed the mismatch between the indigenous pastoral groups' notions of resource management - shaped by experience and familiarity with the constraints of their environment - and the profit oriented and ill-informed technocratic approach adopted by the government. "*The colonial administration in Kenya Maasailand provides a good example of the way in which attitudes and perceptions affected decisions concerning the environment*" (Lado 1993: 160). The Orders-of-Council (1901) and Crown Land Ordinance (1902) placed control over land in the hands of the British Government, paving the way for wide scale alienation of productive land for the settlement of European immigrants. During the '*Maasai Moves*' of 1904 and 1911 an

estimated 10 000 Maasai pastoralists, 200 000 head of cattle and 500 000 small stock were moved from their homelands and confined to the Southern Maasai Reserve, inaugurating a process of environmental degradation in the areas into which the Maasai were restricted (Deacon and Darkoh 1987).

Pastoralists, and particularly the Maasai, suffered from two particular aspects of colonial policy. In addition to the loss of some of their most important lands, the colonial administration regarded them as savages needing to be civilised. The extracts below illustrate the perceptions of Sir Charles Eliot, Kenya's second Governor:

"The only hope for the Masai is that under intelligent guidance, they may gradually settle down and adopt a certain measure of civilization. Any plan of leaving them to themselves with their old military and social organisation untouched seems to me fraught with grave danger for the prosperity of the tribe as well as for the public peace" (Eliot 1905).

"I cannot admit that wandering tribes have a right to keep other and superior races out of large tracts merely because they have acquired the habit of straggling over far more land than they can utilize" (Eliot quoted in KLC 1933: 187).

The partitioning of Maasai territory for the benefit of European ranchers had a profound impact upon both the Maasai and the environment into which they were confined. During the past century the Maasai and their cattle have been restricted to increasingly small areas of increasingly over-exploited land, resulting in intense competition and often conflict, between Maasai and wildlife (and more recently those associated with the related tourism industry). The loss of access to water was to have, perhaps, the most detrimental consequence. In Kajiado District (which, together with Narok District, was to become the area in which Maasai were confined) the result was a concentration of grazing and erosion around isolated boreholes provided in order to alleviate the shortage created through excessive use of water courses which formerly drained into their territory. While most of the important water courses were removed from Maasai control, those remaining were often illegally utilised by European farmers (KLC 1934). Water supply thus became an issue of conflict between Maasai and European settlers (Lado 1993). Concerns about wildlife conservation also shaped land and natural resource policy during the colonial era. Initially, confinement of wildlife and pastoralists in the Southern Reserve exacerbated competition for grazing and water resources within the reserve. Subsequently, the creation of exclusive game conservation areas further denied the Maasai access to key resources.

After decades of neglect the 'African areas' became a focus for government attention after World War II. The first wide-scale government intervention into the ASAL came with the establishment of the African Land Development Board (ALDEV) in 1946. The principal initiatives undertaken by ALDEV focused on water development and rangeland conservation, in part through reducing herd sizes within controlled grazing schemes. Grazing block schemes were established in the Maasai areas of Ilkisongo (covering 1 300 000 acres), Ilmatapato (880 000 acres) and Iloodokilani (1 920 000 acres).

In the 1950s the 'Swynnerton Plan' provided a more comprehensive policy framework for the intensification of agriculture throughout Kenya. The Plan recognised that ASAL areas required special attention, although few of its recommended dryland projects were implemented. The perception, arising from ALDEV, that the ASAL could make a significant contribution to the national economy, led to further attempts to commercialise livestock production and limit stock numbers. Traditional extensive pastoralism remained, in the eyes of the colonial administration, intrinsically detrimental to the environment and a constraint upon social and economic development. ASAL development was seen to require the intensification of cattle production, through boreholes, cattle dips, veterinary interventions and research and extension on pasture usage, allied to rainfed and irrigated agriculture wherever that was feasible.

The onset of drought throughout Kenya in the 1960s, again brought ASAL areas to the focus of attention. The Kenya Livestock Development Project (KLDP), funded by the World Bank, USAID, IDA, SIDA, CIDA and ODA, was started in 1969 to establish group and private ranching schemes in ASAL districts. Group ranches were formed in Kajiado, Narok, Samburu, Kwale, Pokot, Laikipia and Baringo Districts with title deeds issued to groups ranging from 30 to 450 pastoral households (Rutten 1992). The objectives behind KLDP were geared towards the commercialisation of meat production and the creation of employment in the livestock sector. The sedentarisation of pastoralist groups facilitated the provision of state services, and allowed the state greater control over the communities. Strict grazing management regimes, backed up by improvements to infrastructure, were implemented to encourage commercialisation. However the project was at best only partially successful. Commercial and employment goals were not achieved and the land adjudication process allocated key areas to individuals, often on the basis of economic or political standing (Lado 1993). This undermined the principles of communal access and reciprocity that underpinned the resource management pastoralist systems.

Droughts during the early and mid-1970s spurred a further review of policy towards Kenya's ASAL resources. This was the era of integrated rural development planning and a number of experimental integrated development projects were established. In 1979 the Arid and Semi Arid Lands Programme was created, and foreign donors increasingly took out development 'franchises' in ASAL areas (Table 4). However, technical difficulties in raising productivity and a lack of political support have constrained the success of many ASAL Programmes (Adams 1990). A number of Programmes have, however, provided some semblance of integrated resource management in an otherwise highly fragmentary and uncoordinated institutional regime. On a more critical note, Darkoh (1990) suggests that many of the programmes have offered little more than 'quick fix solutions' to social and environmental problems rooted in the perception of pastoralism as 'archaic' and no longer viable under present day conditions.

Table 4 ASAL Integrated Development Programmes in Kenya 1989

DISTRICT	DONOR	YEAR STARTED	BUDGET 1988/89 (K£)*
Machakos	EEC	1978	348 700
Baringo	IDA	1979	27 160
Embu/Meru/Isiolo	UK	1980	34 460
Turkana	Norway	1980-91	1 065 450
Kitui	USA	1981-87	
	Denmark	1988	12 050
West Pokot	Netherlands	1982	157 020
Elgeyo Marakwet	Netherlands	1982	43 200
Kiambu	Netherlands	1983-88	**
Laikipia	Switzerland	1984	296 200
Kwale/Kilifi	IFAD	1984	72 900
Taita Taveta	Denmark	1985	144 000
Siaya	IFAD	1986	N/A
Bungoma	Norway	1987	N/A
Kajiado	Netherlands	1987	77 500

Source: Rutten (1992) *£1 = KSh 85 in 1995, K£1 = KSh20 **Dutch assistance in Kiambu stopped in 1988

With the encroachment of cultivation and the privatisation of land, the viability of traditional forms of pastoralism have been undermined, and the areas of relatively high productivity, which once underpinned pastoral systems, have become subject to ever increasing pressures. With Kenya's population set to double by the year 2010, and little prospect for rapid growth in the industrial and commercial sectors, economic policies in recent years have reiterated the need to fully exploit the country's natural resources. The exploitation of Kenya's '*wetland in dryland*' environments, such as seasonally flooded riverine environments or swamp margins, has become an element of national economic policy. In pursuit of economic objectives, the Government has focused upon intensifying ASAL production systems. The capacity of the ASAL to absorb and sustain these increasing demands is far from proven, however.

2.3 THE ENVIRONMENTAL IMPLICATIONS OF CONTEMPORARY LAND USE POLICY IN KENYA'S ASAL

At the same time as bemoaning dryland degradation by pastoralists the colonial and post colonial authorities have sought to increase the productivity of the ASAL, both through intensified livestock production and agriculture. With a rapidly increasing population coupled with a desire to sustain self-sufficiency in food production, growth in the agricultural sector is seen as imperative (ROK 1994). With only 8.6 million of Kenya's 44.6 million hectares regarded as having of medium or high potential for rain-fed agriculture, irrigated cultivation in the more arid areas is regarded as an important means of increasing production. At present only approximately 10 percent of the 540 000 ha regarded as potentially irrigable are actually under irrigation (ROK 1994). Under the current Development Plan (*Resource Mobilization for Sustainable*

Development') an additional 2 500 ha each year are to be brought under irrigation. Government policy is to favour small-holder 'group-based' irrigation projects by virtue of their low implementation and operation costs, and their relatively successful record when compared to centrally managed large scale irrigation schemes. Yet irrigable land in the ASAL, because of its proximity to water, is usually of considerable value to both wildlife and pastoral populations. The *wetland in dryland* environments of Kenya's ASAL are therefore increasingly becoming the locus of competition.

Due to a downturn in export commodity prices in recent years, the tourism industry has replaced agriculture as the country's largest earner of foreign exchange. The sector earned some K£ 4 747 million during the ten year period up to 1993 during which time the number of visitors to the country doubled (MTW 1994). Today wildlife tourism is the mainstay of the Kenyan economy. Thus ASAL resources, in particular the *wetland in dryland* oases which support migratory wildlife populations, have considerable economic value besides their intrinsic value to the ecology of such areas. Central government has placed great emphasis on the further development of the wildlife tourism industry as well as voicing its commitment to fostering biodiversity in accordance with the *Rio-oriented* 1994-96 National Development Plan.

The pursuit of policies to promote both agriculture and tourism has served to reinforce the marginalisation of the traditional users of ASAL resources that commenced during colonial rule. Rutten (1992) suggests that between the mid 1970s and 1990 it is likely that land available for pastoralism declined by approximately 3 percent (to 48.7 million hectares) as a result of increased cultivation and other land uses. This statistic disguises the fact that much of the land lost would have been that with higher agricultural potential, and thus also strategic sources of water and dry season grazing for pastoralists' livestock. The social and economic marginalisation of pastoral groups, and the encouragement of individual land tenure and cultivation in the ASAL areas, has intensified pressure on these fragile environments. According to one report, soil losses in ASAL Districts such as West Pokot, Kajiado, Taita Taveta, Kitui and Embu measure in excess of 32 tons per hectare each year (see Adams 1990), much as a result of the immigration of agriculturalist groups bringing unsuitable techniques for the environments in which they settle. Dunne (1977) reported that soil erosion rates had increased three- or four-fold in the previous 15 years, measuring soil losses of between 18 and 25 tons per hectare annually on gentle to medium slopes in Kenya's rangelands.

Pressures have also grown because of increased demands placed upon fuelwood supply. With African cultivators reportedly consuming ten times the quantity of fuelwood as compared to nomadic pastoralist (Lusigi and Glaser 1984) the environmental implications of sedentary agriculture extend beyond the farm boundaries. At the national level, forest cover is now rapidly diminishing. Gazetted forest is at present being lost at an average rate of 5000 ha per year and as land is brought under alternative uses, indigenous forest cover is also 'dwindling' (KIFCON 1994).

The trend towards sedentarisation of pastoral groups and the immigration of agriculturalists continues to exert intense pressures on productive pockets within the ASAL. In regard to Maasailand, Campbell (1986, 1993) has expressed grave concern that current trends may culminate in desertification in such areas where competition for resources is most intense. Within the areas of Kajiado District where group ranches

have been dissolved and replaced by individual tenure, the effects of inappropriate land use and the confinement of cattle to the remaining unfenced areas are already clearly visible. As Baker and Kinyanjui (1980: i) state however, "*to treat desertification per se is to miss the point and to avoid the real problem. Desertification is only one manifestation of the whole question of environmental mismanagement*". 'Resource mobilization' in pursuit of economic development is set to entail rapid exploitation of ASAL natural resources under the 1994-96 National Development Plan. While the inseparability of economic and ecological sustainability is recognised in the Plan, so too are the obstacles to their achievement. Consequently a great deal of importance is being accorded to reviewing the institutional and legal regimes under which natural resource development has occurred since colonial times. The degradation of land and water resources, and the social and economic repercussions, can be seen as manifestations of Kenya's highly fragmented institutional system for environmental management compounded by an out dated and ineffective legislative framework. Before assessing the plans to reform the institutional and legal setting within which environmental management occurs, the existing institutional system under which Kenya's, often ineffectual, environmental policy is implemented is first considered.

3. ENVIRONMENTAL POLICY IN KENYA

Little progress has been made in formulating policy, or developing the institutional capacity, to foster sustainability in the management of Kenya's natural resources. Baker and Kinyanjui (1980: 7) noted, "*there is nothing yet in existence which could be called a coherent policy on environmental management or, really, any sort of environmental policy at all*". Bragdon (1992) has recently re-iterated this observation. A growing awareness of the environmental fragility of areas absorbing the nations escalating population has provoked concern over the legal and institutional structures which regulate the use, and support the conservation, of natural resources. The most recent National Development Plan recognises the lack of co-ordination provided by the existing framework. For example in the Chyulu Hills, bordering Machakos and Kajiado Districts, there is a water reservoir administered by the National Water Conservation and Pipeline Corporation; a settlement scheme administered by the Ministry of Lands and Settlement; a water conservation scheme under the control of the Ministry of Land Reclamation, Regional and Water Development; wildlife conservation under the Kenya Wildlife Service and environmental protection administered by the Ministry of Environment and Natural Resources (ROK 1994). As a result of this complexity systematic resource planning and management is absent and the Maasai pastoralists, who traditionally use part of the area are unsure as to which authority they should address their problems and concerns.

The degradation of ASAL resources, most particularly surrounding the key wetland areas, has proceeded unchecked because of the absence of policy, law or institutional capacity to secure their protection. While a multitude of Acts exist pertaining to the use of land and water, they are embodied in sectoral legislation and thus reflect the aims of individual departments. Yet, as Bragdon (1992: 3) notes, "*legislative and institutional systems must be broadly based. Those which operate within narrowly defined sectors face serious limitations in dealing with the total environment.*" Many ASAL areas today bare the scars (directly or often indirectly) of uncoordinated cash crop-oriented development during colonial occupation. In the absence of comprehensive, holistic environmental policy or legislation, the continuing spread of cultivation continues to degrade the natural environment and undermine its capacity to support the remaining pastoral groups, their cattle or wildlife.

Responsibilities for environmental management fall under auspices of numerous institutions and ministries with specific mandates. The conflicting objectives inherent within such an institutional regime impede rather than encourage integrated environmental management. Recognition of these constraints on environmental conservation, and hence economic growth, has culminated in several national-level institutional initiatives being implemented by the Kenyan government. These have included a rhetorical commitment to decentralised, participatory rural development planning, and the creation of national level institutions designed to cut across narrow sectoral jurisdictions. As the following profile of major institutions reveals this has never been achieved and central rather than local authorities continue to dominate formal natural resource policy and management in Kenya.

The role, and demise, of local government in Kenya is reviewed by Oyugi (1983) and is not dwelt upon here in any great detail. The colonial government created separate local government institutions to cater for Africans and Europeans. The establishment of Local Native Councils (LNCs) in 1924 marked the beginning of modern local government, and the demise of the remaining vestiges of traditional forms of local governance based upon elders' councils (Oyugi 1983). Oyugi writes, "*In practice the LNCs emerged as the arenas where centrally determined policies and decisions were legitimized, before being pushed to the grassroots through the chiefs for implementation*" (: 115). The new ordinance of 1937, although confirming the District Commissioner (DC) as Chairman, did provide for limited democracy through the establishment of positions of elected councillors. The LNCs, however, had little autonomy and provided only a narrow range of services. The 1950 African District Councils Ordinance devolved a greater degree of autonomy to the local level, although the DC retained his position as council Chairman.

With independence the African District Councils and the European Councils were dissolved and the structure of local government in Kenya unified. Central government retained tight control over local authorities which had become "*simply appendages of the central government*" (Oyugi 1983: 123). In rural areas, County Councils today share the administrative areas delineated by district borders. Unlike the sectoral departments of central government which operate through the hierarchy of national, district and divisional operational units, County Councils (because they have negligible responsibilities) tend not to have organisational representation below the district (County) level. Until 1969 local authorities had responsibilities for primary education, health services and road maintenance. Since 1970 the burial of destitutes has been their only mandatory function, although permissive functions encompass sewage and drainage, markets, and social and welfare services. Thus the role of local authorities has been eroded, and as such this study of Kenya's institutional framework pays no further attention to formal Local Government *per se*, although informal local organisations, as detailed below, have assumed considerable importance since independence.

4. THE INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT: THE STATE

While numerous governmental bodies have some involvement in environmental issues, a limited number can be identified as the key actors in the development and implementation of policies which impinge upon the management of natural resources.

4.1 THE MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES

The Ministry of Environment and Natural Resources (MENR) is the principal agency assigned with responsibilities for formulating environmental policy in Kenya. The two main Departments in this respect are the National Environment Secretariat (NES) and the Forestry Department. The NES was created in 1974 by Presidential Decree in order to pursue cross-sectoral programmes and policies to promote environmental awareness and to co-ordinate environmental protection in Kenya. It was the first national environmental protection agency to be established in Africa (Hirji 1991). Despite the rhetoric of subsequent government policy statements, NES has never received legislative backing by the National Assembly, and thus has no legal authority to act upon, or implement, environmental controls. The authority of NES was further diminished in 1981 when it was transferred out of the Office of the President into MENR, thus becoming a, "*junior member of the vertically structured sectoral system*" (Baker and Kinyanjui 1980: 23).

Horizontal transfer of information between NES and other government agencies is constrained by the vertical structure of central government and by the failure of Ministers to serve as the apex for policy co-ordination. Being housed within MENR precludes NES from effectively liaising with other sectoral ministries. This problem is partially circumvented by the Inter-Ministerial Committee on the Environment (IMCE) which comprises representatives from 30 ministries/departments. A degree of co-ordination in the formulation of environmental strategies in response to specific issues is provided by the forum which IMCE represents, and through this channel NES has achieved partial success in curbing industrial pollution (Hirji 1991, Hirji and Ortolano 1991) through the legislative authority of sectoral ministries. NES has no district level representatives, a major limitation given the fact that development planning under the (*de jure*) decentralised rural development system is largely left to district administration.

The 1970s represented a period of growth for NES in terms of numbers of professional personnel employed and its standing and credibility. Following the UNEP-funded Project on Environment and Development in 1977, NES, with support from the U.S. Agency for International Development (USAID) compiled environmental profiles for each of Kenya's 41 Districts. This provided NES with a comprehensive environmental database for planners and policy makers. NES also assumed responsibility for assessing adverse environmental implications of development through environmental impact assessment (EIA). The establishment of a national EIA has, however, been hampered by inadequate resources, and a lack of support from Central Government. Furthermore, while Kenya's Environmental Management Policy (part of the 1979-1983

Development Plan) required all agencies to prepare EIAs for submission to NES on all major projects, the policy was generally ignored (Hirji and Ortolano 1991). In an attempt to promote itself as a central regulatory agency and incorporate EIA into national development planning, NES alienated itself from sectoral ministries which perceived it as a potential threat to their autonomy. Thus despite the rhetoric of successive National Development Plans which have recognised the need to consider environmental outcomes of development activities, each sectoral government agency remains responsible for its own environmental planning with little, if any, accountability.

The development of an effective environmental impact assessment is regarded as an important component in current thinking about the legal and institutional basis of environmental management in Kenya (MENR 1994, ROK 1994). This emphasis on strengthening the legal position of the implementing agency stems from the ineffectiveness of NES in the past to impose controls over water resource development. Hirji and Ortolano (1991) document unsuccessful attempts by NES to enforce procedural controls over EIAs undertaken by the Tana and Athi Rivers Development Authority (TARDA) between 1974 and 1988. The authors reveal that only where funding was dependent upon the completion of EIAs for foreign donors were such measures taken by the Authority.

One of the most alarming environmental issues in Kenya at present is deforestation. Forest cover is estimated to have decreased from about 20 percent of the total land area of Kenya to little more than 2 percent (KIFCON 1994). The Forest Department of MENR is responsible for the conservation and management of Gazetted forests in Kenya and, under the Rural Afforestation Extension Service (RAES), has broadened its scope to promote afforestation and reforestation outside Gazetted areas. The Forest Department also has responsibilities for monitoring vegetation cover in ASAL areas. Legislative authority is provided by the Forest Act of 1942. The Act, however, lacks any standards and refers only to procedures, prescribing punishment for non-compliance (Bragdon 1992). As such, the law provides little to measure the actions of the Department against, thus accountability is limited and the actions of the department are left very much to the discretion of field officers. With severe logistical problems, poor motivation and prescribed fines that have become ineffective deterrents because of inflation, the Forestry Department can achieve very little. With increasing pressure being exerted on Kenya's forest reserves, a significant proportion has been excised for agriculture and settlement in recent years. The Forestry Act provides for parts of gazetted Forest Areas to be protected as Nature Reserves in which any human activity is outlawed, but again the Minister has authority to withdraw the Nature Reserve status should he be so minded.

The Rural Afforestation Extension Service (RAES) established in 1971 (since reformed as the Forestry Extension Services Division) has sought to promote awareness of the value of trees both for energy and construction needs and also as a means of soil and water conservation. RAES has apparently achieved a degree of success, forest plantations under indigenous species, for example, rose by 90 percent during 1987 (Darkoh 1990). The establishment of Chief's nurseries has been an integral part of the rural afforestation programme over recent years. In 1980 The President ordered that all Chiefs establish Locational level nurseries, with technical

assistance to be provided by Forest Department staff. Results of this initiative have been 'particularly promising' (ibid.) although recent field reports suggest a growing reluctance on the part of Chiefs to become involved in the programme.

4.2 THE MINISTRY OF AGRICULTURE, LIVESTOCK DEVELOPMENT AND MARKETING

Despite the recent consolidation of the agricultural and livestock sectors into the Ministry of Agriculture, Livestock Development and Marketing (MALD&M) the orientation of policy towards agricultural expansion at the expense of competing sectors in Kenya's ASAL regions over recent years has continued. Agricultural legislation is founded in the Agricultural Act of 1981. The Act has three principal objectives; to promote and maintain stable agricultural practices; to provide for the conservation of the soil and its fertility and to stimulate the development of agricultural land. As a legacy of colonial attitudes towards 'indigenous' populations and their land use practices, the agricultural legislation is coercive. For example should the Minister consider an area to be under mismanagement, he may exclude the proprietor and assume management of the land himself. Similarly the Minister has authority to declare broad land preservation schemes where such intervention is deemed necessary (Bragdon 1992).

Despite the tone of agricultural legislation, notions of participation and co-operation (rather than coercion) typify the current approach towards agricultural extension. Soil and water conservation for example, under the jurisdiction of the Agricultural Engineering Division of MALD&M, is undertaken on a 'catchment approach' covering 660 socially (rather than physically) defined 'catchment areas'. As the Divisions Work Plan explains, "*The major thrust in implementation will depend on the involvement and participation of the various farming communities in preparation, planning and implementation and follow-up of all the catchment treatment plans through the catchment conservation committees*" (MALD&M 1993: i).

Under the District Focus for Rural Development strategy each line ministry is, *de jure*, represented through a hierarchy of administrative levels (National, District, Division, Location and Sub-Location) in rural areas. At the local level, agriculture is the most highly represented sector with frontline extension staff invariably posted to at least Location level. Bragdon notes, however, that there exists a tendency for farmers with larger or higher potential farms to receive preferential technical support from extension staff, with those in most need least likely to receive advice (Bragdon 1992). This contention has been supported by interviews conducted with farmers and government field staff during the course of fieldwork (Working Paper 4).

Despite its central role in natural resource management, there have been no recent MALD&M policy statements which address environmental issue *per se*. Agricultural policies are pursued to achieve the objective of maximising crop production. The present National Development Plan does recognise that, "*efforts must be made to contain....adverse environmental impacts*" (ROK 1994: 173) associated with the use of fertilisers and pesticides. Little attention though is paid to the broader implications of exploiting land and water upon which many of the ASAL's 6 million inhabitants and

their cattle depend. Similarly the necessity of addressing environmental considerations in order to protect Kenya's intrinsically and economically valuable wildlife populations is also given scant attention. Thus there exists a gulf between the rhetoric of sustainable agricultural development and commitments required to foster such a goal.

There are obvious contradictions within the overall remit of the Ministry. Wetland environments, for example, may support diverse floral and faunal communities by virtue of the wooded habitats on their periphery. Such habitats may be of both intrinsic ecological value, and may support the economies of pastoral and hunter/gatherer groups in addition to wildlife populations, particularly within Kenya's ASAL. A policy of maximising food production has placed great emphasis on developing such environments due to their high potential. The development of wetlands for agriculture usually entails significant tree felling. Thus despite the existence of agricultural legislation to prevent the cutting of trees, in practice economic and food supply imperatives dictate clearance. There is a fundamental contradiction between the short term perspective of agricultural policy and the long term objectives upon which environmental policies are built. The pledge of the current National Development Plan to develop and implement an environmental policy is most notable for its absence of influence in the agricultural sector.

4.3 THE KENYA WILDLIFE SERVICE AND MINISTRY OF TOURISM AND WILDLIFE

With the tourism sector emerging as the most important source of foreign exchange, institutions vested with responsibility for the management of Kenya's wildlife resources fill a prominent role in both the national economy and the framework of environmental management. Under the Wildlife (Conservation and Management) Act of 1976 the Minister for Tourism and Wildlife has the authority to declare any area of land a National Park, National Reserve or local sanctuary according to the scale and level of environmental protection sought. A 1989 amendment created the Kenya Wildlife Service (KWS) with a broad range of responsibilities encompassing policy formulation, the management of National Parks and Reserves, the provision of extension services and advice to local populations and authorities. KWS is, *de jure*, an independent parastatal body with a degree of financial and managerial autonomy outside the confines of the Ministry of Tourism and Wildlife. In reality, as indicated by the forced resignation of the Director of KWS in 1993, KWS's autonomy is proscribed.

Land use policies have long reflected the value of wildlife resources. For example, Sessional Paper No.3 of 1975 states that wildlife should be optimised and must yield returns at least equal to those provided by livestock which could utilise the same resources. However in the absence of an all-embracing land use policy, wildlife policy has done little to reconcile the conflicts arising from competition between wildlife and agriculturalists. At present the Kenyan Government legally owns all wildlife. While land owners are permitted to shoot animals damaging their crops, they may not use the carcass without permission from the Minister for Tourism and Wildlife. The amendment to the act in 1989 limited compensation to cases of injury or death, and no compensation has since been available for crop losses. Consequently the incidence of illegal wildlife shooting has increased as agriculturalists, pastoralists and wildlife have

become increasingly spatially integrated, particularly in the limited wetland areas of ASAL districts. In response to the increasing wildlife/human conflicts, KWS has implemented the pilot phase of an extension service (Community Wildlife Service) to, 'establish modalities for the partnership and management of wildlife by communities' (KWS 1994) Yet, from a legislative and institutional point of view, there is little capacity for integrated resource use policies which consider multiple demands and environmental limitations to be pursued in the vast and remote expanse of Kenya's ASAL. This is explored in Working Paper 4 where, in the absence of 'environmental' law or policy *per se*, mechanisms for reconciling conflicts between wildlife, pastoral and agricultural interests are unclear.

The most recent National Development Plan stresses, "*Tourism and Wildlife development is a highly competitive industry and it is important that utilization of tourist resources and development of supporting physical infrastructure be carefully planned and conflicts between private gains and social costs of its development harmonised.*" (ROK 1994: 192). Despite the reconciliatory tone, there does exist a fundamental contradiction between the objectives of the wildlife/tourism sector and agriculture. The maximisation of food production inevitably necessitates the loss of resources upon which wildlife depends. This area of competition in particular requires a level of co-ordination which sector specific institutions and legislation cannot provide.

4.4 THE MINISTRY OF LAND RECLAMATION, REGIONAL AND WATER DEVELOPMENT

The recent trend towards merging line ministries to streamline the public service has resulted in the creation of the Ministry of Land Reclamation, Regional and Water Development (MLRR&WD). While this led to changes in 'head office' structures, the functioning, at sub-national level at least, of component sectoral Ministries appears to have been little effected by the merger.

Amongst the responsibilities of the Ministry of Water Development (MWD) are the management and development of water supplies and the monitoring and control of water quality. As such MWD has a major involvement in environmental management. This is well exemplified in the case study (Working Paper 4) in which local agricultural, pastoral and wildlife communities have been adversely effected by a decision to pipe a traditionally valuable source of water to a neighbouring District for domestic and commercial use. Thus in wetland areas, and particularly in ASAL Districts where water supplies underpin multi-faceted resource use systems, MWD plays a significant regulatory role. The legal basis of the Ministries authority derives from The Water Act which states that all water bodies (surface and sub-surface) are properties of the State and vests authority over the abstraction and use of water with the Minister.

The regulation of water use is administered through the Water Apportionment Board (WAB) which issues permits to individuals and groups. The extraction of water for irrigation requires the potential user to file an application with the WAB and to publish the application in a locally circulated newspaper and the official Gazette. Objections

can be made within thirty days of official notification, after which the WAB either rejects the application or issues a permit. Applications for water use and abstraction pass through relevant Water Catchment Boards which supply WAB with technical advice regarding applications. Through considerations of optimal use of water, and through ensuring that only limited quantities of water are extracted from any surface water body, MWD has the legal authority to arbitrate competition for limited water supplies. Under existing legislation agricultural use of water, for example, should not preclude pastoral communities from gaining access to water for livestock or domestic requirements. This, however, presupposes that MWD field officers have the resources and technical know-how to assess water use and demands locally. Resource constraints within the public sector in general act as a constraint on the effectiveness of such mechanisms of environmental protection. At the local level, monitoring should be undertaken by MWD water bailiffs. Yet in areas where water supplies are most critical (i.e. in the ASAL) the extent of the field officer's range of jurisdiction often precludes MWD from effectively regulating wider use.

Water quality is dealt with less thoroughly by the Water Act. The deliberate pollution of water courses is deemed an offence but there is no provision for permission for water extraction to be refused on the basis of potentially polluting activities (Bragdon 1992), although domestic water supplies are provided greater legal protection. Applicants for a water permit are required to state if the use of water will lead to any degradation in its quality, and if so what remedial actions the applicant proposes to take. Failure to comply with the requirements of the Act can result in a fine, but these are so low that they rarely act as a deterrent, and commercial users tend to see them as small additional cost rather than a constraint on their activities (ibid.). The Water Act represents a further component of a highly fragmented framework of environmental legislation. The Act does provide for limited regulation of extraction, but is unable to address broader environmental issues which may impinge upon issues of water quality or over-exploitation. Without being able to regulate activities which effect the water resource base, the specificity of MWD policy and its legislative framework provide little to protect the overall environment.

Superimposed upon the plethora of sectorally-dedicated institutions are a number of territorially defined institutions which have adopted more of an 'ecosystem' approach to environmental management. The establishment of these institutions reflects raised government awareness of the relationships between environmental and developmental issues. In 1989 the Ministry of Reclamation and Development of Arid, Semi-Arid and Wastelands (MRDASW) was created in recognition of the problems facing ASAL areas. Subsequently it was incorporated into MLRR&WD. The District based ASAL Development Programmes provide a basis for integrated development and represent relatively efficient channels for donor funding to permeate down to local level. Policy for the development of ASAL Districts originates from MRDASW and encompasses issues of environmental protection, enhancement of the productivity of suitable areas to provide food security and create employment, water resource development and the co-ordination of NGO and private sector activities. Adams (1990) stresses that primarily due to the unrealistic objectives of the Ministry, particularly concerning expectations of production levels in areas of unreliable and low rainfall, the programmes have failed to achieve significant improvements in the welfare of ASAL

populations. Proposed contributions to the growth of the national agricultural sector have also not materialised.

Most programmes have suffered from the problems which confront public-sector extension work, both technical and administrative, due in part to the fact that field staff are seconded from ministerial departments. Other problems which the programmes have encountered include the use of inappropriate technologies, a lack of national co-ordination and only limited sectoral integration (ibid.). In ASAL districts competition is often most intense at the interface of pastoral, agricultural and wildlife demands for land and water. The majority of Kenya's wildlife reserves are located in ASAL districts, yet by 1990 only in Kajiado District had wildlife and tourism been integrated into the District Development Programme.

The Ministry of Regional Development, established in 1988 and also recently incorporated into MLRR&WD also plays, *de jure*, a prominent role in environmental management. A mandate to address spatial rather than sectoral environmental issues allows a number of Regional Development Authorities to address issues of land and water management in a more comprehensive manner than sectoral agencies. The Authorities (the Lake Basin Development Authority, the Tana and Athi Rivers Development Authority, the Kerio Valley Development Authority, the South Ewaso Ngiro Development Authority and the Coast Development Authority) are responsible for the co-ordination of all development activities undertaken within their respective areas of jurisdiction. Water resource development is a main focus for the Authorities in recognition of the 'multi-sector interdependence' on water resources (Krhoda 1994). A number of responsibilities assigned to line ministries are duplicated by Regional Development Authorities, a factor which Bragdon (1992) regards as a constraint on institutions otherwise well equipped to approach environmental management in a comprehensive manner. As mentioned above the Tana and Athi Rivers Development Authority ignored procedural controls for Environmental Impact Assessment laid down by NES. This would suggest a somewhat indifferent attitude towards the environment by the Authority.

4.5 THE PERMANENT PRESIDENTIAL COMMISSION FOR SOIL CONSERVATION AND AFFORESTATION

The Permanent Presidential Commission for Soil Conservation and Afforestation (PPCSCA) was established by President Moi in 1981 and assumed responsibility for environmental issues formerly under the jurisdiction of the Ministry of Agriculture (MOA). The MOA, as Bragdon (1992) notes, was constrained from acting effectively on issues of soil conservation or afforestation by its limited mandate and bureaucratic organisation. The broader mandate of the Commission has permitted it to address issues of environmental planning and more recently it has initiated public awareness and education programmes. The mandate also provides for the Commission to co-ordinate other governmental agencies and thus, "*has the potential [to] bring a collective solution to local problems*" (ibid. 1992: 13). Being situated within the Office of the President provides the PPCSCA with the authority to pursue integrated solutions to environmental problems. Bragdon suggests that in some respects the Commission has been quite successful. Its effectiveness is, however, constrained by

the limited number of cases it can address, being primarily a central institution responding to incidents upon request.

Co-ordinated resource management in Kenya is hampered by the lack of a comprehensive legislative framework for environmental protection and, despite the existence of national level co-ordinating bodies, a tendency for line ministries to pursue narrowly defined objectives. The management of wetlands provides an appropriate example of this lack of co-ordination. No single institution is responsible for the management of wetland resources, the Departments of Livestock Development and Agriculture may, in effect, compete for the same resources within a single wetland. Similarly the interests of the Kenya Wildlife Service may be contrary to those of MALD&M. Afforestation plans on wetland margins (which themselves may be the responsibility of the Forest Department of MENR or the Ministry of Energy) may conflict with MALD&M objectives of expanding small holder agriculture which itself features prominently in recent National Development Plans. The development of the water resource of the wetland itself falls within the jurisdiction of the Ministry of Water Development, while Regional Development Authorities also claim authority over water resources within their respective areas of operation. Despite the *de jure* existence of co-ordinating national bodies, the State's role in environmental management remains primarily in the hands of a plethora of line ministries and parastatal bodies.

4.6 MINISTRY OF LANDS AND SETTLEMENT

The state also performs one further function which has considerable bearing upon the environment: the formulation and implementation of land policy. From national to local level, issues of land tenure, transfer and subdivision have a major influence on forms of land-use. The complexity of land tenure policy and its significance beyond issues of environmental management dictate that more room than available here would be required to fully explore the subject. It is appropriate to identify here, however, the Ministry of Lands and Settlement as a key institution in environmental management through its role in determining rights over, and access to natural resources. The legislative framework relating to issues of land tenure is extensive, comprising such statutes as The Transfer of Property Act of India 1882, the Registered Land Act, The Registration of Titles Act, The Government Lands Act, the Land Adjudication Act, The Land Consolidation Act, The Land (Group Representatives) Act and The Land Control Act. The complexity of the legal framework reflects the diversity of types of land tenure which can be categorised as Trust Land, Government Land and private land. Approximately 78 percent of land is held in trust by County Councils, although under the Registered Land Act and Registration of Titles Act over 2.1 million private titles had been issued by the end of 1993 (ROK 1994). Ninety percent of these titles have been issued in medium and high potential areas.

Policies supporting the individualisation of land tenure in Kenya originate with the colonial administration, most notably the Swynnerton Plan of 1954. Post independent government policies have reiterated a commitment to private land tenure underpinning an agricultural-based rural economy. The Land Adjudication Programme commenced in 1968 and involved the registration of land in Nyanza, Eastern, Rift Valley, Coast and

North Eastern Provinces. By 1991, 6 885 329 hectares of land and 1 318 988 parcels of land had been subdivided and registered. In Narok and Kajiado Districts 304 575 hectares had been registered as group ranches comprising a total of 63 189 members (ROK 1994). As discussed in Working Paper 3, government policy has been to individualise group ranches, a process that is currently underway. As such the Land Adjudication Department and the Land Control Boards under the Ministry of Lands and Settlement, which oversee local land transactions, represent key institutions determining rights of access to natural resources, the fundamental basis of environmental management.

As Bragdon notes, "*the Kenya Government is a large, underfunded apparatus*" (1992: 30), thus at District, Divisional and Location levels there exists intense competition for scarce government resources. Environmental considerations are subject to the same financial constraints which limit the performance of all public sector institutions. What funding does permeate down to Divisional and Locational level is in general reserved for the continuation of existing programmes with short term objectives, thus with environmental issues being relatively new and having long term objectives, they tend to receive little, if any, funding. One source of local funding for development projects was the Rural Development Fund (RDF), created in 1975 and administered by the Ministry of Planning and National Development. During the 1970s environmental projects were given a high priority yet a reorientation of policy during the following decade resulted in social welfare projects securing preferential access to RDF resources (school and health centres especially). Again the long term nature of environmental projects precluded them from access to RDF which targeted projects which were to be completed within two years. The RDF is now obsolete, public resources are spread increasingly thinly and a consequent lack of incentives constrain the effectiveness of government administration in the management of natural resources. As the social and environmental manifestations of land use policies have become more apparent, the resulting institutional void has attracted an insurge of NGOs.

5. THE INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT: NON-STATE AGENCIES

5.1 NON-GOVERNMENTAL ORGANISATIONS

According to a survey undertaken by Fowler (see Copestake 1993) a total of 291 development-oriented NGOs are registered in Kenya, a six-fold increase on the number registered at the time of independence in 1963. The estimated US\$225 million spent by NGOs in 1987 represented almost half the official development assistance received. Two thirds of the NGOs surveyed by Fowler had an annual budget in excess of US\$100,000 with the Catholic Secretariat and National Council of Churches spending a staggering \$US75 million and US\$50 million respectively. In terms of the sectors in which Kenyan NGOs are involved, Fowler found from the 267 surveyed, education was most commonly cited (with 54 percent at least partially involved) while agriculture and environmental protection were cited by 48 and 46 percent of NGOs respectively.

An area of environmental management in which NGOs have been particularly active is rural afforestation. Mung'ala (1993) reports that over 75 NGOs are involved in 'tree planting and environmental conservation' in Kenya. Where the Forestry Department is severely underfunded and thus unable to fulfil many of its mandatory duties (KIFCON 1994), NGOs have taken the initiative, providing financial and manpower resources and new extension methods. The Kenya Forestry Research Institute, for example, launched a joint Kenyan/Japanese funded Social Forestry Training Project aimed at training government and non-governmental extension workers. Care-International has had an agroforestry programme in Western Kenya for over a decade, similarly the long-established Kenya Woodfuel Development Programme, with support from the Netherlands, has operated in Kisii District supporting nurseries, extension services and research into agroforestry.

Following natural resource appraisals undertaken by the World Bank in 1988, the perceived need for an integrated forest conservation programme gave rise to the Kenya Indigenous Forest Conservation Programme (KIFCON). KIFCON has worked with both the Forestry Department and other local and national institutions to, "*strengthen their capacity to support natural forest management*" (KIFCON 1994: 1). Through promoting the management of forest resources for multiple benefits by encouraging participation of local communities, KIFCON has had success in reversing a growing rift between the Forestry (Government) personnel and local populations, fostering co-operation rather than antagonism.

The Kenya Energy and Environment Organisation (KENGO) was founded in 1981 in order to provide co-ordination among Kenyan NGOs engaged in renewable energy and community development work (Arum 1994). The principal role of KENGO has been to address means of alleviating the impact of resource scarcity due to environmental degradation, through focusing on the causes of scarcity (deforestation, soil and water mis-management) as well as supporting research into more efficient exploitation of natural resources, such as in improving wood fuel stoves. Extension and training

programmes are provided through 'decentralised' Regional Resources Centres on Environment and Development in the country's major regions (ibid.).

Kenya's ASAL have attracted particular attention from the non-governmental sector in recent years. In addition to the distribution of famine relief during drought, NGOs have played an increasingly important role in the development and management of natural resources. In response to global efforts to conserve endangered species and preserve natural resources, several international organisations have become established in Nairobi. Changing priorities amongst their donors have resulted in many such organisations redefining themselves as 'environmental' rather than 'conservationist' due to the widely held perception of conservation being the domain of (white) outsiders (Cherrett *et al* 1995). Greater emphasis is now placed upon organisational and managerial (rather than technical) issues and the need to foster participatory conservation amongst ASAL communities.

The livestock sector has become the main focus of locally based NGOs in Kenya's ASAL. The introduction of improved breeds, the provision of veterinary resources and the development of alternative marketing structures to those provided by the state are areas in which NGOs have become most active. The ASAL have also been the focus for the rapid expansion of network organisations. Commenting upon the phenomenon Juma (1991) notes that many such networks concealed the ineffectiveness of individual NGOs and were mainly concerned with 'self preservation' rather than performance. Others, as the author recognises, have drawn their legitimacy from their successes rather than the, "*mere claim of having membership*" (: 57) and serve important roles in setting the development agenda. The Pastoralist Network funded by Oxfam provides one such example.

While Kenya has been noted for its 'open door' attitude towards NGOs, recent abuses of privileges accompanying NGO status have led to a souring of state-NGO relations and the deregistration of several organisations (Fowler 1991). Indeed since 1991 the Government has taken a generally uncompromising stance against NGOs, requiring them all to register and disclose sources of funding and (sectoral and geographical) areas of proposed activity. A statutory board affiliated to the Office of the President has been established to monitor their activity. Under the District Focus for Rural Development strategy, NGOs are required to report to the District Commissioner, and their activities now fall under the scrutiny of district and local development committees. As Copestake (1993) notes, however, the additional resources brought in by NGOs help them to secure political support which permits a degree of independence to be retained.

5.2 THE HARAMBEE MOVEMENT

Fundamental to both state and NGO objectives in recent years has been the need to make full use of rural self-help initiatives. So established has become the spirit of *harambee* (the Swahili word for *pulling together*) within rural Kenya, self-help organisations were estimated to number some 26 000 in 1988, having numbered less than 5000 in 1980 (Fowler 1991). Tiffen *et al* (1993) have emphasised the predominant role self-help groups have played in environmental management in

Machakos District. Here, *mwethya* groups provide the communal labour for activities which an individual alone could not achieve. Those receiving help provide food in return for labour, and are obliged to provide their own labour under the reciprocal arrangements upon which *mwethya* groups operate.

The *harambee* movement has grown to become a significant, and often leading, source of revenue for local development in Kenya, often generating many times the capital invested by the state. Other than activities which may loosely be categorised as 'environmental' (such as the construction of dams or terraces), *harambee* events have also contributed greatly towards the construction of schools throughout Kenya. It is estimated that the total value of *harambee* contributions increased from K£ 9.79 million to K£37.29 million between 1979 and 1985 (ROK 1994). The *harambee* movement has, however, become subject to the *de facto* centralising tendencies of the Moi regime and individual *harambee* fund raising events have become subject to political manipulation. As a result, according to Copestake (1993), enthusiasm for *harambee* fund raising amongst rural populations is waning. Yet given the resource constraints facing Kenya (likely to become more severe considering the unease amongst donors over the slow progress of political and structural reform in the country) *harambee* is likely to play a crucial role during the late 1990s in the financing of rural development activities.

6. THE STATE'S COMMITMENT TO ENVIRONMENTAL MANAGEMENT AND AGENDA 21

Given the environmental issues heading the agenda on development in the ASAL, and following Kenya's commitment to Agenda 21, a number of initiatives are at present underway to redress the imbalance between the imperatives of environmental conservation and the weaknesses of the existing legislation and institutional setting. It is worth recalling that similar commitments have been made in the past but have failed to result in any substantial progress towards environmental protection.

The need to address environmental management issues in a comprehensive manner was first articulated in the 1974-78 Development Plan. Competition and conflict arising from competing interests in natural resources were identified as manifestations of legal and institutional weaknesses, thus it is noted, "*Not only are the various arms of the 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 realised in the absence of clear policies*" (ROK 1974: 127). The 1979 - 1983 Development Plan focused attention on the ASAL areas, they were to receive, "*major attention... to deal with rehabilitation of land and water resources for sustained development*" (ROK 1979: 253), a commitment, as Bernard (1985) notes, representing a significant reorientation of policy away from crisis-response which had characterised the theme of previous plans. Improvements to mixed-crop and animal farming systems, together with support for improvements to livestock in the more arid areas were to be components of an integrated development programme. In order to facilitate integrated development, an inter ministerial planning committee was appointed in 1978 specifically for drylands planning. The framework which the committee formulated (*Arid and Semi-arid Lands Development in Kenya: The Framework for Implementation, Programme Planning, and Evaluation*) became the most important planning document for ASAL areas.

More recently the inseparable relationship between environment and development has found expression in national development planning. The Sessional Paper No.1 of 1986 (Economic Management for Renewed Growth) which has informed economic policy for subsequent Development Plans, stressed that natural resource protection is a prerequisite for sustained economic growth. In this the potential of Kenya's ASAL areas were again reiterated, thus the paper noted, "*Environmental protection will be essential to maintain a viable economy in ASAL regions. Reafforestation will serve the three purposes of protecting watersheds, preventing soil erosion and providing fuelwood*" (ROK 1986 : 85). The 1994-96 National Development Plan again details Government commitment to integrate environmental considerations in development projects. But for the first time a National Environmental Policy is proposed to support government commitments to environmental protection. In conjunction with this commitment, the National Environmental Action Plan (NEAP) is at present being formulated within the Ministry of Environment and Natural Resources. Notably progress in the formulation of this plan is lagging behind that of many other African countries.

A review of the institutional and legal framework for environmental management is proposed with the creation of a single institution with legal authority to 'co-ordinate the management of environmental resources' currently managed by sectoral departments with separate and often contradictory statutes (MENR 1994). The institution will engage in environmental monitoring and evaluation (including an environmental impact assessment) and initiate the establishment of a national environmental information system and Environmental Tribunal. Annex 1 to this paper details the proposed institutional arrangements for the implementation of the National Environmental Action Plan.

According to the preliminary statements on environmental policy, the following objectives will be sought; i) Facilitating optimal use of the national land and water resources in improving the quality of the human environment; ii) Promoting sustainable use of natural resources to meet the needs of present generations while preserving their ability to meet the needs of future generations; iii) treating environmental conservation and economic development as integral aspects of the same process of sustainable development; iv) Generating income and meeting national goals and international obligations by conserving biodiversity, reversing desertification, mitigating effects of disasters, and maintaining the ecological balance of the earth (MENR 1994: 1). A key component will be the institutionalisation of environmental impact assessment and providing , *"strong and effective environmental co-ordination and monitoring, by creating a single autonomous organisation"*. In doing so the Plan calls for, *"the involvement of local communities in the management of natural resources and their living environment."* It will thus be necessary, the Plan states, to, *"promote the participation of all parties - local communities, district committees, business, industry and NGOs - in projects and programmes for conservation and development"* (MENR 1994: 1-2).

Amongst those actions which 'can be taken immediately' in pursuit of the objectives are those to, *"Stop further encroachment on water catchment areas, including wetlands and mountain forests, while developing strategies to manage these areas for multiple use"* and *"Prioritise water allocation in quantity according to the needs of rural and urban settlements; industry; downstream users; agriculture; waste dilution; and maintenance of ecological systems"* and *"Develop an integrated management plan for wetlands (water use and storage, fisheries, biodiversity, agriculture, livestock, land use, human settlement, etc.), including community participation"* (MENR 1994: 5).

Despite the rhetoric of this and past commitments to environmental protection, strong sectoral agency control over resources has continued, and a number of proposals to develop a co-ordinated environmental policy and institutional framework have been blocked by Ministers and others. For example, the draft National Environmental Enhancement and Management Act (NEEMA) forwarded in 1981 represented the first all-embracing legal framework for environmental protection and management (Bragdon 1992) but the Act was seen as a potential threat to the control and authority exercised by sectoral ministries, and was subsequently defeated. Attempts to restructure the legal and institutional basis of environmental management under NEAP are encountering similar resistance. A summary approved by cabinet during 1994 tactically avoided issues concerning 'control' so as not to deter Ministers with vested interests in control over natural resources from supporting it. The institutional

frameworks proposed in NEAP for the implementation of environmental policy draws heavily upon the existing structure of the District Focus for Rural Development (DFRD) strategy (See Annex 2). But under DFRD projects allowing rapid implementation and encouraging income generation and employment are given highest priority (ibid.). Environmental projects which may have a longer or indefinite time-frame, and yield indirect economic returns tend to be given low priority status.

7. CONCLUSION

This paper has reviewed the policies and practices of environmental management in Kenya. It has focused on the ASAL to provide a background to the detailed case study of a 'wetland in dryland' area, the Kimana Swamp (Working Paper 4). A number of key points emerge from this review:

1. The viability of the pastoral system that formerly predominated in Kenya's ASAL have been undermined not only by economic and social change (population growth, technical change in agriculture, the commercialisation of the economy) but also by official policies for more than a century. The colonial administration alienated significant pastoral and water resources and discouraged the movements of people and animals that underpinned pastoralism. Independent governments have intensified these pressures with policies of land privatisation, ranching and irrigation development.
2. The goals of environmental protection and sustainable development that have recently been acknowledged by the Kenyan government have simply been added to the existing policies of sectorally focused resource exploitation. They have not led to a fundamental review of the inherent conflicts within the country's agricultural, livestock, conservation, forestry and tourism policies as might logically be expected. While the National Development Plan confirms its commitment to Agenda 21 through 'preserv[ing] genetic and species diversity' and 'promoting the aesthetic beauty of the country' it also seeks 'to increase agricultural production (in all areas including ASAL areas)' and states that 'livestock production will be enhanced'. Neither the National Environment Secretariat nor the National Environmental Action Plan have made any headway in fostering a systematic approach to resolving conflicting policy goals and public sector actions.
3. The established strength of sectoral ministries and departments (and particularly of their Ministers), allied to the private interests of many public servants, politicians and businessmen, means that the major forces determining changes in natural resource use are short term and production-oriented. Environmental policies are seen as 'mere decorations' (a quote from a prominent Kenyan researcher who does not wish to be identified) obscuring a pro-agricultural, pro-ranching and pro-tourism policy set. These decorations help to provide responses to international official agencies (World Bank, Overseas Development Administration) and non-governmental agencies (African Wildlife Foundation, Wildlife Conservation International) about environmental protection but they have not reduced the commercial pressures to intensify levels of resource use. Within Kenya's civil society support for more careful environmental management remains poorly articulated despite a growing number of local and national NGOs.
4. The institutional wealth of the Kenyan state on paper - with numerous sectoral agencies at the sub-district level, hierarchies of planning committees down to sub-locational level, integrated development programmes, river basin authorities and national co-ordinating bodies - is not matched by its achievements on the ground. In practice, the district and local level service delivery has withered as the

government avoids public sector reform and as structural adjustment has slashed operational budgets.

Change in natural resource use in Kenya's drylands is largely driven by short term commercial considerations. In as much as public policies are effective they tend to provide for the rapid exploitation of natural resources. Competition for key resources - such as 'wetlands in drylands' - is fierce both in terms of use (agriculture versus livestock versus wildlife) and between the individuals who take the profits derived from resource utilisation. The issue of how these powerful commercial forces and confused sectoral policies impact on the livelihoods of ASAL residents is most notable for its absence in research. As is revealed in the case study of Kimana Swamp (Working Paper 4) current debates do not only fail to tackle questions about how production and conservation might be reconciled, they also fail to examine why increasingly significant numbers of people in ASAL areas are suffering from poverty a

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Annex 1

THE PROPOSED INSTITUTIONAL FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT UNDER NEAP

Kenya has physical and biological resources that are considerable domestic and international economic and intrinsic value. The country possesses an estimated total of 35,000 known species of animals, plants and micro-organisms. This wealth is fundamental to Kenya's economic prosperity in many ways, including as a source of income for subsistence, source of employment and source of foreign exchange earnings. Life, and the economy, are based on natural resources such as water, air, rocks, minerals and soils. These resources are increasingly under pressure from unsustainable use, resulting in pollution, soil erosion, and depletion. Biological resources which are sources of food, fuel, wood, shelter and income, are only renewable if they are used sustainably. (Foreword by the Minister for Environment and Natural Resources in MENR 1994: i)

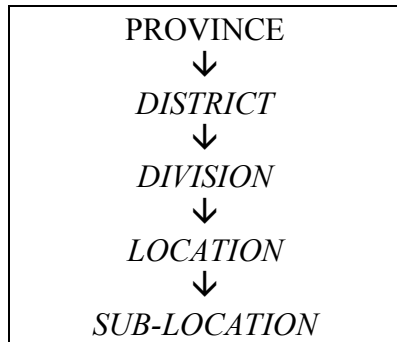
In order to pursue sustainable utilisation of 'biological resources' a proposed institutional framework is under consideration. Charts 1 - 4 indicate the options currently being considered. As indicated, a single environmental agency is proposed, possibly in the form of the National Environment Secretariat, to be housed within the Office of the President. The charts suggest the agency will be strongly represented at the District level, or incorporated into existing district institutions. All development projects in the public and private sectors are to be subject to Environmental Impact Assessment. Similarly district level projects, under these proposals, will be subject to a similar form of appraisal by District Environmental Committees.

ANNEX 2

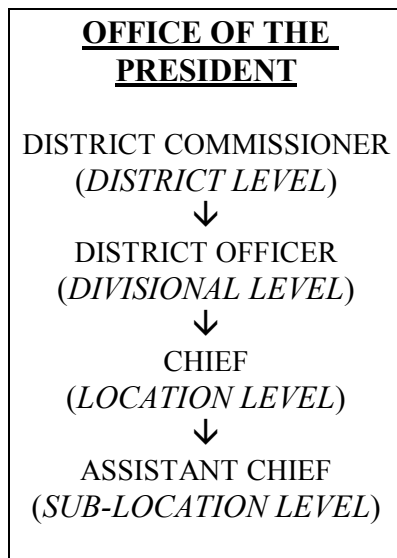
CO-ORDINATED RESOURCE MANAGEMENT; THE DISTRICT FOCUS FOR RURAL DEVELOPMENT STRATEGY

A very significant re-orientation of rural development policy followed President Moi's announcement in 1982 that resource allocation would be decentralised and that the district would represent the administrative unit in which resources would be, *de jure*, autonomously controlled. The District Focus for Rural Development (DFRD) strategy was officially launched in 1983.

The relevance of the DFRD strategy to environmental management is that the emphasis placed on the district as an administrative unit, and the co-ordinative responsibilities of the hierarchy of development committees, should provide for a more integrated cross-sectoral approach to resource management. Thus at the local level, *de jure*, issues of shared resource use, and potential conflicts which such a situation may entail, can be resolved by local representatives of all interested parties. Thus the strategy provides a mechanism where environmental issues can be addressed locally. In reality the strategy has achieved little more than to extend central control, allowing greater downward penetration of central government rather than upward communication from the grass-roots.



The DFRD strategy is based upon the District, Divisional, Locational and Sub-Locational administrative units. The District Commissioner (DC), at the apex of the District hierarchy within the Office of the President (OOP), is a political appointee and, under the strategy, has authority over sectoral field officers through his position as Chairman on the District Development Committee (DDC). Within the DDC decisions concerning the prioritisation and funding of development projects are made, thus the DC wields significant power over District resources. As Bragdon (1992) notes, it is somewhat ironic that despite commitments to autonomy for the districts and participatory development, government policy states that the position of DC should be filled with an officer from outside the district in which he serves.



Chiefs and Assistant Chiefs are responsible for implementing policies and programmes at the Location and Sub-location Levels respectively. The Chief's Authority Act bestows significant authority upon the Chief, who exercises control over field officers of sectoral ministries operating at the local level. Where, in the absence of environmental policy *per se*, the local environment is subject to the policies of sectoral ministries, the Chief holds considerable power through his position of authority over local ministry field officers. In addition to administrative responsibilities, the Chief should also act as an orator for the local population and is supposedly a representative for on the Divisional Development Committee.

- (Sub-) LOCATIONAL DEVELOPMENT COMMITTEE**
- (Assistant) Chief (Chairman)
 - KANU Locational Chairman*
 - Departmental officers
 - Councillors
 - Headmasters of (primary)/secondary schools
 - Clerks of local authorities
 - Locational parastatal representatives
 - Co-opted local leaders and representatives of co-operatives, NGOs and self-help groups

- DIVISIONAL DEVELOPMENT COMMITTEE**
- District Officer (Chairman)
 - District Development Officer (Secretary)
 - Divisional departmental heads of ministries
 - Member (s) of Parliament
 - Locational Chiefs
 - Clerks of local authorities
 - Councillors of local authorities
 - Divisional parastatal representatives
 - Invited representatives of NGOs and self-help groups



- DISTRICT DEVELOPMENT COMMITTEE**
- District Commissioner (Chairman)
 - District Development Officer (Secretary)
 - Departmental heads of ministries
 - Members of Parliament
 - Chairmen of local authorities
 - Clerks of local authorities
 - Parastatal representatives
 - Invited representatives of NGOs and self-help groups

In 1988 the post of District Environmental Officer (DEO) was created within the Office of the President. While technical expertise and the legislative authority to implement specific environmental actions are provided by the various ministries (in the absence of comprehensive environmental law), the DEO provides the administrative back-up to co-ordinate the activities of sectoral government ministries within the district and, "integrate environmental considerations into the development process" (Bragdon 1992: 13). The DEO is also a political appointee from the Office of the President, charged with implementing environmental policies (such as they are). The DEOs have no training in environmental issues and rely on the technical training of field officers from relevant ministries. In short the DEO is primarily an administrator, responsible to the DC rather than the Ministry of Environment and Natural Resources which is the principal source of policy on matters of the environment. Thus policies relating to the environment find little expression through the decentralised channels created by the DFRD strategy. The DDC and District Executive Committee generally lack environmental expertise, the only technical environmental input coming from individual

sectors, representing specific developmental interests.

Project proposals discussed within the DDC should originate at the most local level, having been tabled in Sub-Locational or Locational Development Committees before being tabled at Divisional level for prioritisation on the Divisional Development Committee. DDC meetings are held at least four times each year. Prior to each meeting project proposals received from Divisional Level pass through the District Executive Committee (DEC), comprising senior members of the DDC, in which

projects are costed and technically scrutinised prior to being forwarded to the DDC. Day-to-day co-ordination of the development planning process is undertaken by a District Planning Unit (DPU) which acts as a secretariat to the DEC. In addition, a number of special purpose committees provide a forum on specific issues, such as the District Education Board and the District Agricultural Projects proposals discussed within the DDC should originate at the most local level, having been tabled in Sub-Local or Locational Development Committees before being tabled at Divisional level for prioritisation on the Divisional Development Committee.

The DFRD strategy has also revised mechanisms for financing rural development projects. Ministerial budgets are disaggregated on a district by district basis so as to facilitate district planning and budgeting. Greater financial autonomy is awarded to the District by transferring Authorities to Incur Expenditure (AIE) so as to streamline project implementation. Formerly AIEs were transferred on an *ad hoc* basis through the bureaucratic Provincial administrative structure (Rutten 1990). District treasuries have been strengthened accordingly and under DFRD have assumed responsibility for 'internal' accounting and auditing. The District has also assumed responsibility for the planning and co-ordination of projects funded by foreign donors, local authorities (County Councils, Municipal, Town and Urban Councils) and NGOs. The DDC now vets local authority projects before they are submitted to the Ministry of Local Government, providing greater co-ordination between these and centrally funded projects although reducing Local Government autonomy even further.

The DFRD strategy also provided for greater district-level autonomy in the budgetary process through the Budget Rationalization Programme (ROK 1987). Under the programme the DDC assumed responsibility for preparing an Annual Annex (to the District Development Plan) within which proposed expenditures for the coming year would be scheduled, and a Forward Budget for the following three years would be detailed. The Programme has also brought greater involvement of MPs in local development through their statutory membership of District Development Committees. Local MPs positions now rest upon their ability to bring programmes and funding to their constituencies through the machinery of District development planning.

While project proposals, in theory, emanate from grassroots level, their fate is ultimately decided upon by the DDC comprising predominantly representatives of central government, and ultimately decisions as to where resources should be directed are made from above. Bragdon (1992) supports this in her observation that instructions on project selection extend down from central government through circulars on programme reviews and forward budget preparation. As Adams (1990) comments, despite the rhetoric of the DFRD strategy, Kenya's administrative structure remains highly centralised and vertically oriented, adding that, "*The District Commissioner is nominally in charge of all administrative work in the district, but in practice field staff of line ministries continue executing their work with little regard to the need for co-ordination of either day-to-day administration or long term planning and budgeting*" (: 294).