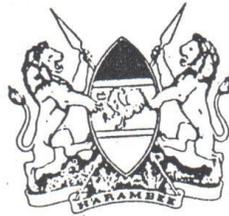


REPUBLIC OF KENYA



ASAL POLICY DEVELOPMENT

(DRAFT 3)

27 SEPTEMBER 1990

Ministry of Reclamation and
Development of Arid, Semi-
Arid Areas and Wastelands

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ABBREVIATIONS

AEZ	Agro-ecological zone
AIE	Authority to incur expenditure
ALDEV	African Land Development in Kenya
ASAL	Arid and semi-arid lands
BFFP	Baringo Fuel and Fodder Project
CARW	Community Action for Rural Women in ASAL
CBPP	contagious bovine pleuro-pneumonia
CBS	Central Bureau of Statistics
CCPP	contagious caprine pleuro-pneumonia
CHANIS	Child Health and Nutrition Indicator Statistics
CIMYT	International Centre for Research in Maize and Wheat
CPR	common property rights
DANIDA	Development of International Development Cooperation
DC	District Commissioner
DCPU	Drought Contingency Planning Unit
DDC	District Development Committee
DDO	District Development Officer
DDP	District Development Plan
DEC	District Executive Committee
DHMT	District Health Management Team
DIDP	District Integrated Development Programmes
DLPO	District Livestock Production Officer
DMC	Drought Management Committee
DMOH	District Medical Officer of Health
DPU	District Planning Unit
DTDO	District Trade Development Officer
DvDC	Divisional Development Committee
ECU	European Currency Unit
EDF	European Development Fund
EEC	European Economic Community
EPI	Extended Programme for Immunization
EMI	Embu/Meru/Isiolo Arid and Semi-arid Lands Programme
EO	evapotranspiration
ERD	External Resources Department
FAO	Food and Agriculture Organization of the United Nations
FD	Fisheries Department
FFW	Food for Work
FY	Financial Year
GTI	Government Training Institute
GOK	Government of Kenya
ha	hectare
IFAD	International Fund for Agricultural Development
ICRAF	International Council for Research on Agroforestry
ICRISAT	International Centre for Research in Semi-arid Tropics
IDA	International Development Association

IITA	International Institute for Tropical Agriculture
ILDp	Isiolo Livestock Development Project
ILO	International Labour Office
IMCC	Inter-ministerial Co-ordinating Committee
JICA	Japan International Cooperation Agency
KARI	Kenya Agricultural Research Institute
KEFRI	Kenya Forestry Research Institute
kg	kilogram
KGGCU	Kenya Grain Growers Cooperative Union
KIE	Kenya Industrial Estates
KIDP	Kitui Integrated Development Programme
km	kilometer
K£	Kenya pound
KREMU	Kenya Rangeland Ecological Monitoring Unit
KSh	Kenya shilling
KTb	Kenya top bar (bee hive)
KVDA	Kerio Valley Development Authority
KWS	Kenya Wildlife Service
LDC	Locational Development Committee
LDC	Livestock Development Centre
LMD	Livestock Marketing Division
LPO/LSO	Local Purchase Orders
LRDC	Land Resources Development Centre
LSD	lumpy skin disease
M&E	Monitoring and Evaluation
MCH-FP	Mother and Child Health - Family Planning
MDCU	Machakos District Cooperative Union
MENR	Ministry of Environment and Natural Resources
MEPD	Ministry of Economic Planning and Development
MET	Mobile Extension Team
MIDP	Machakos Integrated Development Programme
mm	millimetre
MOA	Ministry of Agriculture
MOC	Ministry of Commerce
MOCD	Ministry of Cooperative Development
MOCSS	Ministry of Culture and Social Services
MOE	Ministry of Education
MOEn	Ministry of Energy
MOH	Ministry of Health
MOI	Ministry of Industry
MOLD	Ministry of Livestock Development
MOLH	Ministry of Lands and Housing
MOPND	Ministry of Planning and National Development
MOTC	Ministry of Transport and Communications
MOWD	Ministry of Water Development
WRAP	Water Resources Assessment Project
MRD	Ministry for Regional Development
MRDASW	Ministry of Reclamation & Development of Arid, Semi-Arid Areas & Wastelands

MRP	Minor Roads Improvement Project
MRST	Ministry of Research, Science and Technology
MTTAT	Ministry of Technical Training and Applied Technology
MWT	Ministry of Tourism and Wildlife
MYWO	Maendeleo Ya Wanawake Organization
NCPB	National Cereals and Produce Board
NES	National Environmental Secretariat
NGO	Non-governmental organization
NORAD	Norwegian Agency for International Development
ODA	Overseas Development Administration
ODI	Overseas Development Institute
ODNRI	Overseas Development Natural Resources Institute
OOP	Office of the President
OVP/MOF	Office of the Vice-President/Ministry of Finance
OXFAM	UK-based NGO involved in development
PA	Programme Adviser
PHC	Primary Health Care
PMET	Provincial Monitoring and Evaluation Committee
PMU	Programme Management Unit
PO	Programme Officer
PSC	Programme Steering Committee
RAES	Rural Agroforestry Extension Service
RAPT	Rural Access Road Programme
RDF	Rural Development Fund
RIDC	Rural Industrial District Centres
RWC	Rural Workshop Clusters
SDA	Social Development Assistant
SIDA	Swedish International Development Authority
SLDC	Sub-Local Development Committee
SSE	Small-scale enterprises
TA	technical assistance/assistants
TAC	Teachers' Advisory Centre
TARDA	Tana & Athi River Development Authority
TB	tuberculosis
TBA	Traditional Birth Attendant
TDCPU	Turkana Drought Contingency Planning Unit
TOR	Terms of Reference
TOT	Train/ing/er of Trainers
TRDP	Turkana Rural Developmnt Programme
TRP	Turkana Rehabilitation Project
WFP	World Food Programme of the United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WFP	World Food Programme
WG	Womens' Group
WHO	World Health Organization
YP	Youth Polytechnic

FOREWORD

A decade ago, the Government published a policy document, "*The Arid and Semi-Arid Lands of Kenya - A Framework for Implementation, Programme Planning and Evaluation*". This document has provided the basic handbook for the planning of district-level programmes in the Arid and Semi-Arid Lands (ASAL). Since the Machakos Integrated Development Programme started in 1978, there have been 12 such programmes. However, as in the rest of Kenya, the problems of the 22 ASAL districts have continued to grow as the population has increased. Despite the fact that the provision of basic services has improved, they remain poor in relation to the high potential areas of the country. Much remains to be done in developing the human and natural resources in order to bring the ASAL into the mainstream of the national economy.

Concern over the future of the ASAL, especially the environmental implications of the continued population growth, prompted the establishment in 1989 of a separate Ministry to oversee the implementation of the national Five Year Development Plan in the dry areas.

In order to fulfill its mandate the Ministry of Reclamation and Development of Arid, Semi-Arid Areas and Wastelands (MRDASW) has consulted with the operational Ministries on the subject of ASAL policy with the objective of updating the above-mentioned policy document. The Ministry is also working on a Sessional Paper on the development of ASAL. For this purpose, the MRDASW appointed a team of five experts^[1] to draft a policy paper which encompassed contributions received from the various Ministries intimately concerned with dry land development.

This document is the third draft that has been discussed at both the individual and the ministerial level. It also incorporates comments and suggestions made at a three-day inter-ministerial workshop held in Nakuru during the month of September, 1990.

[1] The drafting team comprised George N. Mbate and William Sakataka of the MRDASW and Professor G-C. Mutiso of Muticon, Dr. Peggy Fry of Norconsult and Martin Adams of Mokoro Ltd.

ASAL POLICY DEVELOPMENT

CHAPTER 1: SUMMARY

A. INTRODUCTION

1.1 The purpose of this document, prepared for the Ministry of Reclamation and Development of Arid, Semi-Arid and Wastelands (MRDASW) which is responsible for coordinating the development of arid and semi-arid lands (ASAL), is to outline a policy for the development of ASALs. It is intended to provide guidance to all ministries, donors and non-governmental organizations on the Government's objectives and strategies for ASAL development. It summarizes the characteristics of ASALs, the constraints to development, priorities in planning and implementation, policy review, and the necessary framework for action which will be pursued by Government.

B. THE RESOURCE BASE (Chapter 2)

Population

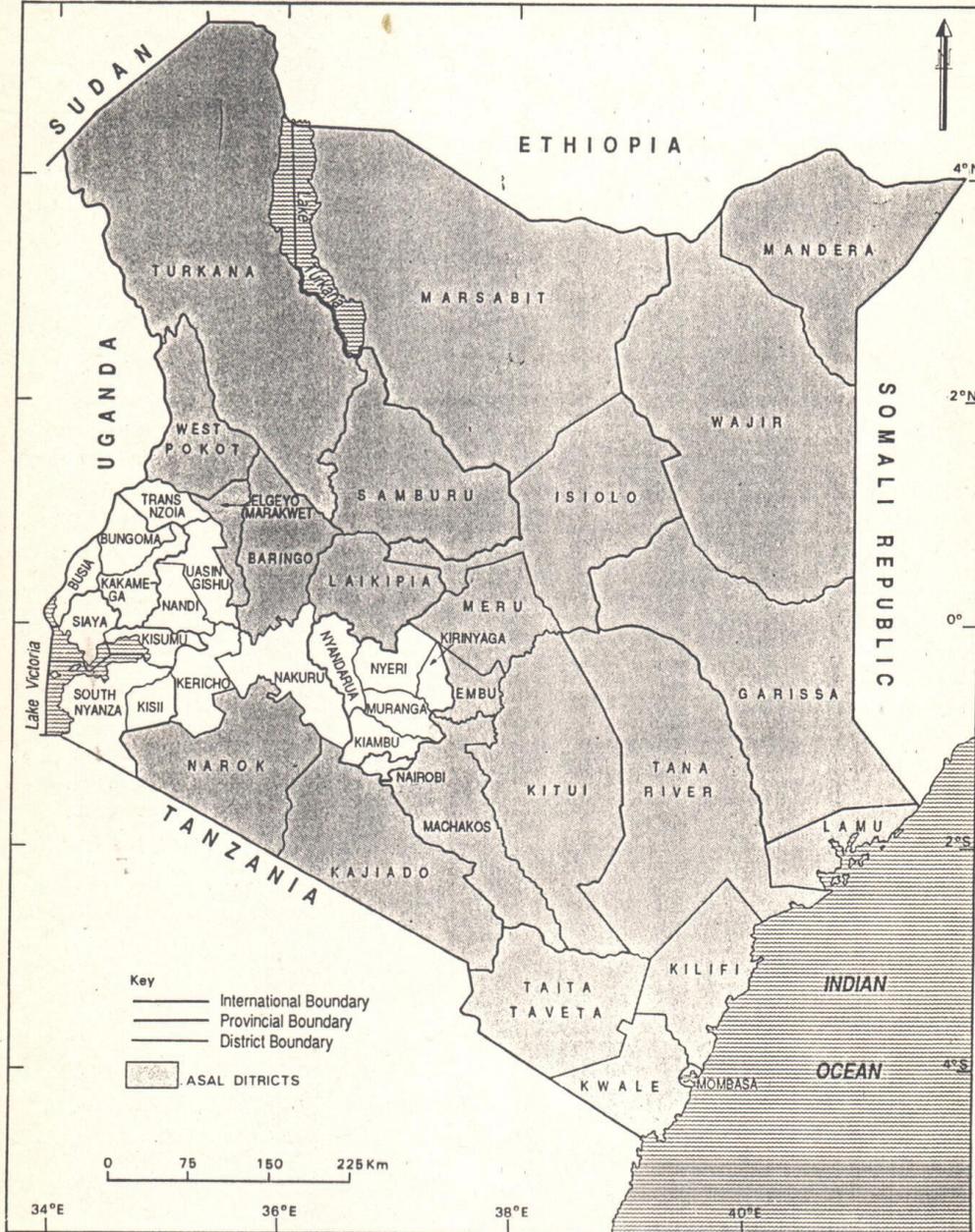
1.2 An estimated 8.2 million lived in the 22 ASAL districts (Map 1.1) in 1989. While total population has increased between 1979 and 1989, the proportion of the population in these districts has not. Of the 8.2 million in the ASAL districts, however, only about 4.8 million people actually live in the arid and semi-arid zones.

1.3 The ASAL district growth rate, which was higher than the national between the 1969 and 1979 censuses, had fallen to near parity by 1989, i.e. +3.98 per cent compared with +4.00 per cent. Trends among districts vary greatly: Garissa is estimated to have a positive growth rate of 5.73 per cent and high immigration rates, while Turkana is experiencing a negative growth rate of 0.20 per cent coupled with high rates of out-migration (Map 1.2). Machakos District is the most populous with 1.6 million, some 20 per cent of the ASAL district total (see Table 2.3).

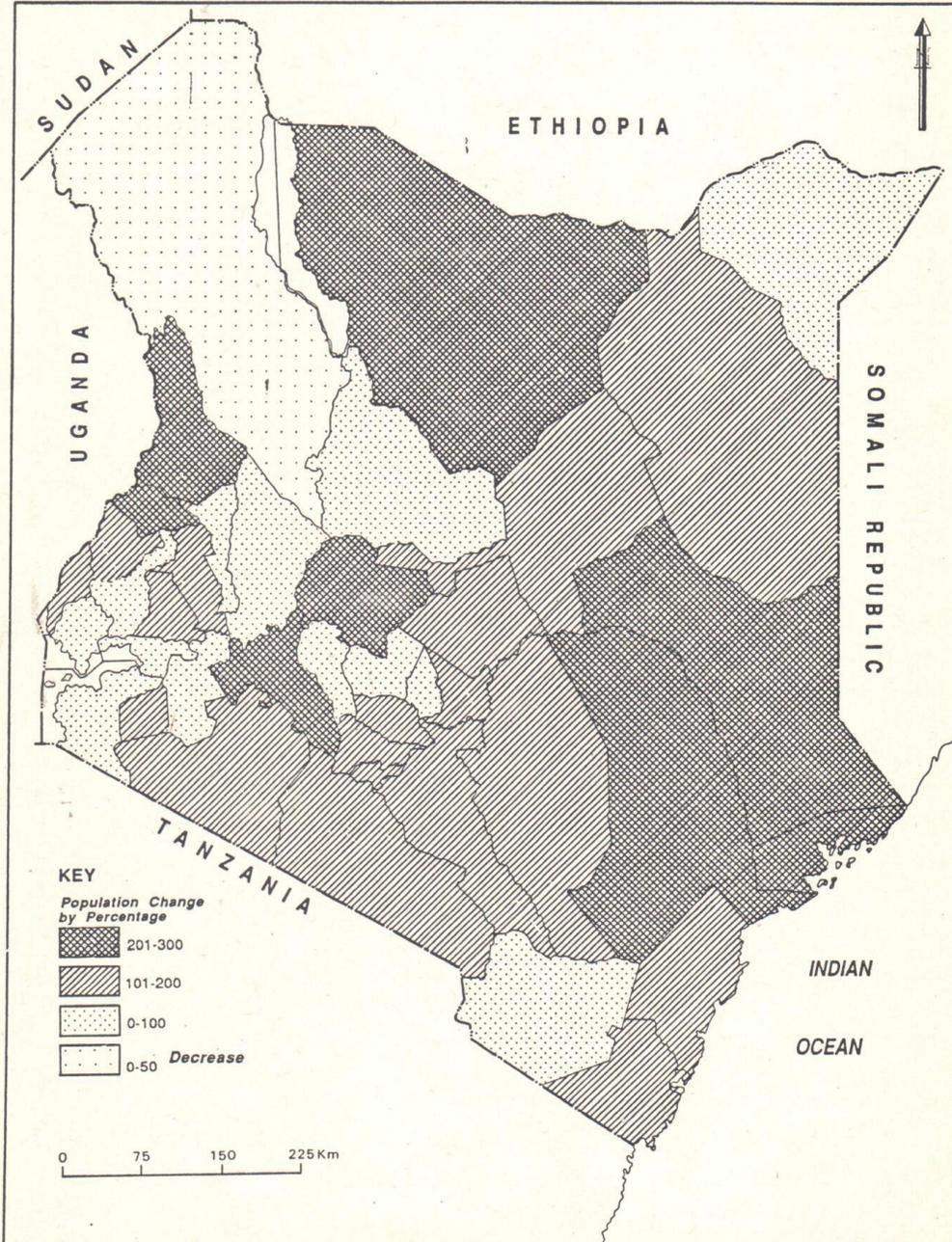
Land Use

1.4 By definition, the ASAL are hot and dry, having an evapotranspiration rate which is more than twice the rainfall. The drier they are, the more unreliable is the rainfall. ASAL climatic zones cover about 51 million hectares or 88 per cent of the total country. Within ASAL, four systems of land use merge into each other. Each is geared to meeting subsistence needs.

KENYA ASAL DISTRICTS



POPULATION CHANGE 1969-1989 BY DISTRICT



SUMMARY

1.5 The main farming system in Zone IV (700-850mm rainfall), is maize/beans/cotton. Draft oxen and non-improved breeds of milk cows as well as smallstock are kept on the farm, but in decreasing numbers as more land is put under food crops. Average farm size is 7.5 ha of which 1.5 - 2.0 ha are cropped. This system predominates in Zone IV in lowland Machakos and parts of Kitui, Embu, Meru and Baringo districts. Together, these four districts account for half the ASAL district population.

1.6 In Zone V (550-700mm rainfall), the main farming system is maize/cowpea/pigeon pea. This is practiced particularly in the lowland parts of Kitui, which have been rapidly settled and subdivided into family farms in the last decade or so. Maize is grown by almost all the farmers, but the rate of failure is very high. Farm holdings are larger than in Zone IV, but only 2-3 ha are cropped per family per season. Soil erosion and low fertility are major production constraints, so also is the risk of crop failure due to drought. Ownership of livestock, especially goats, is widespread, but a quarter of households own no livestock at all.

1.7 In the drier parts of Baringo, eastern Kitui, Elgeyo Marakwet, interior Kilifi and West Pokot (the transition between Zones V and VI; 700-300mm rainfall) the main farming system is sorghum/millet/cowpea/green gram. Farms in these zones are generally smaller with cultivated areas between 0.75 to 1.0 ha. Livestock graze on communal land. Tillage is carried out with hand hoes and pangas which limits the amount of land which can be cultivated.

1.8 Pastoralism predominates in Zones VI and VII (550-200mm rainfall) which cover some 60 per cent of ASAL. The most important pastoral districts in these zones are Tana River, Turkana, Garissa, Isiolo, Marsabit, Mandera and Wajir. The inhabitants, while constituting 10 per cent of the ASAL district population, own about a third of the livestock. Although still heavily dependent on their animals for their subsistence, there is a growing interest in cereal cropping in areas where water concentrates in depressions or on alluvial soils subject to seasonal flooding.

1.9 In describing the characteristics of the ASAL, the problems and constraints and the development potential, it is helpful to distinguish between Zones IV and V on the one hand and VI and VII on the other; the primarily arable and the primarily pastoral zones, respectively (see Map 1.3).

C. TRENDS IN RESOURCE USE (CHAPTER 2)

Zones IV AND V

1.10 The overall picture is one of a declining resource base as a result of land clearing, over-cultivation and over-grazing, especially in Zones IV and V where population pressure is greatest, both as a result of natural increase and migration from the over-crowded higher potential areas. The growing needs of the population upstream are reflected in the increased demand for water and the decrease in the quantity and quality of water downstream.

1.11 Population growth is a major factor stimulating intensification of land use by shortening the fallow period, but the capacity of modified farming systems to supply the food needs of a much higher population has greatly varied. Progress has been made over the past twenty years with the introduction of improved land management practices in the mixed farming divisions of Machakos District. However, the areas of highest population density are now facing a critical land shortage as the farm sizes have fallen below the level needed to feed a household.

1.12 Overall, livestock populations have decreased as more land has come under cultivation, communal grazing land has been enclosed and seasonal grazing has been lost through increased settlement. There are less animals per person than in the past and those with animals manage them more intensively. The establishment of perimeter fencing has increased, as has the tethering of animals. An increasing number of farmers deliberately destock to fit the more limited grazing available.

1.13 Droughts of the last few decades have been a major factor in the impoverishment of many households who have been forced to sell their animals and land to purchase food and essential items. As grazing becomes more scarce, it will be increasingly difficult for the average farmer to maintain stock numbers or to establish a herd.

Zones VI and VII

1.14 Long-term evidence of trends in livestock numbers in drier areas indicates fairly large oscillations around a declining mean; livestock populations are recognized to have steadily declined over the last 50 years. In Zones VI and VII, local overgrazing has been exacerbated by the expansion of modern sector enterprises (irrigation, ranches, game parks) either in dry-season grazing areas or across migration routes. About 95 per cent of the land area of the KWS's protected area system (National Parks and Reserves) lies in the ASAL. Loss of grazing land, especially to arable farming, places pastoralists in conflict with wildlife.

SUMMARY

1.15 With decreasing herds and flocks, a vicious cycle ensues whereby livestock are sold for grain and fewer animals remain to rebuild the herd. Women heads of household in settlements are particularly affected. In the absence of livestock and as sole supporters of their children they are among the poorest segment of the population surviving on a hand-to-mouth existence by carrying water, collecting firewood and making charcoal. Rising poverty both causes and results from environmental problems; it increases the pressure on natural resources as more people are forced to rely directly upon them.

D. NATURAL RESOURCE DEVELOPMENT (Chapter 3)

1.16 Chapter 3 reviews the technical and administrative problems associated with the sustainable use of resources. Grave problems must be overcome if the livelihoods of those living in ASAL are to be assured and improved.

Technical and Ecological Problems

Zones IV-V: Crop and Livestock Farming

1.17 Arable Cropping: Specific problems confront rainfall-dependent arable cropping in Zones IV and V, the most crucial being the scarcity of moisture for plant growth and the necessity for timely cultivation, sowing and weeding at the beginning of the rains. Attempts to help small subsistence farmers overcome these and related difficulties in ASAL have met with little success. Higher yields can be obtained on MOA trial plots, but small farmers, often women, relying on their own and family labour, and without cash for inputs or animal draught, face very severe difficulties in raising production.

1.18 Livestock Production: The MOLD also has an extremely difficult task in convincing the majority of small farmers to adopt innovations without the provision of heavily subsidized inputs. In any case, many farmers own no livestock and these poor farmers are the least likely to undertake other recommended activities such as bee-keeping and poultry improvement.

1.19 Soil and water conservation is, without doubt, the most feasible and worthwhile intervention. But, if soil conservation is to have a significant and lasting impact, a catchment approach is essential together with the greater use of plants (multi-purpose trees, bushes and grasses) and improved tillage methods to prevent soil and water moving down slope. For practical purposes, a catchment involves a small focal area covering perhaps 100-200 hectares and comprising a group of farms. Technical problems arise in the lower rainfall areas of Zone V where the so-called conservation vegetative methods are more difficult to implement and where excessive reliance has been placed on labour-demanding physical structures.

SUMMARY

1.20 Agroforestry, involving the introduction of leguminous and multi-purpose trees into the farming system, is widely practiced in certain areas to different degrees of intensity. It has yet to be determined whether or not improved systems can be found which will increase the production and income of small farmers in ASAL, where the major constraint on yield is likely to be soil moisture rather than soil nutrients. Silvi-pastoral land use systems (tree planting in association with non-agricultural land uses) may have some importance in drier ASAL areas.

Zones VI-VII

1.21 Range Management and Improvement: The application of modern systems in nomadic pastoral systems usually requires that rangeland is subdivided by fences and allocated to individuals or small groups. The outcome is invariably a fall in the numbers of families directly supported by the system. There is also a loss of mobility and flexibility which, under traditional systems, serve to reduce drought losses and allow herds and flocks to recover more quickly after drought. Policies and interventions that interfere with these strategies and eliminate dry-season reserves have proved counter-productive.

1.22 The erection of fences in traditional grazing areas close to national parks and reserves can also adversely affect wildlife populations. The unprotected dispersal areas outside parks and reserves are essential habitat for wildlife populations at certain times of the year.

1.23 A considerable amount of technical research has been carried out in Kenya on upgrading rangeland, but applying this information in ASAL programmes to increase range production on communal land has not proved feasible. Technical means of improving the productivity of rangelands cannot be treated in isolation from decisions about who is to use the land and to what degree. Land management and land ownership cannot sensibly be separated. Efforts to introduce range improvements are best focused on Zones IV and V.

1.24 Desert Crops: The introduction of exotic crop plants into land use systems in semi-arid zones is a problem of great complexity and requires consideration of the whole ecological, social and economic situation and not just the technical and agronomic properties of individual crop plants. The date palm, introduced into Turkana in 1972 along the Turkwel River, is promising but more applied research and extension work is needed.

Institutional and Financial Problems and Constraints

Constraints Related to Land Rights

1.25 For the small farmer, a major constraint to long-term conservation improvements in Zones IV and V is the slow process of land adjudication. In the absence of title, farm credit is not obtainable and security of tenure is threatened. In contrast to extension and research, the land adjudication process in ASAL has not been seen by donors as developmental and worthy of support. Efforts should be made to find ways of accelerating land adjudication, possibly within the context of District Integrated Development Programmes (DIDP).

Extension

1.26 The problems normally encountered with extension services are multiplied in semi-arid areas: inappropriate and inadequate technical content, lack of knowledge and practical skill, plus lack of a single direct line of technical support and administrative control of field staff. Parallel support services of input supply, marketing, credit and research are also weak.

1.27 Financial Constraints: A major problem of recent years which has affected the entire public sector, has been the rising cost of non-wage recurrent expenditure for extension services. In the current climate of financial stringency, there is a strong case for combining the operations of ASAL field staff (MOA, MOLD, MENR/RAES). The policy of extending the representation of each field ministry to every division in every ASAL district, whatever the development potential, needs to be reviewed.

1.28 Induction Training for ASAL: There is a chronic lack of training in the improvement of dryland agriculture, livestock raising and forestry. Professional training of foresters, agriculturalists and livestock specialists in Kenya is, understandably, geared to the high potential areas. Specialized induction training for TAs and other staff on posting to semi-arid areas is needed. This training should familiarize field personnel with the dryland production techniques, local farming systems and the principles of non-formal adult education.

1.29 Para-professionals: For Zones VI and VII, an important innovation is the Mobile Extension Team (MET). This comprises a small group of trained extensionists who make extended visits into the pastoral areas for a week at a time to discuss with people how they themselves can reduce the risks of the pastoral way of life by wise and efficient use of community resources. The MET, which employs the methods of non-formal adult education have proved effective in bridging the gap between officials and pastoralists. The use of paravets and MET should be encouraged in remote pastoral districts.

Agricultural Research

1.30 Agricultural research is almost completely in the public sector and suffers most of the constraints and weaknesses of that sector, above all under-funding. Another problem has been the proliferation of donor-financed projects with different levels and styles of management and financing.

1.31 Kenya's national adaptive research programmes does not have the resources to test the improved varieties of dryland crops under local conditions to determine local adaptability. An obstacle to the rapid spread of any promising new variety is the lack of adequate seed producing facilities for supplying quality seeds for dryland areas. This is particularly true for vegetatively propagated materials such as cassava. Research-extension-input supply linkages in ASAL need to be improved.

Input supply, Credit and Marketing

1.32 In ASAL, the bulk of production is for subsistence and very few ASAL farmers use purchased inputs, except in Zone IV. While chemical fertilizers will increase yields in good rainfall years, the risks of rain failure are too high for farmers to borrow money to purchase them. Input supply and marketing cooperatives have been slow to develop. The livestock trade is in the hands of private traders whose trucking activities have been facilitated by road construction into the ASAL. Improved communications and marketing arrangements will increase competition and raise producer prices and offtake. Government's role should be to facilitate the process.

Water Harvesting

1.33 Water harvesting is a term embracing a wide variety of different physical techniques that collect surface runoff or subsurface flow within streams. Simple methods of water harvesting for agriculture have long been used in Kenya. More recently various "improved" methods have been introduced, notably in Turkana and Baringo, which have had varying degrees of success. Initially introduced as a drought relief measure with labour paid in food, design was partly determined by the need to supervise a construction team of up to several hundred people in one place at a time. The introduced techniques are very different from the traditional practices which involve small individually-owned plots, fallow periods and the use of traditional sorghum varieties. Unless the pastoralists begin to copy and build the new structures themselves, the new water harvesting technology cannot be counted as a success.

1.34 An extension programme (as opposed to a relief programme) would focus on more labour-saving designs and construction methods. In dry pastoral districts, arable cultivation based on water harvesting is not expected to provide more than a supplementary source of income to livestock keeping.

Irrigation

1.35 Development and maintenance costs of formal irrigation projects, both large-scale and small-scale have proved extremely high. The indirect costs have also been high as a result of the exclusion of nomads from dry-season grazing, the clearing of valuable riverine forest and diversion of water from users downstream. Experience with small-scale irrigation systems built in ASAL as an alternative to nomadic pastoralism for those made destitute by drought and famine has been particularly disappointing.

1.36 Experience with the upgrading of existing indigenous irrigation systems (e.g. West Pokot and Elgeyo Marakwet) has been more positive. However, it is not easy to intervene successfully in their development. Small investments and careful interventions such as repair of river intakes or gully crossings are desirable, without interference with organization and management

1.37 Potential for the extension of small-scale farmer-managed irrigation in ASAL is limited by the number of suitable sites. Irrigation is unlikely to employ more than a small proportion of ASAL people. Compared to water harvesting, small scale irrigation involves high per hectare investment costs and greater technical demands on ministries (e.g. for maintenance, materials and input supply). Nonetheless, there are a limited number of sites where small scale irrigation is feasible, where development of farmer-managed irrigation using simple cheap and robust technologies should be pursued.

Forestry

Afforestation

1.38 The reclamation of degraded village or town perimeters, is often necessary to prevent further damage and to produce an economic yield of fuel and fodder. Fencing and soil and water conservation work may also be necessary. The major constraint is usually not technical, but rather the cost of materials and labour for planting and establishment. Successful pilot projects are often difficult to replicate on a larger scale. Due to the harsh climate in Zones VI and VII, seedling survival rates in tree planting projects around town perimeters are extremely low. In view of the linkage between poverty and degradation, resources allocated for afforestation must be used prudently. Survival rates need to be carefully monitored to ensure that funds are not wasted.

1.39 The most satisfactory results are obtained on a very small scale (in school compounds, around houses, etc.) where tree seedlings can be protected and watered regularly. Government should continue to support amenity and shade planting in ASAL settlements, especially by schools and other institutions.

SUMMARY

Natural Regeneration

1.40 Tree plantations are rarely successful in areas with less than 600-800 mm of rainfall, except where trees can be irrigated. Under semi-arid conditions, fast growing exotics grow scarcely faster than the pre-existing vegetation and are out-performed by indigenous species in drought years. Even at low increment levels, there are millions of hectares of natural woodland to be exploited for charcoal. Most indigenous arid zone trees and shrubs continue to grow even when browsed, burned and coppiced.

1.41 Management of natural bushland regeneration by local people is likely to be a far more powerful weapon in the cause of sustainable biomass development than treeplanting programmes in ASAL which are dependent on nurseries and planting out in wet periods when labour is in peak demand for food crops.

1.42 Government should encourage natural bushland management for the following: catchment reclamation and development; pasture reclamation; and firewood and charcoal production.

Social/Community Forestry

1.43 One of the major problems which has to be addressed by those recommending social forestry in semi-arid areas is the issue of common property rights. Rural people usually want to plant trees only on permanently owned land, often only as a cash crop, and only where land in general is in such short supply that there is no communally-owned bush or forest nearby from which tree products may be taken without the trouble of growing them. In much of ASAL, this rules out the likelihood of successful villager tree-planting projects. Forest and woodland, though dwindling, still cover millions of hectares and will continue to be used by the populations who live near them for most purposes for the foreseeable future.

Wildlife

1.44 The major part of the protected area is in Zone VI, where pastoralists and wildlife compete for range resources. Although the income generation of ASAL is potentially far higher under wildlife and tourism than under alternative uses, especially with respect to foreign exchange income, the expansion of wildlife and tourism faces major practical problems. The most intractable would be the increased intensity of land use and hardship suffered by pastoralists displaced from any newly protected area.

Conclusions Regarding Natural Resource Development

1.51 One conclusion of fundamental importance is that the ASAL do not constitute a major reserve of productive land to accommodate the overspill of people from the high potential areas. It is unlikely that ASAL will be a source of surplus crops for inter-regional trade and export. Surpluses, especially livestock, will continue to be generated following good rainfall years, but on average the ASAL will continue to be net importers of food.

1.52 Food security measures will be increasingly needed as the population grows and the returns to land and labour decline. Drought contingency planning will be an increasingly vital activity.

1.53 The challenge is to ensure that the anticipated increases in ASAL population (another 2.4 million in the next 10-15 years) can be supported within the ASAL and that massive out-migration will not be a burden on the more productive areas of the country. Self-sufficiency in food production will not be a realizable goal in ASAL, which in any case have traditionally exchanged livestock with cereals from the high potential areas. Adopting a food self-sufficiency goal in the ASAL is a potential source of economic inefficiency, low productivity and therefore low personal income. Arable production in ASAL also carries with it real dangers of degradation.

1.54 The ASAL have a comparative advantage in livestock production and wildlife utilization and management. Limited areas are also suitable for oilseeds and, in those places where irrigation is possible, for horticultural crops. But irrigation expansion must not be at the expense of pastoralism by taking dry-season grazing.

Production Related Actions in Zones IV and V

1.55 In Zones IV-V, soil and water conservation, organized within local catchments of a few hundred hectares, holds the most promise of progress. Only by applying a package of improvements - water conservation structures in river beds, establishment of fodder grasses and shrubs on degraded (adjudicated) hillsides, soil conservation on arable land, planting of live fences, micro-irrigation for dry-season vegetables - will it be possible to have a significant impact on production and incomes and reverse the current trends of land degradation.

1.56 If this is to be achieved, there is need for more commitment to a community approach and much closer cooperation of the line ministries at the district and divisional level.

SUMMARY

1.45 Given the jealousy with which land rights are guarded, it is difficult to imagine that implementation of expanded wildlife and tourism would proceed smoothly, especially if outside interests were perceived to be benefiting at the expense of local people. For such developments to take place, the initiative for them must come from the people themselves. This is unlikely to happen until local people derive direct and tangible benefits from the presence of tourists and wildlife in their locality. The KWS aims to sponsor such community-based schemes.

1.46 In view of the importance of foreign exchange for ASAL and the economy as a whole, the community-based development initiatives of KWS should be constructively supported. Opportunities should be sought for such initiatives within the context of DIDPs.

Water Development

1.47 Depending on the hydrological conditions, there are several types of improved water supply systems which are technically possible. Compared with the more humid parts of Kenya, unit costs are high. These arise from unfavourable physical conditions (low and uncertain rainfall, high evaporation and sedimentation rates, etc). Technical problems occur where there is neither exploitable groundwater nor suitable sites for water conservation (e.g. sand dams, rock catchments).

1.48 Rural supplies: The method employed has to be suited (a) to the locality and (b) to the ability and skill of the people, both inasmuch as they assist in construction and as they take responsibility for future maintenance. Prior consultation with local people, be they settled or nomadic, is essential.

1.49 Urban supplies: In general, the criteria for water supply systems are different in urban settings. The requirement for larger quantities and higher standards of hygiene, arising from the higher risks of contamination, dictate more sophisticated design criteria and an operation and maintenance system funded by charges to consumers.

1.50 Although water supply is still a vital factor in the development of ASAL, it is probably no longer the most vital. A whole range of low-cost technologies have been developed for collecting, storing and conveying water. Unfortunately, equivalent progress has yet to be achieved in the sustainable development of biomass resources. There are many examples where the development of water resources has had a negative impact on vegetation. The MRDASW should foster an integrated approach to water resource development within the context of DIDPs.

SUMMARY

1.57 In Zones IV and V, the following production-related actions will be central to increasing the stability and sustainability of rural livelihoods:

- MOLH: greatly accelerate the process of land adjudication;
- MOA/MOLD and local communities: greatly improve soil, water, fertility and fodder conservation and integrate them at farm and catchment level;
- KARI: increase the reliability of yield, as well as the yield per unit area, of dryland crops with the minimum of imported inputs;
- KARI, MOA/MENR increase the range of crops (annuals and perennials), planting material and seed available to farmers.
- MOA: helping farmers to improve the productivity and income from small-scale irrigation, both formal and informal.

Production Related Actions in Zone VI and VII

1.58 In Zones VI and VII, increasing the stability and sustainability of rural livelihoods, and reducing the risks and uncertainties faced by nomadic pastoralists, will require:

- protecting their habitat from encroachment by legally vesting (adjudicating) dry season grazing areas in favour of traditional management groups;
- protecting their herds and flocks from outbreaks of disease by appropriate disease prevention measures;
- facilitating emergency destocking and grain purchase in times of drought and providing "food for recovery" afterwards;
- seeking ways of increasing income from Wildlife and Tourism which do not harm the interests of pastoralists and bring them direct tangible benefits.

Efficiency-related Actions by Operational Ministries

1.59 In the light of the Budget Rationalization Programme, there is need for a rigorous review of departmental structures, establishments and work programmes bearing in mind what is actually appropriate in ASAL. Offices have been staffed and practices have been imported from the high potential areas without regard to the special conditions prevailing in ASAL. There is need to find ways of strengthening those activities which clearly need more support in ASAL.

1.60 Specialized induction courses for staff on posting to ASAL are essential. The MRDASW, above all, has a responsibility to ensure that its staff are well versed in the economy, habitat and society of ASAL.

1.61 Above all, there is need for much closer cooperation of the individual ministries at the district and divisional level. This cooperation, which already takes the form of shared offices, transport, etc., should be extended to include joint programming, staff training and extension programmes (e.g. catchment development) at divisional level. The MRDASW should consider programming its support to extension in ASAL districts (Zones IV and V) entirely within the context of catchment reclamation and development.

E. INFRASTRUCTURE, MANUFACTURING AND TRADE DEVELOPMENT (Chap. 4)

1.62 The growing population and the associated challenge of unemployment have led to recognition of the need for support to the promotion of income-generating activities in rural areas. This will require:

- first, growth in the agricultural and the livestock economies ;
- second, small-scale manufacturing and other services in rural areas to provide off-farm employment; and
- third, income-generating activities in rural areas.

1.63 In order to enhance growth of the informal sector, the Government aims to create a favourable environment by:

- ensuring that information vital to effective decision-making is made available through the media, extension and training;
- examining existing laws, regulations and procedures which have hindered the development of small-scale enterprises;

SUMMARY

1.68 Mineral deposits are found in many ASAL districts (Elgeyo Marakwet, West Pokot, Turkana, Samburu, Kitui and Taita Taveta). The Mines and Geological Department (MENR) has encouraged individual prospecting by local people to boost their income. The trade is currently in the hands of middlemen and private entrepreneurs and the return to local people is minimal. People should be encouraged to form cooperatives for the purpose of processing and marketing minerals.

Cooperatives

1.69 Gemstones are second only to livestock as a source of income for ASAL Zones VI and VII. Both of these activities provide opportunities for cooperative development in areas where cooperative activity is currently non-existent. Building materials (nails, roofing sheets, etc.) are costly and difficult to obtain in remote districts. The same applies to basic consumer goods (salt, soap, blankets, etc.). The establishment of multi-purpose, input-supply and marketing cooperatives should be encouraged by MOCD.

Infrastructure

1.70 Poor basic infrastructure, particularly transport and communications, especially in Zones VI and VII, will restrict the growth of off-farm employment for some time. Given the dispersed populations, low traffic density and low level of economic activity, the economic costs of road construction are extremely high in much of ASAL. The same applies to electricity supply. Most of the connections are to Government institutions. There are insufficient private consumers to pay the very high transmission costs. This situation is unlikely to change in the foreseeable future.

Roads

1.71 Physical infrastructure has been concentrated on provincial and district headquarters. Outlying areas have no electricity, few improved reliable water systems, limited post and telecommunication services and poor roads, many of which are impassable during the rains. Eighty per cent of the roads in ASAL districts are ranked 'fair' or 'poor'. Roads rated as 'poor' comprise 100 per cent of all roads in Wajir, 70 percent in Kilifi, 72 per cent in Machakos, 85 per cent in Kitui and Isiolo and 91 per cent in Narok.

1.72 Complete construction or upgrading of high priority major roads will be necessary for development of certain ASAL areas and to facilitate international trade. Creation or improvement of such potentially key roads such as Narok-Mau Narok (C57); Namanga-Loitokitok-Taveta-Mwatate; Migori-Narok; Kibwezi-Kitui-Mwingi (B7); Wajir-Mandera (C80); extension of C113 from Nginyang to junction of A104 at Lokichar; Tambach (C52) to junction of A104 at Sigor; Isiolo (C81) to junction of Wajir-Garissa (B9); Maralal-North Horr (C77); and Moyale-Rhamu need to be considered.

SUMMARY

1.73 While opening up large areas through improvement of major roads is important for both ASAL and national development, access to these roads from the rural areas will be important. More should be voted for minor/rural access roads to ensure that main roads also benefit the locality through which they pass.

Power

1.74 With the exception of 15 ASAL district headquarters which are on the national grid, ASAL towns and centres have to rely on diesel generators. The more remote the area, the more unreliable and expensive the supply of liquid fuel. Alternative power sources for electricity, such as sun, wind or water driven systems, are beyond the reach of most consumers due to their high purchase and/or maintenance costs. Other non-biomass ('modern') energy sources include paraffin, bottled gas and fuel oils for transport. Prices are high and rising rapidly, supplies are unreliable and most of the consumption is limited to institutions and a few high income households.

Financial Services

1.75 A major effort has been made to extend basic banking services to ASAL. As yet they are operating at only a fraction of their capacity. However, for most of the population, the Post Bank is their most likely saving facility but expansion of the Post Bank is constrained by the postal system which is in turn limited by the road network in ASAL.

Small Urban Water Supply

1.76 The lack of reliable water sources is a major constraint to economic development and social and physical well-being, yet implementation of water supply systems cannot, in spite of increasing expenditure in this sector, keep pace with the growing population. Donors have been reluctant to finance small urban supplies because they are not considered to be technically inappropriate and because they are assumed to favour the better off segment of the population, rather than the rural poor. However, small urban centres are focal points for the rural areas. In the absence of water supply, small urban centres will not thrive. Water development in the rural areas needs to include the provision of water to the local centres if rural-urban balance is to be promoted.

Fuel Pricing

1.77 The current fuel pricing system penalizes remote areas by charging for fuel transport costs. These costs are passed on to the local population who must pay more for items imported into the district. Non-locally produced food in the more remote districts, for example, can cost much more. A national cross-subsidy for fuel, which would spread the costs of fuel delivery, would be in the interests of ASAL consumers.

Strategic Investment Planning

1.78 In view of the many constraints to manufacturing and trade development in ASAL, care must be taken to match the effort and resources allocated to local conditions, resources and needs. It would be inappropriate to adopt an aggressive pursuit of employment generation in districts falling under Zones VI and VII. In investing the limited resources available, careful account should be taken of the comparative advantage of alternative centres. Support should be directed to strategically located areas with growth potential. Improvements in infrastructure (roads, electricity, water supply) should be strategically located to take advantage of promising economic trends.

1.79 It is recommended that MRDASW Technical Services Division acquire the necessary staff and expertise to coordinate the strategic planning of infrastructure development in ASAL, in order to ensure that investment decisions are reached on a planned basis.

Credit for the Informal Sector

1.80 It is argued that, the financial system needs to be liberalized if the potential of the informal sector is ever to be fully developed. However, before any changes are proposed, the subject deserves more careful study as it will be difficult to design a credit facility for SSEs that can operate on commercial terms. Subject to the outcome of these investigations, bilateral donors should be encouraged to channel their funds through commercial banks and to underwrite more liberal lending criteria (relating to collateral and guarantees rather than interest rates) to individuals and groups engaging in income-generating activities in the informal sector.

1.81 In seeking to promote income generation, Government should not lose sight of the advantages of the informal sector and try to formalize its activities. There is a danger of over bureaucratizing the whole process and creating a barrier between the financiers and those who Government wishes to help. This could undermine the resilience of the informal sector and expose it to changes in macro-economic conditions, e.g. rising interest rates. The overriding object must be to disencumber the informal sector of regulations and controls and to develop the basic infrastructure it needs to thrive. This applies as much in ASAL as it does in the high potential areas of the country.

Public Works

1.82 It will also be necessary to consider ways of improving employment within those districts with the least income-earning opportunities (Zones VI and VII), if only to avoid exporting employment problems. This can be achieved by ensuring that labour-intensive methods in the public sector are adopted whenever feasible, especially in construction, e.g. rural access roads, maintenance of roads, irrigation structures, government housing, minor rural water schemes.

F. HUMAN RESOURCES DEVELOPMENT (CHAPTER 5)

1.83 Increasing population pressure in ASAL coupled with financial cuts has resulted in a situation where the quality of health, education and social services has remained static at best, and in some cases has declined.

1.84 The most intractable problems in delivering health, education and social services are encountered in Zones VI and VII. The remote pastoral districts have received the least attention in the past. In these districts, the unit costs of reaching the population are highest and the population is least able to contribute to cost-sharing and self-help schemes. Although the Zones IV and V also face serious difficulties, there is little doubt that the gravest problems are encountered in the remotest districts. In Zones VI and VII where the main subsistence activity is nomadic pastoralism, services based in settlements do not reach the majority of the population.

Personnel Shortages

1.85 A shortage of trained personnel, especially people from the district, is directly related to the poor quality of services provided. The absence of trained personnel reduces the quality of service and results in dependence on short-stay staff from other districts. These problems are particularly serious in Zones VI and VII where non-local personnel are reluctant to live and work.

Education, the Priority Sector in Zones VI and VII

1.86 A review of problems and constraints, and previous development interventions in ASAL (Zones VI-VII), strongly suggests that Education should be the priority social sector, followed by Health, with Social Services some considerable distance behind. Adult Education should receive priority in Social Services.

SUMMARY

1.87 Although Government has been concerned at the rate of growth of expenditure on Education since 1975, the reduction of its budgetary share should be achieved outside the remote pastoral districts (Zones VI and VII) where formal education was slow to get started and parents are least likely to be able (or willing) to pay.

1.88 Within this sector, measures to reduce the existing drop-out rate (e.g. by upgrading teachers, providing bursaries, materials in the vernacular, school inspection) will generate a better return than building new schools. Expenditure on girls' education should receive priority: a) to promote an egalitarian society, b) in recognition of the role of mothers as family educators and c) to resolve the chronic shortage of women employees in the public service (teachers, nurses, extension staff, etc) and private sector.

Primary Health Care Management

1.89 The return on health expenditure is seriously affected by the high turnover of senior MOH staff in the more remote ASAL districts. Closer coordination and control of the various elements of the Primary Health Care programme by the District Health Management Team could pay dividends.

Physical Planning

1.90 Many NGOs and some GOK programmes operate from buildings which are less costly and functionally better adapted than many official MOH and MOE designs. Considerable savings in capital and maintenance expenditure could be achieved in the construction of buildings (e.g. primary schools and dispensaries) by paying more attention to the needs of the locality and the ability and skill of the local people, both inasmuch as they assist in construction and as they take responsibility for future maintenance.

1.91 Closer attention to planning the provision and location of services should result in better utilization of the facilities provided. For this and other reasons, the DPUs should be strengthened.

Social Services

1.92 Savings could be achieved and effectiveness increased by combining the training of the field staff of the different ministries involved in community development work. The funding of Youth Polytechnics in Zones IV and V should receive higher priority than those in VI and VII. Development should be geared to local employment opportunities and the availability of pupils from within (rather than without) the district. Likewise, grants to women's groups for income-generating programmes should be geared to the scale of local demand, by the women's groups and the market place, otherwise the programmes will not be sustainable.

G. DROUGHT MANAGEMENT (CHAPTER 6)

1.93 The objective of a drought management strategy is to respond to hunger in a controlled and measured way so that people will not be obliged to abandon their way of life, to migrate to towns or move into relief camps. Rather, they should be helped to maintain their independence so that they can resume normal activities when rain eventually returns. By responding in this way to local needs, the authorities will help people in ASAL to sustain agriculture and pastoralism and reduce migration to urban areas.

1.94 Increasing population, declining livestock herds, increasing land scarcity and recurrent drought in ASAL together mean that there will continue to be people who cannot support themselves on the land in times of drought stress.

Drought Response

1.95 Because of the prevalence of drought in ASAL, people have through time developed drought-coping mechanisms which help buffer them against short dry spells. It is important that relief programmes take account of traditional capabilities to survive and do not undermine people's self-reliance by providing assistance too soon or for too long. Only in extreme situations do pastoralists and agriculturalists seek out relief and migrate.

Zones VI and VII

1.96 Drier ASAL, dominated by pastoralism, are the most drought-prone. However, the nomadic pastoral production system is well adapted to climatic variability. Livestock, particularly browsers (goats and camels) may be able to withstand successive dry years, and mobility and the flexibility allow nomadic pastoralists to exploit local variations in rainfall. However in prolonged droughts very high stock mortalities (up to 50%) can occur. If a nucleus of breeding stock survives, sheep and goat flocks can recover in 3 to 4 years under average conditions, but cattle and camels take much longer. Because of their remoteness and poor infrastructure, the districts in these zones are most difficult to relieve in times of drought stress.

Zones IV and V

1.97 Rainfed crop production is more susceptible than pastoralism to drought in the form of late or broken rainy seasons. These can cause serious crop losses, but agricultural production can recover relatively quickly if farmers have remained on their land and have seed to plant. The more highly developed physical and commercial infrastructure of these zones facilitates the rapid deployment of food supplies.

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Drought and Food Entitlement

1.98 People in poor households, pregnant and breast-feeding mothers and children under 5 years of age are particularly at risk during periods of food shortages. Hunger is not always the result of an absolute shortage of food but rather a breakdown in the ability of certain groups of people to obtain access to food. This loss of access is generally described in terms of "loss of entitlements". Drought has a direct effect on the production of crops and livestock, and there can be a sharp decline in the availability of wage labour (particularly agricultural work) and in demand for services (e.g. fuelwood). Impacts are most severe on the landless, those normally dependent on wage labour and women heads of household. Exchange relations can be drastically changed by drought. Informal grain prices rise and livestock prices often collapse.

1.99 In Zones IV and V, per capita livestock numbers have declined, land use intensity has risen and soil erosion and fertility decline have grown worse. Economic returns to land and labour have declined and economic marginalization and exposure to entitlement failure have increased. In Zones VI and VII increasing numbers of households are unable to subsist upon their herds and flocks and they are obliged to seek supplementary income. Those dependent on wage employment (especially on-farm employment) and service provision lose entitlements fastest when demand for their labour falls. The idea that food shortages are a transitory phenomenon which can be overcome should be challenged.

Interventions

1.100 Intervention to minimize the impact of drought must be suited to the nature and severity of the problem and the economy of the people affected. There are clear differences between the different ecological zones.

- Strategy 1, Releasing Food on to the Market: requires foreign exchange reserves and relies on farmers and pastoralists in ASAL having money to pay for the subsidized grain.
- Strategy 2, Emergency Livestock Purchase: (the purchase of livestock on the local market during drought for cash or grain); demands ready availability of resources to buy animals and process or transport them out of the district.
- Strategy 3, Food Relief: this widely adopted strategy can be the result of a failure to intercept problems before they become critical.

SUMMARY

- Strategy 4, Food For Work: FFW can have negative long-term effects. Agencies involved in longer term development programmes are concerned that their programmes are seriously undermined by frequent relief activities.
- Strategy 5, Food For Recovery among Nomadic Pastoralists: Cereal is an efficient food in terms of total calories. Injection of grain into pastoralist social networks is cheaper in the long run than keeping people on relief food and/or FFW.
- Strategy 6, Accelerated Restocking of Nomadic Pastoralists: (provision of smallstock for pastoralists destituted by drought). Flocks should be large enough to form the nucleus for a new herd. Grain is also needed so offtake of the animals can be delayed. The timing of restocking is critical.
- Strategy 7, Replacement Seeds for Farmers: provision of seed grain to farmers who have consumed their stocks during severe or prolonged drought.

Organization for Drought Management

1.101 There is a need for a clear definition of powers and responsibilities for drought management at both national and district level. The central drought management technical unit in the Office of the President should be strengthened to analyze monitoring reports from the districts and the various national organizations which collect and process relevant data. The purpose would be the generation of timely and accurate information specifically designed to allow Government to direct assistance to those locations in need.

1.102 District Drought Management Committees (DMC) should be activated in all ASAL districts, meeting at least twice a year (and more frequently during emergencies). The DMC should draw up a district drought action plan, defining and describing the powers, responsibilities and relationships of each party. This should comprise:

- specific procedures for drought monitoring;
- the specification of critical trigger points for action and appropriate plans for intervention at each stage of a drought-related emergency;
- grain storage, including temporary stores for use in emergencies;
- arrangements for grain transportation and distribution;
- emergency livestock purchase and processing;
- identifying, planning and supervising labour intensive (FFW) works.

SUMMARY

1.103 National guidelines should be prepared to assist the DMCs in this task, but the focus for drought management planning and action should remain at the district level. A training and planning group should visit each ASAL district in turn to assist with the training staff of the DPU, district administration and line ministries in drought management. There should be a clear procedure for DMCs to call on funds in the event of a drought-related emergency.

Infrastructure and Training

1.104 Strategically placed grain stores are essential for emergency food storage and distribution programmes at local, district and regional level. Where necessary the grain store system should be further strengthened.

1.105 Good road communications are vital for grain distribution. The road network in remote ASAL should be developed for this purpose. Commercial vehicles should be hired for moving food during drought-related emergencies rather than a stand-by transport fleet. An effective road and transport system allows the keeping of smaller local grain stocks in drought-prone areas, thus reducing loss in storage to pests and the danger of deliveries to a local store sparking off demand for relief hand-outs.

1.106 Personnel trained in drought management, administration and organization of relief and FFW programmes are needed at district level. Such staff can be drawn from the field cadre of line ministries, but would need special training in logistics and on-site management.

H. PROGRAMME MANAGEMENT (CHAPTER 7)

1.107 The Government of Kenya has pursued an active strategy for the development of ASAL for more than a decade. These areas tended to be neglected until, in the mid-1970s, it was recognized that they merited special attention since (a) their inhabitants were often amongst Kenya's poorest, (b) they needed to support and feed a growing population if they were not to become an increasing burden on the rest of the economy, and (c) intensified pressure on the ASAL carried environmental dangers that needed to be anticipated.

1.108 Despite the efforts made over the last decade or so, the standard of living of the population in the ASAL areas, particularly in Zones VI and VII, continues to lag behind that in high potential areas of the country. On the grounds of equity, there is need for a clear Government policy for the development of these predominantly pastoral districts, particularly in the area of human resource development.

SUMMARY

1.109 The case for a special ASAL policy for Zones IV and V can be justified on the basis of the environmental dangers posed by the expanding settled farming population.

1.110 The MRDASW has been given wide ranging responsibilities. As the Ministry specifically responsible for ASAL, it oversees the implementation of the national five-year plan, comprising the district ASAL programmes (see Appendix I), the sectoral ASAL plans and programmes (see Appendix II), and the Special ASAL Development Fund.

1.111 The task of coordinating the development of the arid and semi-arid lands calls for a greatly enhanced administrative and technical capability in the MRDASW. The Ministry will be reorganized and strengthened so that it can fulfil its mandate. Figure 7.1 shows the proposed organizational structure of the Ministry and professional staffing at full development. The Ministry's monitoring and coordinating responsibilities will be exercised at two main levels.

- (a) **National Level:** The MRDASW is responsible for over-all policy formulation of all development activities in ASAL. In his capacity as chief executive of the ASAL Ministry, the Permanent Secretary will chair the twice-yearly meeting of the Inter-ministerial Coordinating Committee on ASAL, which will be the apex of the Government structure for liaison on ASAL matters.

In consultation with the operating ministries, the MRDASW will coordinate, monitor and evaluate the ongoing sectoral ASAL development plans and programmes in the light of the Government's ASAL Policy and recommend modifications to MOPND as appropriate. MRDASW will chair a number of inter-sectoral Planning and Coordinating Committees.

- (b) **District Level:** The Ministry, in close cooperation with the operating ministries, will be responsible for coordinating the implementation of the donor-funded ASAL district development programmes. In collaboration with the Office of the Vice President and Ministry of Finance, the DDCs, the operating ministries and donors, the MRDASW will also identify and formulate additional projects and programmes for donor funding.

The MRDASW will administer the Special ASAL Development Fund which will be set up to support specific projects proposed by the DDCs in ASAL districts, particularly to test and demonstrate improved techniques relating to reclamation and development of natural resources (e.g. local catchment development).

SUMMARY

District-based Donor-funded Projects

1.117 ASAL development will continue to be implemented in the context of district-based coordinated rural development. Operational procedures will be more or less similar to the procedures of the ongoing ASAL district programmes. However programming and budgeting, organization and management of donor-financed district ASAL programmes will, as far as possible, follow a common format in the interests of administrative and technical efficiency.

1.118 In collaboration with the operational ministries, the district programmes will be used as a vehicle for implementing the many policy reforms outlined in this document. On the institutional side, the implementation of the District Focus Strategy will receive high priority together with the strengthening of district planning capability.

1.119 To strengthen its coordinating role at district level, the MRDASW should discuss with the Directorate of Personnel Management, MOPND and the Treasury the creation of more posts for Senior Economists who should act as Senior Programme Officers (Job Group L and M) in the field.

1.120 The system of direct payment insisted upon by bilateral donors carries with it a number of problems, above all the misuse of funds and the erosion of well established financial procedures. Donors and Government should strive to seek ways to overcome the difficulties which led to the abandonment of payment in advance through the revenue account of the Development Budget.

1.121 Ways should be found to reduce the domination of ASAL budgets by routine departmental expenditure in favour of larger allocations to genuine community-based projects. This will require greater efforts in the area of community education and training at the locational and sub-locational level in order to help communities to formulate development proposals and submit them for funding. A reversion to formal procedures must be accompanied by guarantees that donor funds, which are paid in advance, are promptly made available through the district treasuries for the agreed workplans and budgets.

CHAPTER 2: THE RESOURCE BASE

A. THE ASAL AREAS

Definitions

2.1 The definition of the arid and semi-arid lands (ASAL) dates back to the 1979 GOK policy document, Framework for Arid and Semi-Arid Lands Development in Kenya.^[1] Based on the agro-ecological zones (AEZ) from the Kenya Atlas,^[2] ASAL areas were defined as Zones IV to VI. In 1982 reclassification of the zoning system was carried out. Seven agro-ecological zones were elaborated and used in the Farm Management Handbook of Kenya^[3]. Using this methodology, ASAL were redefined as Zones IV-VII (Map 1.3).

2.2 The basis for all definitions is moisture availability. The areas of each zone and relative rainfall/evapotranspiration ratios are in Table 2.1

Table 2.1 Area by Agro-ecological Zone (AEZ's)

	% r/EO	Area (km ²)	% Country area
Zone IV, Semi-humid	40-50	27 000	5
Zone V, Semi-arid	25-40	87 000	15
Zone VI, Arid	15-20	126 000	22
Zone VII, Very arid	15	226 000	46
Total		506 000	88

Source: Farm Management Handbook of Kenya

[1] Arid and Semi-Arid Lands Development in Kenya; The Framework for Implementation, Programme Planning and Evaluation, Government of Kenya, Nairobi, 1979.

[2] Kenya Atlas, Government Printer, Nairobi, 1970

[3] Farm Management Handbook of Kenya (Vols I-V), by R.Jaetzold and Helmut Schmidt, Ministry of Agriculture Kenya, 1982.

THE RESOURCE BASE

2.3 ASAL cover about 51 million hectares or 88 per cent of the total country. Using the criterion of greater than 30 per cent of a district's area with an evapotranspiration of more than twice the annual rainfall, there are 22 ASAL districts. A number of these districts contain non-ASAL land (Maps 2.1-2.6). There are four categories of districts depending on the degree of aridity.

Table 2.2 ASAL Districts Classified by Degree of Aridity

Category	Districts	% Total ASAL area
A. 100% ASAL	Isiolo, Marsabit, Garissa, Mandera, Wajir, Turkana	62
B. 85-100% ASAL	Kitui, Tana-River, Taita-Taveta Kajiado, Samburu	25
C. 50-85% ASAL	Embu, Meru, Machakos, Laikipia, West Pokot, Kilifi, Kwale, Baringo	10
D. 30-50% ASAL	Lamu, Narok, Elgeyo Marakwet	3

Source: IFAD/UNDP, 1988

B. POPULATION

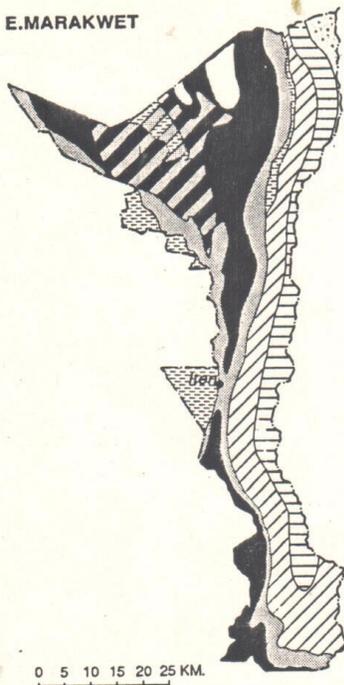
2.4 An estimated 8,198,000 individuals lived in the 22 ASAL districts in 1989. While total population has increased between 1979 and 1989, the proportion of the population in these districts has not. The population of the ASAL districts represented 34 per cent of the national population in the 1979 census and in the 1989 estimates. An estimated 20 per cent of the population actually reside in the climatic ASAL.

Map 2.1

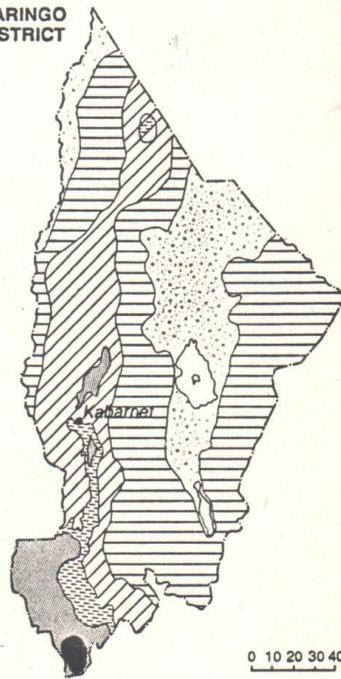
THE RESOURCE BASE

ASAL DISTRICTS - ECOLOGICAL ZONES

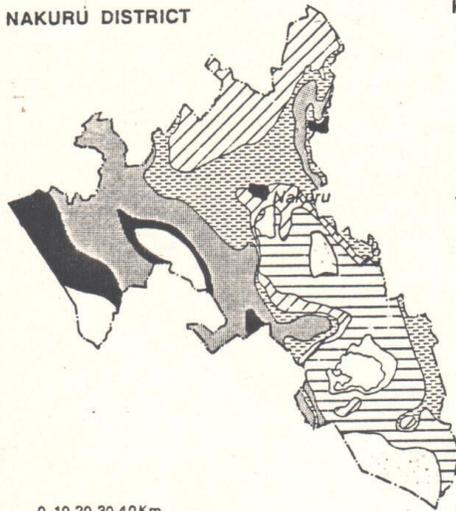
E. MARAKWET



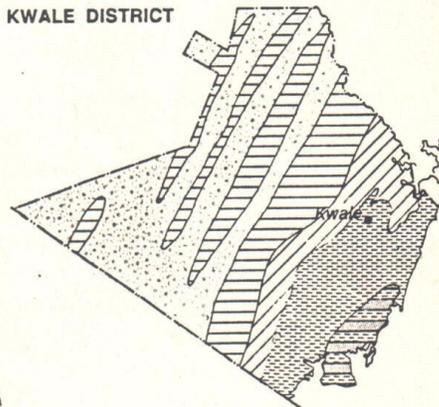
BARINGO DISTRICT



NAKURU DISTRICT



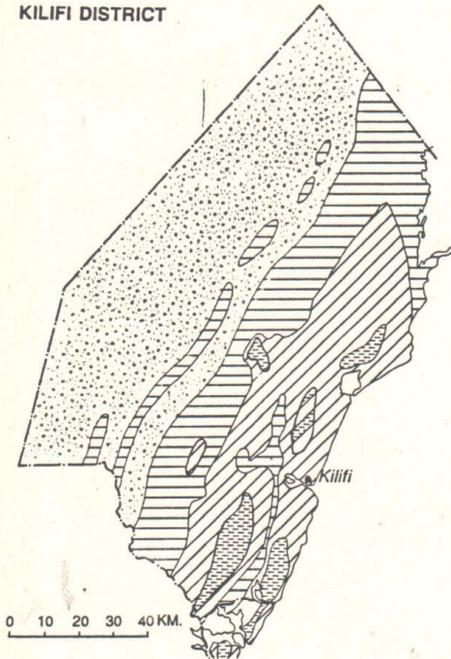
KWALE DISTRICT



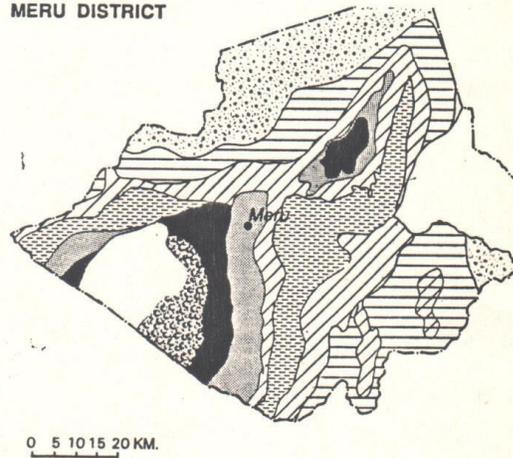
Map 2.2

ASAL DISTRICTS - ECOLOGICAL ZONES

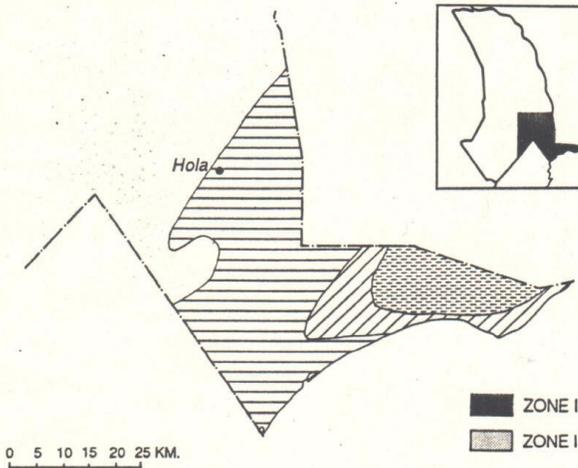
KILIFI DISTRICT



MERU DISTRICT



T.RIVER DISTRICT

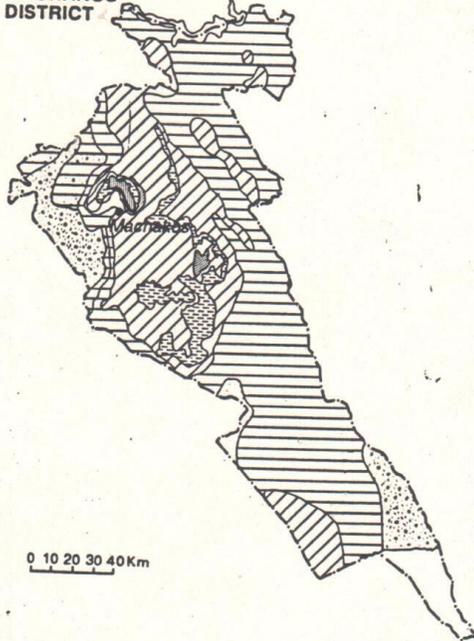


Map 2.3

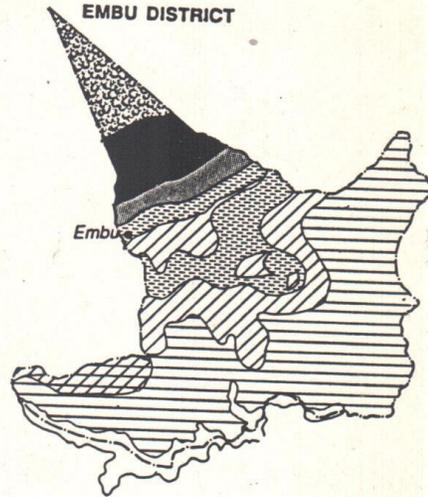
THE RESOURCE BASE

ASAL DISTRICTS - ECOLOGICAL ZONES

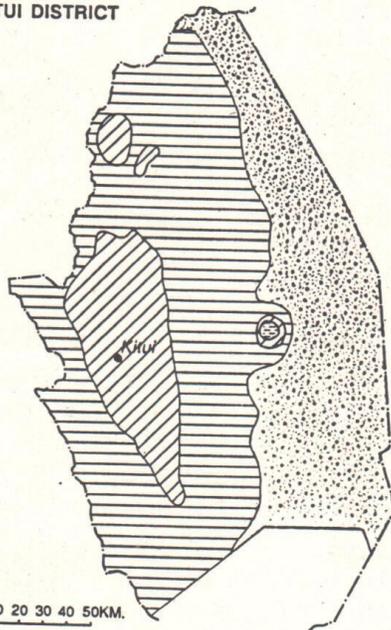
MACHAKOS DISTRICT



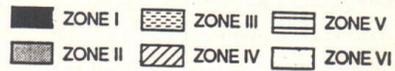
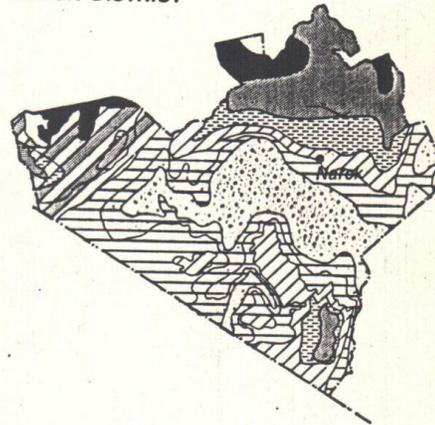
EMBU DISTRICT



KITUI DISTRICT

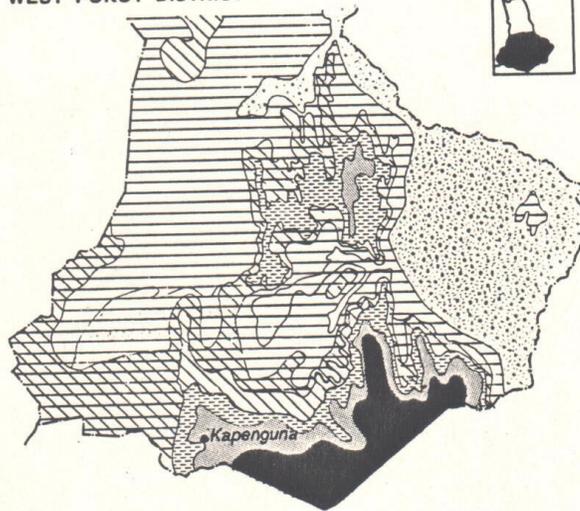


NAROK DISTRICT



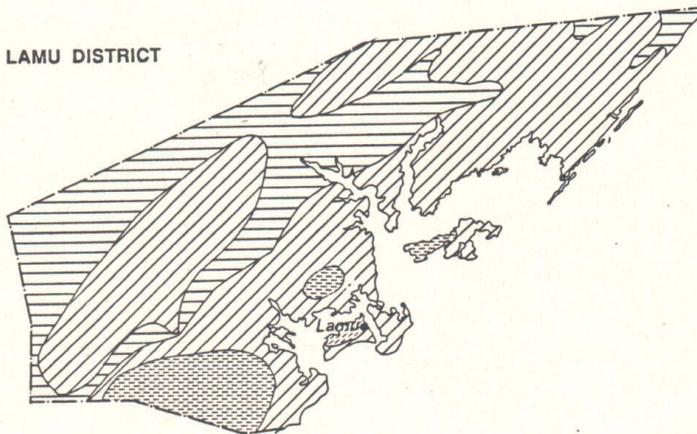
ASAL DISTRICTS - ECOLOGICAL ZONES

WEST POKOT DISTRICT

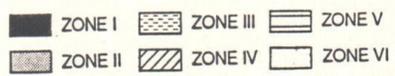


0 10 20 30 40 KM.

LAMU DISTRICT



0 5 10 15 20 25 KM.

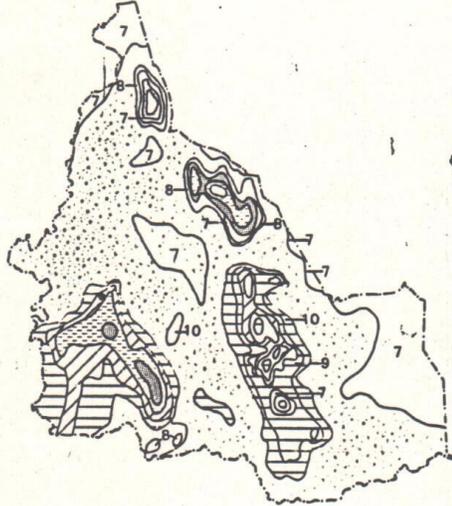


Map 2.5

THE RESOURCE BASE

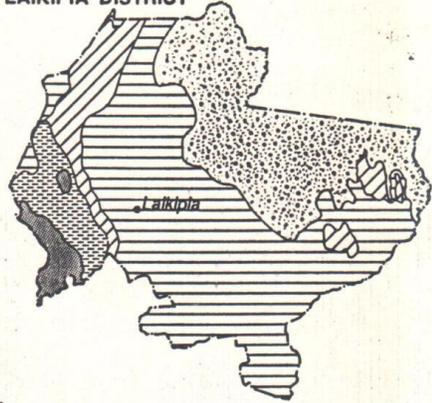
ASAL DISTRICTS - ECOLOGICAL ZONES

SAMBURU DISTRICT



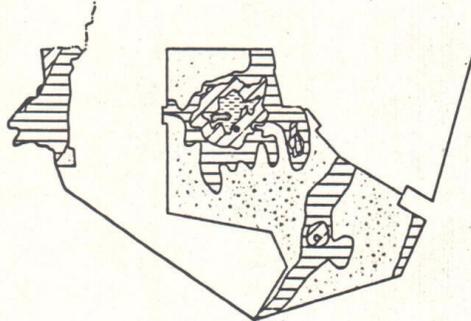
0 10 20 30 40km

LAIKIPIA DISTRICT



0 10 20 30 40 KM

T.TAVETA DISTRICT



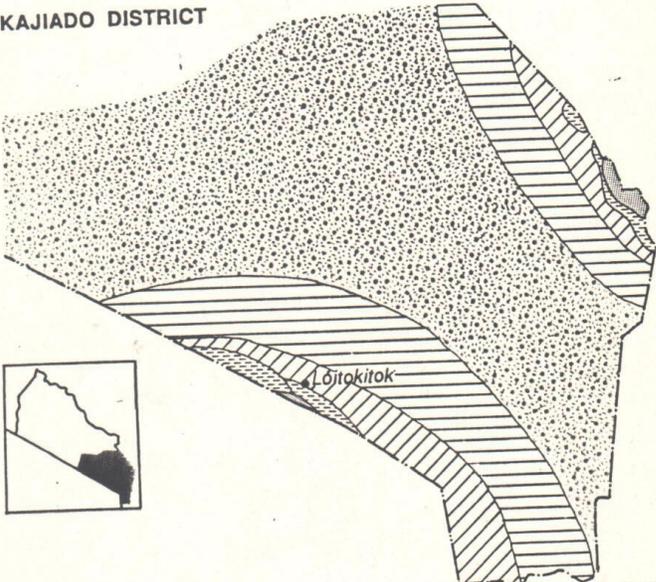
0 10 20 30 40km



Map 2.6

ASAL DISTRICTS - ECOLOGICAL ZONES

KAJIADO DISTRICT



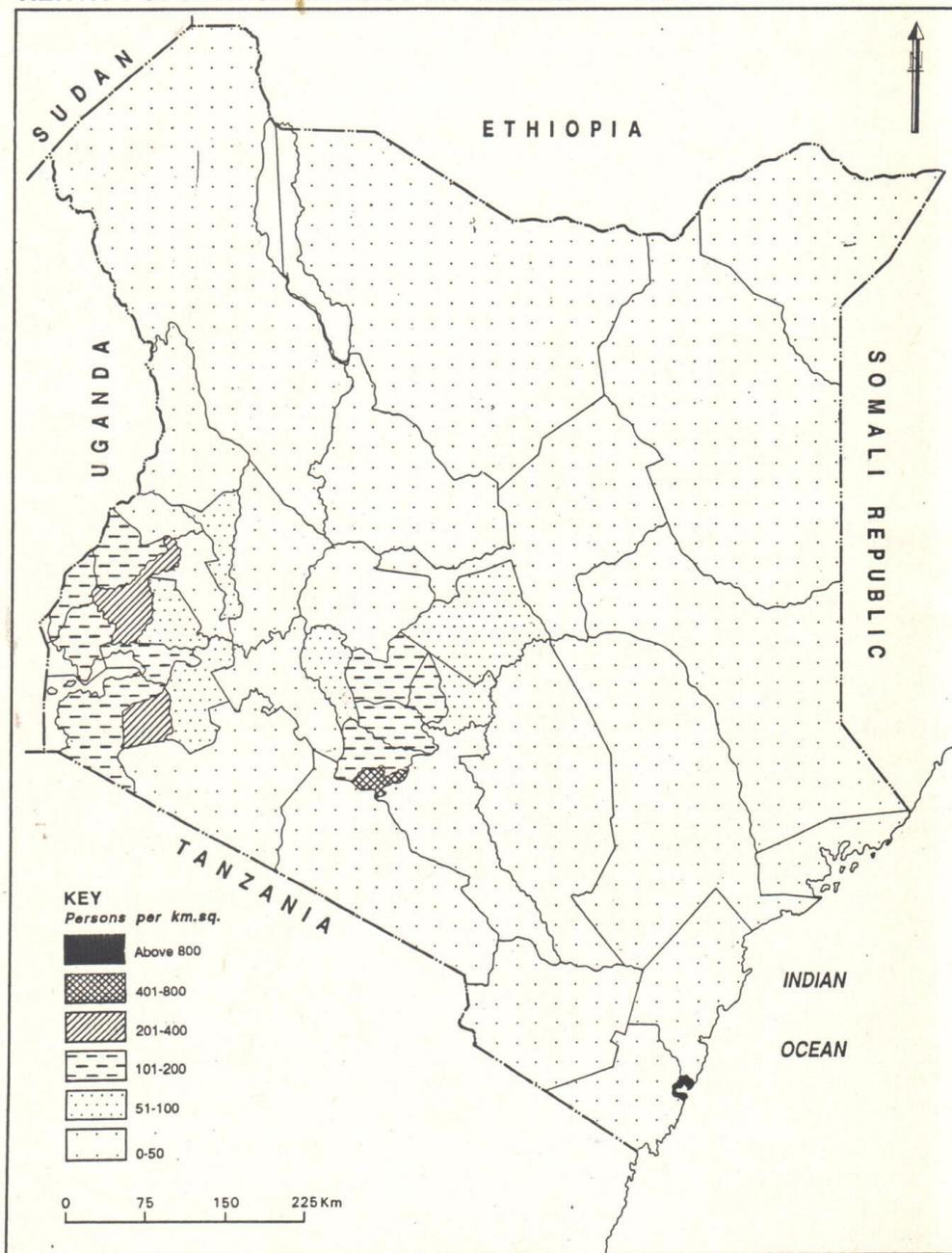
- | | | |
|---|--|---|
|  ZONE I |  ZONE III |  ZONE V |
|  ZONE II |  ZONE IV |  ZONE VI |

THE RESOURCE BASE

2.5 The ASAL districts' growth rate, which was higher than the national average between the 1969 and 1979 censuses, had fallen to near parity by 1989, i.e. +3.98 per cent compared with +4.00 per cent. Trends among districts vary greatly: Garissa is estimated to have a positive growth rate of 5.73 per cent and high immigration rates, while Turkana is experiencing a negative growth rate of 0.20 per cent coupled with high rates of out-migration (Table 2.3).

2.6 The density of population is highly variable in the ASAL districts. Significant changes have also occurred through time, most notably in Machakos District where the population density has increased over the last 20 years from a low of 0-50 persons/sq.km. to an estimated 101-200 persons/sq.km. (Maps 2.7 and 2.8).

KENYA POPULATION DENSITY BY DISTRICT - 1969



C. ASAL ENVIRONMENT

Climate and Rainfall

2.7 By definition the ASAL are hot and dry, having an evapotranspiration rate which is more than twice the annual rainfall. Rainfall is not only low overall, but is highly variable across the ASAL and over time. The ASAL are subject to erratic rainfall both within and between seasons and high intensity storms. These storms produce considerable run-off, partly because of the absence of vegetation cover. Vegetation growth in response to rainfall is similarly variable in time and space. Average rainfall figures are deceptive in these circumstances because there tends to be a few years well above the average whilst the 60 per cent probability is well below. This situation is further complicated because average annual figures disguise bimodal rainfall patterns which occur in eastern Kenya and at the coast. Monomodal rainfall, with a slight mid-season decrease in precipitation, is found west of the Rift Valley. Approximate rainfall expectancy in Zones IV - VII is shown in Table 2.4.

Table 2.4 Rainfall Expectancy in mm (60 per cent probability level)

AEZ	Average Annual Rainfall (mm)	1st Season	2nd Season
IV	700-850	250-350	250-350
V	550-700	150-300	150-200
VI	300-550	100-200	50-150
VII	200-300		

Source: IFAD/UNDP, 1988^[4]

[4] Arid and Semi-Arid Lands (ASAL) Development Programme: Summary of Technical Reports on the Strategy, Policy and ASAL Development Programme 1989-1993, IFAD/UNDP, Nairobi, 1989.

Soils

2.8 ASAL soils are highly variable. They are generally of light to medium texture and have low fertility and cation exchange capacity. In general, they are subject to compaction and capping and are susceptible to erosion. Degradation exists and may be increasing, but degradation processes are not well documented.

2.9 There are limited areas of soils of volcanic origin (alluvial/colluvial and volcanic) which are preferred for cropping. Heavy clays also occur, but are avoided for cultivation because they are difficult to work by traditional methods and have problems with salinity and sodicity. Phosphate is the main limiting mineral and phosphate fixation is associated with the ferrasols. To some extent, these deficiencies have been traditionally overcome by shifting cultivation, but this system of production is becoming increasingly ineffective as the length of fallow is reduced. In most places rangeland production is limited by low rainfall and not soil fertility.

Water Resources

2.10 The ASAL areas form part of four major catchments: the Kerio, Ewaso Nyiro, Tana and Athi river systems emanating from the highland massif. Main rivers are subject to high and low seasonal flows which show increasingly dramatic variations and silt loads as cultivation and deforestation increase in the highlands areas. Rivers are also increasingly regulated as dams are constructed. With the exception of the Tana, the volume of water available is too small for extensive irrigation. Tributaries of the main systems used in the ASAL are ephemeral. Surface water resources occur for a short period during and after the rainy seasons. Surface water can persist in natural or artificial river pans but it is unpredictable, even where seasonal river flows derive from highland rains. Groundwater potential is highly variable in both quantity and quality. Much use of groundwater is based on shallow water sources which are affected by variations in rainfall and river flooding.

2.11 The amount of water flowing in the dry season in some ASAL rivers has been reduced by dam construction and water abstraction upstream, and by forms of highland land use which reduce rainfall infiltration and storage. The magnitude and incidence of floods on the Tana and Turkwel rivers has been reduced by dam construction.

THE RESOURCE BASE

2.12 Until recently, the 1981 National Water Master Plan^[5] was regarded as the principal data source for the water sector. This is now being updated in cooperation with JICA.^[6] The Water Resources Assessment Project (WRAP) is in the process of carrying out surveys in Isiolo, West Pokot, Baringo, Samburu, Machakos and Meru.^[7]

Vegetation

2.13 Much of the ASAL is covered with grassland. Productivity varies greatly in space and time, and is closely dependent on rainfall. Reliable sources of grass with high productivity are small in area and widely scattered. Isolated blocks of hills (e.g Marsabit) and river floodplains are particularly important. These areas are key elements within the annual cycle of pastoralists and wildlife populations and sources of dry season grazing. Without these high-productivity areas many pastoral systems would be unsustainable.

2.14 Woody vegetation is less affected by rainfall variability, but the density of tree and bush cover is low. Evergreen forest occurs along the Tana River, and provides fuel, building materials and other products. It is also extremely important for wildlife. Strips of riverine woodland along seasonal rivers are important dry season grazing resources, and in dry years may be essential to the survival of pastoral groups. Woodland also occurs in hill areas. Throughout the area trees and scrub provide fuel, building materials, medicines and shade. Degradation of wood resources occurs locally, but elsewhere the needs of low population densities are met.

[5] National Water Master Plan, Stage I, Vol 1-5. Ministry of Water Development, 1980.

[6] The Study on the National Water Master Plan, Inception Report I and II, 1990. Ministry of Water Development and Japan International Development Agency.

[7] See for example Water Assessment Study, Isiolo District, Progress Report, MOWD, 1990, by Water Resources Assessment Division and TNO Institute of Applied Geoscience, Delft, Netherlands.

Wildlife and Tourism

2.15 Most of Kenya's wildlife resources, most national parks and reserves, and much of the tourist infrastructure occur in ASAL. As a result, most of Kenya's income from wildlife tourism derives from ASAL. Adventure tourism is also focused on ASAL because of the spectacular scenery and a sense of wilderness which occur in places within them. Despite the importance of the tourist industry, many ASAL areas are still underdeveloped. In certain particularly popular locations, where rarer large animal species are concentrated, tourist game viewing vehicles disturb wildlife.

2.16 There is little direct utilization of wildlife populations through cropping. Populations of some wildlife species are at healthy levels, while others are severely depleted by poaching.

Key Areas

2.17 The ASAL are distinctive in that they possess small and scattered pockets of land of relatively productive land of high potential set in a matrix of unproductive land of low potential. The productivity of these areas is due to water availability. Higher vegetation productivity supports enhanced populations of livestock or wildlife, or in wetter areas it supports seasonal agriculture. These key areas comprise hills, which receive more rainfall, river floodplains with permanent water flows, river floodplains with seasonal surface flows and seasonal surface storage, and areas with seasonally-recharged shallow groundwater. Some of these areas (e.g. floodplains) have better soils. They are usually important seasonal elements within livestock and wildlife grazing cycles.

Livestock and Crop Production Data

2.18 Livestock and crop production statistics for ASAL are most unreliable for a number of reasons. Most of the production is for home consumption and no statistics are collected in the small markets where most of the surplus produce is traded. In addition there are wide variations from year to year both in the quantity produced and the quantity marketed. The only data available are from the annual reports of the MOA and MOLD, which are based on informal estimates by field staff. There has been no systematic national livestock census for many years. A livestock census based upon a physical count of all animals is planned for 1991. The methodology to be adopted in the nomadic areas has yet to be decided.

THE RESOURCE BASE

2.19 National livestock production data obtained from MOPND are shown in Table 2.5 which demonstrates the importance of the livestock in ASAL districts. On the basis of these data, the oft quoted statement that ASAL produce half the nation's livestock would appear to be over conservative.

2.20 ASAL crop production estimates are shown in Table 2.6. Since many of the crops are grown in mixed stands, the total cultivated area cannot be deduced from these data.

Table 2.5 Livestock Population 1987 ('000)

	Beef Cattle	Dairy Cattle	Sheep	Goats	Camels	Donkeys
ASAL Districts						
Meru	263	140	106	96		
Machakos	388	34	96	249		
Kitui	304	6	68	535		
Embu	61	37	26	106		
Narok	801	34	436	423		129
Elgeyo Marakwet	101	337	137	146		
Baringo	103	49	129	649	1	3
Kajiado	608	2	500	449		12
Laikipia	217	25	297	267	1	1
Kilifi	169	17	23	160		
Lamu	44	4	8	15		
Taita Taveta	140	9	50	155		
Kwale	223	11	67	131		
Tana River	444		159	293	52	2
West Pokot	170	10	190	120	1	1
Marsabit	315		401	425	227	23
Isiolo	203		178	119	424	52
Turkana	208		720	1080	10	5
Samburu	155		163	253	14	10
Mandera	126		110	714	12	4
Wajir	25		180	220	153	3
Garissa	693		100	678	61	4
Total ASAL	5761	715	4144	7283	956	249
Total Non ASAL	3310	2287	2300	1245		
ASAL as % of total	64	24	64	85	100	100

Source: Agriculture and Livestock Data, MOPND Long Range Planning, June 1989

Table 2.6 ASAL Crop Production

Crop	Hectares	Yields kg/ha
Maize	200 000	400 - 700
Sorghum	30 000	800 - 1200
Millet	22 000	800 - 1500
Beans	88 000	300 - 500
Cowpeas	20 000	300 - 500
Pigeon peas	30 000	200 - 400
Green gram	15 000	200 - 300

Source: Agricultural Development in ASAL, MOA, Nairobi, 1990

D. RESOURCE USE

Patterns of Land Use in the Agro-ecological Zones

Agro-ecological Zone IV

2.21 In Zone IV, the main farming system is maize/beans/cotton, which predominates in Zone IV in lowland Machakos and parts of Kitui, Embu, Meru and Baringo districts. Maize and beans are food crops: cotton is the main cash crop although it takes second priority to food crops. Cattle, goats, sheep and chickens are of local unimproved breed. In this zone, the link between crop and livestock production is economic rather than organic: e.g. stock are usually allowed to graze fields after harvest, some farmers use animal manure on their fields, oxen are used for ploughing and livestock are an insurance against crop failure. As is the case with land, the number of families who own no livestock at all is increasing. Average farm size is 7.5 ha of which 1.5 to 2 ha are cropped.

2.22 Labour use is highly seasonal, following the bimodal patterns of rainfall. The most labour-demanding activity is weeding, followed by harvesting. These two activities are basically hand operations, while ploughing and planting are generally performed by oxen. Planting is generally carried out late because the draught oxen, underfed during the dry period preceding the rainy season, are too weak to plough the hard soil before the onset of rain. Improved seeds and purchased inputs are rarely used. Farm yard manure is used to a modest extent in the fields near homesteads. Livestock graze within the farm boundaries and on crop residues which are widely used to supplement grazing resources.

THE RESOURCE BASE

2.23 The major farming risks are related to inadequate rainfall and a high incidence of pests. There is no marketing risk because the farming system is basically subsistence-oriented and is not dependent on purchased inputs. To minimize these risks farmers keep livestock, practice mixed cropping, and plant more drought-tolerant crops such as cowpeas and pigeon peas instead of beans when rains are late.

2.24 The agricultural potential can be improved by bench terracing which conserves soil, organic matter and moisture. Improvements in yields can also be obtained by early planting and weeding, attention to correct depth of planting, plant density, and spacing. Improved varieties of cereals and legumes have been tested, but, with the exception of maize, are available only in limited quantities.

Agro-ecological Zone V

2.25 In Zone V, the main farming system is the maize/cowpea/pigeon pea. This system is practised particularly in the lowland parts of Kitui which has been rapidly settled and subdivided into family farms in the last decade or so. Maize is grown by almost all the farmers, but the rate of failure is very high. Farm holdings are larger than in AEZ IV, but only 2-3 ha are cropped per family per season. Soil erosion and low fertility are major production constraints, so also is the risk of crop failure due to drought.

2.26 Ownership of livestock, especially goats, is widespread, but a quarter of households own no livestock and depend primarily on subsistence cropping and the provision of labour. In the recently settled areas, animals are still grazed communally and livestock move away from the homestead area during the dry season.

2.27 This zone is ideally suited to sorghum and millet production but maize is increasingly grown, in part because of taste preference and in part because of declining labour availability for bird scaring. Mixed cropping of cereals and legumes is normal in the area.

Agro-ecological Zone V-VI

2.28 In this transitional situation, the main farming system is sorghum/millet/cowpea/green gram. Farms in these zones are generally found in the drier parts of Baringo, eastern Kitui, Mbere, Tharaka, Elgeyo Marakwet, interior Kilifi and West Pokot. They are generally smaller with cultivated areas between 0.75 to 1.0 ha. Livestock graze on communal land. Factors restricting land productivity are mainly erosion, inadequate rainfall and infertility of the soils. Tillage is carried out with hand hoes and pangas which limits the amount of land that can be cultivated. Planting by hand is generally done before the onset of the rains. Mixed cropping is the general practice.

THE RESOURCE BASE

2.29 The agricultural activity requiring most labour is bird scaring which takes about 50 per cent of total labour output. This is followed by weeding. Livestock activities are also very labour demanding, mainly for herding and watering, and compete heavily with crop production activities.

Agro-ecological Zones VI and VII

2.30 Pastoralism predominates in Zones VI and VII which covers some 60 per cent of the ASAL. The most important pastoral districts in these zones are Turkana, Garissa, Isiolo, Marsabit, Mandera and Wajir. These districts have the greatest number of browsing animals (goats and camels) in their herds and flocks (see Table 2.5), and all livestock are highly mobile and disperse over wide areas in search of pasture and browse. They exchange stock for grain and other consumer goods. Cultivation and hunting and gathering form part of the system.

2.31 While the pastoralists are heavily dependent on livestock for their subsistence (milk and blood), cereal cropping is increasing. Because of the light and variable rainfall, cropping is only possible in areas where water concentrates in depressions or on alluvial soils subject to seasonal flooding.

E. MAJOR TRENDS AND ASSOCIATED CONSTRAINTS TO SUSTAINABLE RESOURCE USE

Water Resources

2.32 Increasing population growth and economic development in the highland catchment areas has raised the demand for water with consequent decreases in the quantity and quality of downstream flows. This is observed in the discharges from the four catchments in the highlands (i.e. Athi and Tana which flow to the sea, and the Rift Valley and Ewaso Ng'iro basins) as well as from the flows from outlying local catchments in Eastern Division, e.g. Marsabit Mountain, and Mutha and Endau mountains in Kitui. Dam construction on rivers such as the Tana reduces and delays downstream flood flows in the rainy season. Abstraction (for example for irrigation) affects dry season flows. Abstraction from rivers in Meru District is inadequately planned and coordinated with several government agencies and NGOs competing for the finite resource.^[8]

[8] EMI ASAL Programme Phase II Mid-Term Review for Soil and Water/Dryland Farming Project, EMI Goat and Sheep Project and Forestry Project, Ministry of Planning and National Development, Nairobi, 1988.

THE RESOURCE BASE

2.33 Water quality of rivers in ASAL which have their sources in the highlands are poorer than that found upstream. The effect is cumulative. As the rivers flow downstream from the watersheds they collect more and more pollutants (industrial toxins, pesticides/fertilizers and human and animal wastes) as run-off.

2.34 The spring catchment on the prominent inselberg of Endau Mountain, in an otherwise waterless part of Mutito Division, is deteriorating due to widespread farming in the upper zones. Until a decade or so ago, the hill was free of cultivation but population pressure and a run of dry years on the plains have resulted in increasing encroachment on the catchment reserve.^[9]

Sustainability

2.35 According to Danida:^[10]

"The most extensive natural resource problem in Kenya is probably the reduction in vegetative cover and an unsustainable intensification of crop and livestock production leading to soil erosion and insufficient replenishment of perennial resources. These problems are most severe in the arid and semi-arid lands."

2.36 In any discussion of trends in natural resource use in ASAL, it is necessary to distinguish between the different ecological zones, particularly between the more humid, predominantly cultivated zones (IV and V) and the predominantly arid pastoral zones (VI and VII).

Zones IV and V

Degradation

2.37 The greatest pressures on soil and vegetation resources in the ASAL are exhibited in AEZs IV and V. Soil loss in districts such as West Pokot, Kajiado, Taita Taveta, Kitui and Embu is reported to exceed 32 tonnes per hectare per year.^[11] Environmental degradation is closely linked with population increase, immigration from upland areas expansion and concomitant increases in over-cultivation and overgrazing. Important aspects of environmental degradation are: deforestation, accelerated rainfall run-off, flooding, more sedimentation in rivers and reservoirs and depleted groundwater.

[9] Kitui Integrated Development Programme: Plan of Operation Phase I, Vol. II, Natural Resource Conservation and Development, September 1989.

[10] Environmental Profile: Kenya, Danida, 1989.

[11] Environmental Profile: Kenya, *ibid.*

THE RESOURCE BASE

2.38 The changes in vegetation patterns in AEZs IV-V can be illustrated by aerial photographs taken of the lower parts of Meru District in 1948 and a third of a century later in 1982; the changes are set out in Table 2.7. They clearly show the very large increases in short fallows and the disappearance of woodland.

Table 2.7 Percentage of Land under Different Forms of Use in Lower Meru District in 1948 and 1982

	% coverage	
	1948	1982
Land in the cultivation cycle		
currently cultivated	0	5
fallow: cultivated in the past 3 years	0	12
fallow: less than 10 old	3	37
fallow: over 10 years old	9	20
Total in the cultivation cycle	12	74
land uncultivable (steep, rocky)	7	7
woodland/bush land	69	11
overgrazed land	12	8

Source: LRDC. Profile of Agricultural Potential: Kenya: ODNRI, London.

2.39 Similar data could be generated for other districts, but, in any case, the recent disappearance of the tree and bush cover over these areas is common knowledge among even young and middle-aged adults. Land clearing for crop production is the major factor in the process. The cutting of poles for building and the removal of live trees for charcoal production are subsidiary factors.^[12]

2.40 Much of the blame for environmental damage caused by over-cultivation is attributed to settlers from higher rainfall areas who use agricultural techniques which are ill adapted to the drier local conditions. It is clear that, with a rising population in the medium potential areas, there has been a rapid expansion of arable farming into what had previously been rangelands.

[12] Bioenergy Issues and Options for Africa, by G. Leach and R. Mearns, IIED, London, 1988.

Population Pressure and the Intensification of Land Use

2.41 In Zones IV and V, where mixed crop and livestock production have been and remain the main subsistence activities, there is increasing population pressure, declining livestock numbers and little good agricultural land. Hectares per person have declined drastically in the last twenty years as shown in Table 2.8 below.

Table 2.8 Average Land Holding Selected ASAL Districts (ha per person)

District	1969	1979	1989
Narok	7.32	4.30	2.66
Lamu	3.36	1.76	0.98
Laikipia	2.09	1.03	0.55
Kitui	0.89	0.66	0.50
Kwale	0.79	0.57	0.42
Embu	0.58	0.39	0.28
Kilifi	0.53	0.38	0.28
Taita	0.45	0.34	0.26
Machakos	0.40	0.28	0.20

Source: Livingstone, 1989

2.42 Population growth is a major factor stimulating intensification of land use by shortening the fallow period, but the capacity of modified farming systems to supply the food needs of a much higher population has greatly varied. Indigenous adjustments include mixed cropping of cereals and legumes, supplementary irrigation (e.g. along the Elgeyo escarpment), organic manures, "in and out" field systems and changes in land tenure from traditionally managed to controlled access. These developments enable cropping to continue for longer periods, but not all soils, least of all low-nutrient sands, can sustain intensification of the cropping system.

2.43 Remarkable strides have been made over the past twenty years with the introduction of improved land management practices in the mixed farming divisions of Machakos District which has as much to do with the changes in factor combinations (i.e. increasing labour; decreasing land) as with the work of extension agents. Only when farm boundaries lie next to each other and farmers no longer have the option of moving on will they willingly invest in tree planting and terracing on their land. However, these areas of high population density are now facing a critical land shortage and the subdivision of land far below economic limits (Table 2.8). It is these areas where alternative sources of income to farming are now most urgently sought.

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2.46 The gap between "the haves" and "the have nots" is widening, mixed farming is no longer an option for the mass of poor families unable to replace breeding animals which die from disease and drought.^[14] Droughts of the last few decades have been a major factor in the impoverishment of many households who have been forced to sell their livestock and land to purchase food and other essential items. As grazing becomes more scarce, it will be increasingly difficult for the average farmer to maintain livestock numbers or to establish a herd.

Wildlife

2.47 About 95 per cent of the land area of the Kenya Wildlife Service's (KWS) protected area system (National Parks and Reserves) lies in the ASAL, where the demand for agricultural land places very heavy pressures on both wild and domesticated animals. The protected area system in the ASAL is not suitable for cultivation, but their extensive range and woodland cover is suitable for livestock grazing. Loss of grazing land, especially to arable farming, places pastoralists into increased conflicts with wildlife.

2.48 The ASAL that are not part of the KWS's protected area system, form important wildlife dispersal areas, especially during wet seasons. However, agricultural development in these areas threatens to destroy seasonal grazing and to close critical game migration corridors. The cutting off of migration corridors and wildlife dispersal areas results in the remaining parks and reserves becoming isolated islands with smaller, less diverse and genetically poorer wildlife populations.

Zones VI and VII

Pastoralism and Degradation

2.49 Overgrazing leads both to the removal of the herb layer and to bush encroachment. The latter is a marked trend in the bi-modal rainfall areas of Eastern Province where the secondary climax vegetation is typically dense bushland thicket.

[14] The Socio-Economy of Livestock Keeping in Kitui District, *ibid.*

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2.50 In Kitui District during October 1982, at the end of the dry season and before the short rains, KREMU investigated the relationship between range condition and water point type. The rangelands were found to be in such uniformly poor condition that the effects (if any) of water location and type of supply were masked by dense bush, little or no perennial grass cover and fairly extensive soil erosion. Despite the fairly long distances to water (up to 10 km or more), range condition was more or less as bad near permanent water as it was elsewhere.^[15]

Animal Numbers

2.51 Long-term evidence of trends in livestock numbers in drier areas indicates fairly large oscillations around a declining mean. In AEZs VI and VII, local overgrazing has been exacerbated by the expansion of modern sector enterprises (irrigation, ranches, game parks) either in dry-season grazing areas or across migration routes and security problems in frontier areas.

2.52 The droughts of the 1980s caused the greatest loss and upheaval to pastoralists in Zones VI and VII, when herds and flocks were severely depleted. Since that time the livestock population has more than recovered. Turkana District (Table 5.9) provides an example. Clearly, growth rates following the catastrophic drought of 1979/81 cannot be sustained; another drought will once again take its toll.

Table 2.10 Turkana District Livestock Populations 1978-90 ('000)

	1978 ¹	1981 ¹	1982 ²	1984 ²	1987 ³	1988 ³	1990 ³
Sheep and Goats	2668	1118	1112	1480	1856	2167	3166
Cattle	521	147	155	159	221	299	506
Camels	112	108	98	94	102	81	141

Sources: 1. Turkana District Development Plan; 2. Ecosystems Ltd, 1985^[16]
3. Turkana District Contingency Planning Unit.

[15] Kitui District Water Resources Study: Environmental Analysis, Volume 4, Louis Berger Institute, Nairobi, 1983.

[16] Turkana District Resources Survey 1982-1984, Main Report by Ecosystems, Ltd., Government of Kenya/Ministry of Energy and Regional Development, Nairobi, 1985.

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2.53 In Zones VI and VII pastoralists are depending less on their livestock for subsistence than in the past. There is some shifting cultivation in specific areas of Zone VI. Some farming is also found in depressions where run-off water accumulates naturally, such as in the lower plains which are subject to flooding. The availability of grazing land is an increasing problem. Grazing land has been lost to agriculture, settlements and wildlife reserves. A growing human population cannot be supported by a stable or declining livestock population to the extent it once was.

2.54. For the whole population of Zones VI and VII, alternative employment opportunities are few and the cropping potential is too limited and the risks too great for anything more than an opportunistic and supplementary source of food.

2.55 With decreasing dependence on livestock products for food, a shift to the purchase of grain has occurred. For poorer pastoralists, a vicious cycle ensues whereby livestock are sold for grain, fewer animals remain to increase the herd and provide food, more animals are sold, etc. Acquisition of cash from the informal sector becomes increasingly important. Women, who are heads of household in settlements are particularly affected. In the absence of livestock and as sole supporters of the household they are among the poorest segment of the population surviving on a hand-to-mouth existence by carrying water, collecting firewood and making charcoal.^[17] Male-headed households are less vulnerable because men are better able to acquire wage employment and because a husband and wife can assist each other by performing complementary tasks to support the family.

2.56 Rising poverty both causes and results from environmental problems; it increases the pressure on natural resources as more people are forced to rely directly upon them.

[17] The Situation of Women in Turkana, A Report Prepared for TRDP by Norconsult, May 1990.

CHAPTER 3: NATURAL RESOURCE DEVELOPMENT

A. OVERALL NATIONAL POLICY FRAMEWORK

3.1 Sessional Paper No. 1 of 1986^[1] states:

"About 80 per cent of Kenya's land area is arid or semi-arid. This area supports 20 per cent of the country's people and half of its livestock. Arid and semi-arid lands (ASAL) have fragile environments, subject to degradation as more people move into them from the over-crowded lands of medium and high potential. Yet these lands represent a potentially important resource which, if managed carefully, can help serve the income, employment, and food self-sufficiency goals of this Sessional Paper." (paragraph 5.64)

3.2 The same Sessional Paper goes on to state that livestock is the basis of the ASAL economy and that measures to improve production, marketing and animal health are central to ASAL development, that crop research and development would focus on drought-resistant crops and suitable grasses to prevent erosion. If suitable and inexpensive technologies could be found, small-scale irrigation would help provide food security. Sub-surface and surface dams would be developed to conserve run-off and roof catchments would be explored as ways to tap water resources. Environmental protection would be essential to maintain the viability of the economy in ASAL regions. Reafforestation would serve the three purposes of protecting watersheds, preventing soil erosion and providing fuelwood. (paragraph 5.65)

3.3 Government policy regarding the development of ASAL has subsequently been elaborated in a number of important sessional papers, some of which are still in draft form. The national livestock development policy is set out in a policy document published in 1980.^[2] The Ministry of Agriculture, recognizing that the pastoral resource base is insufficient to meet subsistence requirements and other basic needs of the growing ASAL population, aims to develop more productive land use systems to supplement livestock production. It is hoped that, in addition to providing food security, higher production will contribute to a regional surplus for inter-regional trade and possibly export, thus contributing to cash income and employment.^[3]

[1] Economic Management for Renewed Growth, Republic of Kenya, Government Printer, Nairobi, 1986.

[2] National Livestock Development Policy, Ministry of Livestock Development, Government Printer, Nairobi, 1980.

[3] Agricultural Development in ASAL, submission to MRDASW in connection with the preparation of the ASAL Sessional Paper, MOA, 1990.

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Environment and Development

3.4 One of the most significant developments in Kenya in recent years has been the rapid growth of environmental awareness, especially with regard to ASAL. Kenya recognized the role of natural resource conservation soon after Independence in Sessional Paper No 10 of 1965, African Socialism and its Application to Planning in Kenya. Since that date Government has continued this commitment through the establishment of various governmental institutions (e.g. National Environment Secretariat, Permanent Presidential Commission on Soil and Water Conservation and Afforestation) and through its support to international environmental organizations and local NGOs. The current Development Plan lays emphasis on the efficient utilization of resources on a sustainable basis - meeting current human needs without undermining the needs of future generations.^[4]

Water Resources

3.5 The Water Act (1952) is the primary source of Kenya's policy on water. Under the Act, the Water Resources Authority is charged with long-term policy formulation and water resource management.

3.6 Government policy is based on the principle that water is a basic need for every household and an essential resource for increased economic activity. The Development Plan^[5] states that

"the basic goal of the national water development policy is to facilitate the provision of water in sufficient quantity and quality to meet the needs of human beings, agriculture, livestock and industry." (pp. 245)"In line with its efforts to bring about rural-urban balance and to open up the arid and semi-arid lands for increased economic activity, Government with the support of the Wananchi will ensure that adequate water is available for these purposes." (pp.87) and "....Harambee fund-raising to supplement Government allocations for future water projects will continue to be encouraged so that ...consumers meet a reasonable portion of expenses covering both capital development and maintenance costs." (pp. 88).

[4] Sessional Paper on Environment and Development (2nd draft), Ministry of Environment and Natural Resources, September 1989.

[5] Development Plan, 1989-93, Government Printer, Nairobi, 1989.

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3.7 For the arid and semi-arid lands, the Development Plan mentions the

"rehabilitation of livestock watering points and additional provision of such facilities intended to reduce range destruction caused by concentration of livestock numbers, in consultation with the pastoralists" (pp. 135) and "...improving living conditions through increased productivity and creation of employment opportunities" and "... generating opportunities for improving the quality of life..." (pp. 133-134).

3.8 The District Focus Policy^[6] provides the legal and administrative framework for rural water supply development. Community participation in the planning and implementation of all development activities is emphasized.

Wildlife

3.9 The Wildlife (Conservation and Management) Act, introduced in 1976, empowered the Director of Wildlife to protect animals and vegetation, both inside and adjacent to national parks and reserves. A new law was enacted in 1989 establishing the Kenya Wildlife Services.

3.10 The Kenya Wildlife Service's (KWS) principal objectives^[7] for managing the protected area system in ASAL are:-

- (a) to conserve the natural environment of Kenya flora and fauna for the benefit of present and future generations and as a world heritage,
- (b) to use the wildlife resources of Kenya sustainably for the economic development of the nation and for the benefit of the people living in wildlife areas, and
- (c) to protect people and property from injury and damage caused by wildlife.

[6] District Focus for Rural Development (revised March 1987), Office of the President, Nairobi, 1987.

[7] Statement of Wildlife Conservation and Management Policy in the ASALs of Kenya, submission to MRDASW in connection with the preparation of the ASAL Sessional Paper, KWS, 1990.

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B. TECHNICAL AND ECOLOGICAL PROBLEMS AND ISSUES RELATED TO AGRICULTURAL DEVELOPMENT

3.11 Major trends and associated constraints to sustainable use of natural resources are discussed in Chapter 2. In this Section, we examine the ecological and technical problems and issues associated with attempts to introduce improved crop and livestock practices and technology in ASAL. Section C considers some institutional and financial aspects. The discussion is subdivided into Zone IV and V, where subsistence crop production is important, and Zones VI and VII, which are primarily pastoral.

Zones IV-V: Crop and Livestock Farming

Arable Cropping

3.12 Specific problems confronting rainfall-dependent arable cropping in AEZs IV and V are:

- the inherent uncertainty of rainfall: the bulk rain falls as heavy showers and is lost to run off and the remainder falls as light showers which add nothing to soil water reserves leading to moisture deficits at critical stages of growth;
- surface sealing and soil capping and compaction when dry and waterlogging in cases of heavy rain;
- weeds at early stages of plant growth compete for scarce reserves of moisture and nutrients, therefore only the earliest planted crops benefit from the flush of nitrogen which accompanies the first planting rains;
- organic matter levels are always low, except for short periods after harvesting or manure application and responses to fertilizer are highly variable, often minimal and not economically reliable; and
- severe labour bottlenecks occur at planting and first weeding especially at the drier margins where planting may only be possible for 2 or 3 days after suitable rain.
- pest attacks both on growing crops and stored products are a major problem limiting production.

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3.13 In its submission^[8] to MRDASW, the MOA states, with respect to dryland farming,

"much more remains to be done both in terms of development and introduction of appropriate techniques" (Section 3.1.1)

And in its review of the EMI Soil and Water/Dryland Farming Project, the mid-term reviewed referred to the slender base for technological innovation in Zones IV and V.^[9]

3.14 In addition to soil conservation, the MOA-recommended farm practices comprise the following in Zone IV-V.

- early land preparation and dry or early planting in rows to allow inter-row cultivation with ox-drawn equipment;
- inter-cropping maize with pulses and confining the area of millet and sorghum to localized pure stands to minimize the bird-scaring requirement;
- use of improved varieties including maize, sorghum, pigeon pea and green gram; and
- use of animal manure and/or fertilizer and pest control in the field and the store.

3.15 Applied together, these improvements can double yields, but many small farmers, often women, relying on their own and family labour and without cash for inputs, animal draught or manure, face very severe difficulties in raising production.

3.16 In Zones IV and V, average maize yields range between 400 to 700 kg/ha depending on location and rainfall. These mean figures mask seasons in which no harvest is possible. The national average yield for maize in Kenya is 1500 kg/ha, 61 per cent of the national acreage is under hybrids.^[10]

[8] Agricultural Development in ASAL, *ibid.*

[9] EMI ASAL Programme Phase II Mid-Term Review, *ibid.*

[10] CIMMYT World Maize Facts and Trends, CIMMYT, Mexico, 1986.

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3.17 Maize production on moderately fertile soils requires a minimum of 300 mm per season. By definition, the ASAL areas are drought prone. In Zone V, of Kitui and Machakos, farmers face a 30-70 per cent probability of crop failure depending on a number of factors. These include the season (long rains or short rains), topography, soil, aspect and time of planting after first rains. Traditional crops that either tolerate periods of drought or evade drought by maturing early (sorghum, millet, pigeon pea, cowpea, cassava) have been grown widely in the historical past. The reasons for the conversion to maize from sorghum include taste preferences, a lack of a well developed market for sorghum and a shortage of labour to scare away birds.

3.18 Farmers have to delay land preparation until several days of rain have softened the ground. They are unable to finish planting until two or three weeks after the onset of the rains. This increases moisture stress and weed competition. In an average season (i.e. 320 mm of rainfall, October-December) in Zone V in Machakos (Makindu), farmers face a 12 per cent reduction in yield for each day planting is delayed after the first rain; a delay of half a week could reduce yield by a half.^[11] Understandably, given the risks, the majority of farmers prefer to economize by supplying their own seed.

Livestock Production and Veterinary Services

3.19 The MOLD recommended on-farm practices in Zones IV and V comprise:

- livestock production: improved breeds (Galla goats, Sahiwal cattle, hybrid cocks), improved equipment (hen coops and hives) and improved nutrition; and
- disease control in ruminants (vaccination against CBPP, CCPP, rinderpest, anthrax, black quarter, LSD and introduction of typrano-tolerant breeds and chemoprophlaxis for stock in areas of trypanosomiasis), drenching against internal parasites and dipping and spraying against tick-borne diseases in ruminants, poultry, canines and donkeys.

[11] Coping with Drought in Kenya: National and Local Strategies, by T.E.Downing, Kangethe Gitu and Crispin Kamau.(Draft), November 1988.

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3.20 Like the MOA, the MOLD also has an extremely difficult task in convincing farmers to adopt such measures, especially in the area of breed improvement, without the provision of heavily subsidised inputs. In any case, many farmers (e.g. about 25 per cent in Kitui District) own no livestock and these are the least likely to undertake other recommended activities such as bee-keeping and poultry improvement. Of the remainder (and those in Zones VI-VII, the great majority are unable to purchase veterinary services but rely on traditional cures, which probably offer no protection against the major epizootics - rinderpest, CBPP, CCPP, etc.

Soil Conservation

3.21 Soil and water conservation is, without doubt, the most feasible and promising intervention in the cause of sustainable production and has long received a very high priority from Government and the farming community in the higher potential areas.

3.22 Initially much of the soil conservation work in Kenya was carried out on an individual farm basis, an approach which led to scattered soil conservation measures and too much excavation. In order to make soil conservation more systematic, a catchment approach is now recommended together with the greater use of plants (trees, bushes, grasses) and improved tillage methods to prevent soil and water moving down slope. The catchment approach involves a small focal area covering perhaps 100-200 hectares and comprising a group of farms.^[12]

3.23 Soil conservation has been an important component of the district ASAL programmes (e.g. Machakos, Taita-Taveta, Kitui, Baringo), but only recently has the national Soil & Water Conservation Project turned its attention to the ASAL (Zones IV-V). Again there is a need to devise, test and demonstrate appropriate techniques for the drier areas, particularly Zone V.

[12] Plan of Operation, 1989/90 - 1991/92, Soil and Water Conservation Project (SIDA), MOA, Agriculture Engineering Division, Nairobi, 1989.

Agroforestry

3.24 Agroforestry^[13] is an integrated land-use system which combines crop farming and/or animal husbandry with the growing of woody perennials. It aims at satisfying the basic production needs of the user of the land while ensuring sustainability through the upkeep of an ecologically well-balanced structure. Agroforestry strategies can promote sustainable agriculture where traditional bush fallow systems are no longer possible due to changes in people/land ratios. Options include: live fences, inter-cropping with multi-purpose species for forage and fuel and for enriching and conserving soil, as well as enriched fallows with fast-growing legumes.

3.25 Opportunities for agroforestry in Kenya, are probably mostly limited to Zones II-IV, because in drier zones trees compete for water with food crops. Land tenure conditions also restrict the applicability of agroforestry. Farmers have been willing to grow trees only on permanently-owned land. So far tree-growing has caught on in more densely populated, high potential areas where farms are next to each other on permanently farmed land (e.g. on the slopes of Mount Kenya or in Kakamega in Western Kenya), or where there is need for boundary hedges to protect crops from animals.^[14]

3.26 Dryland agroforestry research was started in Machakos District by ICRAF and is still in progress.^[15] Thousands of farmers in the drylands practice agroforestry in differing degrees. Intensive agroforestry systems are found in Taita Taveta District. While widely practised in certain areas, it has yet to be determined whether or not improved systems can be found which will increase the production and income of small farmers in ASAL, where the major constraint on yield is likely to be soil moisture rather than soil nutrients. Silvi-pastoral land use systems (tree planting in association with non-agricultural land uses) may have some importance in drier ASAL areas.

Zone VI-VII: Range Management and Improvement

3.27 The main issue is whether or not range management, as normally understood, is appropriate in areas used as pasture by traditionally managed herds and flocks. Most modern knowledge aimed at improving pastures has come from the USA where labour-extensive ranching systems are used for raising privately owned animals on private land.

[13] Agroforestry should be distinguished from afforestation, which is for the purposes of environmental improvement and, possibly, production of an economic yield of fuel and fodder (see paragraph 3.82-85).

[14] Environmental Issues in Dryland Agriculture, Danida, 1988.

[15] Agroforestry Research in Farming Systems Approach, by J.A.Odera and D.O.Nyamai, KEFRI, 1990 (mimeo).

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3.32 Their technical relevance will depend on the extent to which they improve (directly or indirectly) the use of the scarcest resource - water. Their socio-economic relevance will depend on the extent to which those who make the investments are in a position to reap the benefits.

3.33 A considerable amount of technical research has been carried out in Kenya on rangeland,^[18] but applying that information in ASAL programmes to increase range production on communal land has not been feasible. Technical means of improving the productivity of rangelands cannot be treated in isolation from decisions about who is to use the land and to what degree. Land management and land ownership cannot sensibly be separated.

3.34 The problem is not the lack of knowledge about techniques of range improvement, but finding an appropriate socio-economic environment and incentive structure to apply them. Reclamation of the communal grazing areas (open access or group ranches) has not proved sustainable. Ingenious proposals for range improvement have been made by social scientists, but in the absence of large-scale trials involving the pastoralists, these proposals remain largely theoretical.

3.35 It is recommended that rehabilitation work should focus on enclosed grazing land in Zones IV and V which is owned by individual farmers or cooperative ranches (i.e. where the herd is controlled by one manager).^[19]

Water Supplies as an Instrument in Range Management

3.36 The development of water supplies should be closely connected with range management because access to water is a key factor in determining the pattern of grazing. Water engineers stress the following:

New watering points (boreholes, dams, ponds) can permit the use of fodder that otherwise would have been unused.

It is possible to close down pumps to relieve grazing pressure in a particular season.

New facilities can be designed to supply limited number of animals in keeping with the range carrying capacity.

Water from deep boreholes is not subject to annual or even secular variations in rainfall.

[18] The State of Knowledge Report on Rangeland Research in Kenya, by C.N.Karue, University/IEMVT/KARI, Nairobi, December 1989.

[19] EMI ASAL Programme Phase II Mid-Term Review, *ibid.*

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3.37 However, the reality is different. Environmental problems associated with water provision are well known. Problems arise due to failure to involve the pastoral community in the planning of water supplies development and through inappropriate choices of location and technology. For example, the absence of water in certain areas does not necessarily imply that water is wanted. The absence of water may offer protection during the dry season against raiding. In other areas, where utilization is by more than one group, ownership of a water source would be unclear and therefore inhibit management of both the water and the range.

3.38 Because of the economies of scale associated with construction, the water supply capacity of installations is often too large, which attracts large concentrations of people and animals and creates insurmountable difficulties for the community operating the supply. Technology is also frequently dependent on trained mechanics and the provision of imported spare parts beyond the capacity and reach of local people.^[20]

Zone VI-VII: Desert Crops

3.39 From time to time agricultural scientists and research organizations propose the introduction of new crops which have the capacity to survive and to produce under low rainfall conditions.

3.40 An example from the 1970s was the vigorous promotion of Jojoba (*Simmondsia chinensis*), a shrub which bears a liquid wax, suggested as a substitute for sperm-whale oil. Difficulties arose because of the failure to take heed of the fact that plant introduction into land use systems in semi-arid zones is a complex issue and requires consideration of the whole ecological, social and economic situation, not just the technical and agronomic properties of individual crop plants.

3.41 However, one singularly "old" plant which holds more promise than most desert crops is the date palm, introduced into Turkana, Garissa, Mandera and Wajir districts in the early 1970s.^[21] More research on date palm agronomy in Zone VI and VII is needed together with investigations as to how date palms might be introduced into the local land use systems.

[20] See Draft Environmental Action Plan for Sustainable Development for ASAL, MRDASW, Nairobi, April 1990; and EMI Isiolo Livestock Development Project Mid-Term Review, EMI ASAL Programme, February, 1989.

[21] Date Palms in Kenya; An Economic Resource for Arid and Semi-arid Areas, by Tim Gammell, Acts Press, African Centre for Technology Studies, Nairobi, 1989.

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Zones VI-VII: Water Harvesting

3.42 Water harvesting is a term embracing a wide variety of different physical techniques that collect surface runoff or subsurface flow within streams. Simple methods of water harvesting are traditionally used by a number of farming groups including the Turkana, who plant sorghum on small water-receiving sites, which are often surrounded by a heavy thorn barrier to help trap surface flows and increase infiltration. The planting is speculative and the area restricted to what a woman can clear, plant and harvest.

3.43 Various "improved" methods have been introduced, initially by ALDEV^[22] and more recently by the Turkana Rehabilitation Project (TRP) as a drought relief measure with labour paid in food. These methods have had varying degrees of success.^[23] Some NGOs (e.g. OXFAM, Salvation Army) have also sponsored water harvesting activities involving Food-for-Work (FFW).

3.44 Because of the high cost and limited scope of irrigation, water harvesting is seen by the Ministry of Agriculture as the only option for increasing the agricultural production of the drier zones in ASAL, and its promotion will therefore be pursued ^[24].

3.45 Methods of water harvesting for crop production include: catching surface run-off from rainfall with micro-catchments, level bunds, contour bunds, semi-circular and trapezoidal bunds and diversion weirs for spate irrigation. The size of catchment needed to supply sufficient water for crops in two years out of three varies in different agro-ecological zones. The catchment/cultivated ratio varies from 1-2 in Zone IV to 10-30 in Zone VII.

3.46 Large scale river (spate) diversions have been unsuccessful due to technical problems of estimating flood magnitude, the low stability of bunds on wetting, the fact they have been imposed on the population from above and the failure to take account of local resource use systems and labour availability. Rehabilitation or further development of such schemes is not envisaged by the Ministry of Agriculture ^[25].

[22] African Land Development in Kenya 1946-1962, Ministry of Agriculture, Animal Husbandry and Water Resources, Nairobi, 1962.

[23] Turkana District Development Strategy and Programme, Vol. I and II, by ODI for Ministry of Energy and Regional Development, Lodwar, 1985.

[24] Agricultural Development in ASAL, MOA, Nairobi, 1989

[25] Agricultural Development in ASAL, MOA, Nairobi, 1989

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3.47 Smaller schemes have been slightly more successful. In Turkana District two basic "improved" structures for sorghum production predominate, level basins and semi-circular bunds. The economic viability of the TRP structures appears to be, at best, marginal. They are justified with food wages principally as a method of screening the food-relief recipients and of safeguarding their self-respect. They could not be justified if money wages had to be funded.

3.48 The choice of design criteria for the TRP structures was determined by both the technical requirements of water harvesting and the need to supervise a construction team of up to several hundred people in one place at a time. In the circumstances, the traditional practices of small size, fallow periods, ownership rights and traditional sorghum varieties have not been considered by TRP.

3.49 An extension programme to promote Water Harvesting (as opposed to a relief programme) would focus on more labour-saving (rather than labour-using) designs and construction methods. The Ministry of Agriculture prefers schemes that are small scale, that use local materials and labour, that answer high priority water requirements, and that do not require a lot of labour for maintenance or sedentarization [26].

C. INSTITUTIONAL AND FINANCIAL PROBLEMS AND ISSUES IN CROP AND LIVESTOCK DEVELOPMENT

3.50 The preceding paragraphs listed some of the technical issues in sustainable resource development in ASAL. In this Section we consider some of the institutional constraints.

Constraints Related to Land Rights

3.51 For the small farmer, a major constraint to long-term conservation improvements in Zones IV and V is the slow process of land adjudication. This is despite the fact that the registration of private land holding has been a standing basic policy since Independence. Sessional Paper No. 10 of 1965^[27] clearly stated that:

"Consolidation and registration will make farm credit and modern methods of agriculture possible and should expand employment much more rapidly than settlement can by bringing more land into productive use."

[26] Agricultural Development in ASAL, *ibid*.

[27] African Socialism and its Application to Planning in Kenya, Republic of Kenya, Government Printer, Nairobi, 1965.

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3.52 Yet 25 years later the progress of land registration continues to proceed at a snail's pace. For example, in Kitui District, since the land adjudication process began in 1971, only 15 of the District's 160 sublocations have been adjudicated and (freehold) titles issued. In the absence of title, farm credit is not obtainable and security of tenure is threatened. For reasons which are not clear, the land adjudication process in Kenya has not been seen by donors as developmental and worthy of financial support, in contrast to extension and research, for example.

3.53 Even with the advent of modern photogrammetric technology, land adjudication and registration is a complex operation. Prior to survey people have to register their claims, then claims have to be surveyed, after which appeals have to be heard and adjudicated, resurveys carried out and title certificates issued. Complications arise when claimants or appellants are absent. However, there are no short cuts if farmers are to feel their land title is secure.

3.54 A related problem has been the issuing of land titles in the name of the husband only. Land Boards have now been instructed to obtain the family's consent to land transfers. Further measures to improve equity in land rights are likely to increase the prospects for the introduction of sustainable land use systems.

Constraints Arising from Inadequate Support Services

3.55 The problems normally encountered with extension services are multiplied in semi-arid areas: inappropriate and inadequate technical content, lack of practical skill, plus lack of a single direct line of technical support and administrative control of field staff. Parallel support services of input supply, marketing, credit and research are also weak.

Extension Services

3.56 Financial Constraints: A major problem of recent years which has affected the entire public sector, has been the rising cost of non-wage recurrent expenditure for extension services. Apart from the direct personnel costs, there are the related costs of providing offices and transport facilities. The recurrent funds available for field operations have been steadily falling since the beginning of the 1980s. There are frequent reports of lack of funds for transport operation and maintenance, essential for supervising operational staff in the field, who may remain idle for weeks on end. In Kitui District in 1988/89, for example, the real value of non-wage operating and maintenance resources of MOLD was about K£200 per professional officer.

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3.57 In the current climate of financial stringency, the case for the combined operations of ASAL field staff (MOA, MOLD, MENR/RAES), if not administrative control, should be strongly made. Even within one ministry, the MOLD, the work of the Livestock Production staff and the Veterinary Department are poorly coordinated.^[28] Further, the policy of extending the representation of each field ministry to every division in every ASAL district, whatever the development potential, needs to be reviewed.

3.58 Induction Training for ASAL: Another issue to be addressed is the technical competence of staff in ASAL. There is a chronic lack of training in the improvement of dryland agriculture, stock raising and forestry.

3.59 Professional training of foresters, agriculturalists and livestock specialists in Kenya is, understandably, geared to the high potential areas. Specialized induction training for TAs on posting to semi-arid areas is needed. This training should familiarize field personnel with the dryland production techniques, the farming systems of the community with which they are going to work and the principles of non-formal adult education.

3.60 KWS staff who are to work with rural communities, should also be exposed to such courses (see paragraph 3.112).

3.61 The Training and Visit extension system, introduced to the drier, low-lying parts of Machakos under MIDP in the early 1980s and later extended to many other divisions in ASAL has had little impact. The system which emphasizes a package deal approach and the mechanical organization of location-level field staff, who are told what to do every day, has proved suitable only under homogeneous conditions, where farmers are easily reached, and for a narrow range of crops. Extension work in ASAL usually calls for a more flexible and integrated approach (e.g. catchment development), with concern for the needs of crops and livestock as well as the people growing them.

[28] EMI Isiolo Livestock Development Project Mid-Term Review, *ibid.*

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3.62 Para-professionals: If the conventional extension approach has to be adapted to suit Zones IV and V, it has to be completely remodelled in Zones VI and VII. An important innovation introduced by the TRP is the Mobile Extension Team (MET). A small group of trained extensionists make extended visits into the pastoral areas for a week at a time. The function of the team is to discuss with people how they themselves can reduce the risks of the pastoral way of life by wise and efficient use of community resources. The MET which employs the methods of non-formal adult education, is also used by MOLD to recruit and train paravets, another innovation in Turkana aimed at eventually reaching the 60-70 per cent of the population who are nomadic.

3.63 Paravets, unlike the TRP's Mobile Extension Team, are not salaried government staff, but earn income from selling their skills and veterinary requisites to fellow pastoralists. The Paravet Project is still in an experimental stage. Much will depend on the support it receives from the Veterinary Department. New legislation will be required if paravets are to be allowed to handle certain drugs.

Agricultural Research

3.64 Since the amendment of the Science and Technology Act, research institutions whose mandates cover the dry areas come under the umbrella of KARI. The Katumani National Dryland Farming Research Station is responsible for development of crop production and soil and water management. Kiboko Range Research Station has the mandate for development of livestock production and range management.

3.65 No major research breakthroughs comparable to that of hybrid maize, for the high potential areas, have yet been forthcoming for the dry areas. The NDFRS has released a number of improved varieties of cereals and legumes including Katumani and Makueni maize, but these have yet to be widely adopted by the farmers because, with the exception of maize, the seed is not readily available. Farmers prefer to save their own seed.

3.66 Some argue that if real progress is to be achieved in the dryland areas, "on the shelf knowledge" has to be applied. The more successful farmers in parts of Machakos District, who have transformed their land by the systematic and integrated application of soil and water conservation methods and planted both introduced and indigenous fodder plants and crop varieties, have much to teach extension and research workers. However, to regard farmers as the major source of ideas for new technology and potential improvements is unrealistic. Small farmers are not a panacea for research problems.

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3.67 Kenya's agricultural research system was the subject of a critical review in 1986. Both institutional and technical problems were identified. With regard to the former, agricultural research is almost completely in the public sector and, as such, suffers most of the constraints and weaknesses of that sector, above all under-funding. Another problem has been the proliferation of donor-financed projects with different levels and styles of management and financing.^[29]

3.68 The international centres (ICRISAT, IITA, CIMMYT) are reported to have improved varieties of all their mandate dryland crops. These include maize, sorghum, millet, cowpea, groundnut, beans and pigeon pea. The main virtue of these is better pest and disease resistance. Some will have better drought tolerance and some a better grain to straw ratio. However, these new varieties will have to go through Kenya's national adaptive research programmes in which they will be tested under local conditions.

3.69 An obstacle to the rapid spread of any new variety is the lack of adequate seed producing facilities and supplying quality seeds for dryland areas.^[30] This is particularly true for vegetatively propagated materials such as cassava. The problem of local adaptability in rainfed crops is a difficult problem to resolve. A single variety of irrigated rice or wheat could cover extensive areas, but rainfed crops need to be locally tested and adapted.

3.70 The potential for improved production through varietal improvement of food crops, however, should not be overestimated. With other inputs (e.g. improved cultivation techniques, seed dressings, etc.), long-term yield trends are unlikely to exceed 1.5 per cent per annum. With rates of population increase given in Chapter 2, the inevitable conclusion is that only some of the additional food needs for the ASAL can come through increased yields and expanding the area planted. The remainder must come from outside ASAL.

Input Supply, Credit and Marketing

3.71 Physical inputs needed by the majority of small subsistence farmers in dryland areas are limited to labour, hand tools, seed, work animals and draught equipment. Very few ASAL farmers use chemical fertilizers or other purchased inputs. While chemical fertilizers will increase yields in good rainfall years, the risks of failure are often too high. Production is primarily for the household.

[29] Development Plan, 1989-93, *ibid.*

[30] In Embu and Meru districts, the demand for improved seed greatly exceeds supply (EMI ASAL Programme Phase II Mid-Term Review, *ibid.*).

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3.72 In the circumstances, it is not surprising that farmers' input supply cooperative societies have been slow to develop in ASAL. An exception is the Machakos District Cooperative Union (MDCU), a secondary cooperative society providing services to a variety of primary societies, each geared to a particular cash crop or activity in the higher potential areas of the district. MDCU had a turnover of KSh 470.1 million in 1987, which exceeded the combined turnover of all other cooperatives in ASAL by a factor of five. Kilifi (KSh 37.0 m) and Kitui (KSh 15.6 m) were its nearest rivals.

3.73 One of several factors behind the success of MDCU^[31] was the support it received from EEC through MIDP in the early 1980s when it acquired a number of trucks. Transport operations have financed the Union, which has not had to depend on its primary societies for financial support. In the circumstances, the MDCU probably does not provide a replicable model for cooperative development in ASAL. Associated problems and constraints are discussed in Chapter 4.

3.74 Livestock Marketing: The involvement of Government in livestock marketing goes back to the 1950s when it was believed that pastoralists kept large numbers of surplus animals which in turn caused degradation. Although the link between overstocking and degradation can still be made, the traditional livestock management strategies of pastoralists are now better understood. It is now clear that, even if the range is overstocked, no amount of marketing advice is likely to persuade producers to sell if they have no surplus animals after meeting their subsistence requirements.

3.75 A surprisingly small number of cooperatives in ASAL are involved in livestock production and marketing. The largest is Yatta B2 in Kitui District which had an annual turnover of KSh 10.5 million in 1987. Livestock marketing is now dominated by private traders whose trucking activities have been greatly facilitated and extended by the road construction programme in ASAL. An increasing number of livestock are slaughtered in districts of origin and the meat transported direct to consumption areas. Garissa has a modern slaughter house and one is planned for Isiolo. The decentralisation of slaughter will depend on the improvement of electric power and water supplies in the ASAL.

[31] These include its emergence among a thriving business community, proximity to the main transport artery between Nairobi and Mombassa and strong political support.

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3.76 Government's direct involvement has steadily decreased and the 1989-1993 Development Plan stresses Government's facilitating role; rehabilitation of stock routes, sales yards, quarantine holding grounds and providing market information, etc. (page 135). This role may be most needed in remote pastoral districts where the livestock trade is reported to be concentrated in the hands of a small number of traders. Government, by organizing periodic market days/auctions, advertising nationally and offering incentives in the form of transport subsidies on the first few occasions to traders from Nairobi, will make the availability of trade stock in the remote pastoral districts more widely known. This will increase competition among traders and raise producer prices and offtake.

D. IRRIGATION

3.77 Kenya's experience of irrigation is long and diverse, with substantial activity by a number of groups of people prior to the colonial period. Several of these groups are still irrigating using indigenous methods based on indigenous techniques. Examples are found in Baringo, Elgeyo Marakwet and Taita Taveta Districts.

3.78 A large proportion of the ASAL are incapable of supporting rainfed production, irrigation and water harvesting have long been seen to have a vital role to play in ASAL development.

3.79 Currently, the area under irrigation covers 36,000 ha of which 12,000 ha are under public management (National Irrigation Board and MOA). A total of 11,500 ha are in smallholder schemes. Most of these (notably Bura, Mwea and Perkerra are located in ASAL. It is to be expected that most of the future development will also be located in ASAL areas. The Development Plan (page 132) specifically targets three ASAL districts: Taita Taveta, Elgeyo Marakwet and Meru.

3.80 In theory, a well-designed, constructed and maintained irrigation system can offer sustainable rural livelihoods and ideal conditions for producing crops. But, as the Development Plan points out (page 130), development and maintenance costs have been high. It is necessary to add that, in ASAL, the indirect costs have also been high as a result of the exclusion of nomads from dry-season grazing; clearing of valuable riverine forest and diversion of water from users downstream.

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3.81 The national Development Plan, 1989-93, notes that Government policy on irrigation has tended to favour large-scale schemes and that experience has shown them to be expensive to implement and operate, thus representing a serious drain on the economy (page 130). Particular problems include high cost (Bura US\$ 25,400 per ha), and problems of insecurity of tenure and high water charges.

3.82 Smaller projects run centrally for smallholders have also experienced a number of problems. There has often been a large gap between the predicted and realized returns of small-scale schemes.

- management and running costs of small scale schemes have been high, such that costs cannot be passed on fully to farmers because of low yields.
- most schemes have experienced significant technical problems of water supply and input supply.
- most schemes have not been initiated by farmers, nor are farmers involved in decisions about their management.

Future prospects for centrally-managed smallholder irrigation appear bleak^[32], and the Government favours small-scale schemes based on self-managing groups of farmers with technical and advisory support from Government rather than Government control.

3.83 A number of small-scale irrigation systems have been built and managed in ASAL (particularly Isiolo and Turkana) by GOK, NGOs and donor agencies, to provide an alternative to nomadic pastoralism for those made destitute by drought and famine. Experience with these schemes has been particularly disappointing^[33]. Problems include the following:

- the ability of irrigation to provide a sustainable and decent living for nomadic pastoralists has been overestimated;
- good irrigation sites (with suitable water supply, topography and soils) are scarce;
- basin irrigation is so labour intensive that many farmers divert energy into other activities, e.g rain-fed agriculture.

[32] Agricultural Development in ASAL, MOA, Nairobi, 1989

[33] MOA 1989, op.cit.

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- irrigated crop production in remoter areas with poor communications and facilities is hazardous;
- small plots (0.5 ha or less) cannot provide more than a part-time income for a family;
- the introduction of irrigation ignores indigenous knowledge and skills in livestock husbandry and flood-dependent cropping, and ignores the comparative advantage of dry ASAL for pastoralism;
- Irrigation development can conflict with existing land use systems through competition for key areas. Even small irrigation schemes on low-lying and seasonally damp land (e.g river floodplains) can take land necessary for the survival of pastoralists in dry years. Existing rights to resources in such environments have not always been recognised.

3.84 Attempts to introduce small-scale irrigation in Turkana District have been evaluated in a number of studies, the most comprehensive of which is by the Development Planning Division of the MOA^[34]. It is apparent that the dual objectives of providing a better living for destitute pastoralists and contributing to food production of the district have not been reached. Development costs have been extraordinarily high, the schemes have produced little more than half a tenants' food requirements and their living standards have not improved.^[35]

3.85 Not all the lessons have been negative and it is important to distinguish between the Government and FAO schemes, with a heavy reliance on machinery and a plantation management style, and the NGO approach involving labour intensive methods and operation by farmers. The latter is reported to have proved less costly and more durable.^[36]

[34] Evaluation of the Turkana Irrigation Cluster by I.E. Asmon, P.C. Njoroge, and B.M. Wendurwen, Development Policy Division Working Paper No. 9, Ministry of Agriculture, Nairobi, June 1984.

[35] Evaluation of the Turkana Irrigation Cluster, *ibid.*

[36] TRDP Plan of Operations 1991/92-1994/95 (Draft), MRDASW, Nairobi, 1990.

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3.86 Solutions to past problems will have to be found. One important area is support and enhancement of already existing indigenous irrigation. Work is underway on the rehabilitation of existing small-scale schemes in Meru [37]. Positive lessons can be learned from West Pokot [38] and Elgeyo Marakwet where the MOA has been helping farmers to upgrade their traditional systems.

3.87 Potential for the extension of small-scale farmer-managed irrigation in ASAL is limited by the number of suitable sites. Compared to water harvesting, small scale irrigation involves high per ha investment costs and greater technical demands on line ministries (e.g. for maintenance, materials and inputs supply). Ownership of irrigated land in some communities is skewed, and further development would not benefit the poor [39].

3.88 It is estimated that the additional area suitable for irrigation could accommodate only 1% of ASAL population [40]. Nonetheless, there are a limited number of sites where small scale irrigation is technically feasible, where development of farmer-managed irrigation using simple cheap and robust technologies should be pursued.

3.89 The self-sustainability of indigenous irrigation systems is high, but it is not easy to intervene successfully in their organization and maintenance. Work with indigenous hill furrow irrigation under the West Pokot ASAL has stressed low investment and small interventions such as repair of river intakes or gully crossings, without interference with organization and management [41].

E. FORESTRY

3.90 Agroforestry (sometimes called farm forestry) is touched upon in paragraphs 3.24-26. Here we comment on issues relating to afforestation and natural regeneration on private, public or communal land in ASAL, as opposed to Government forestry carried out in reserved areas.

[37] Embu-Meru-Isiolo Arid and Semi-arid Lands Programme Phase II 1988 Mid-tern Review, Ministry of Planning and National Development, Nairobi, 1988.

[38] West Pokot ASAL-Development Programme Review Mission, by P.J. Zijlstra, M.A. Mbeo and A.B. Ayako, Amsterdam, August 1990.

[39] Agricultural Development in ASAL, MOA, Nairobi, 1989.

[40] Agricultural Development in ASAL, MOA, Nairobi, 1989

[41] West Pokot ASAL-Development Programme Review Mission, by P.J.Zijlstra, M.B. Mbeo and A.B. Ayako, Amsterdam, August 1990

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3.91 Until recently, the activities of the Forest Department concentrated on production and protection, mostly in the higher potential parts of the country. Its work in ASAL was primarily related to the protection of isolated hillside water catchments (see Section C). In recent years major efforts have been made to involve the community in tree planting as an environmental measure.

Afforestation

3.92 The reclamation of stock routes and severely degraded village or town perimeters, is often necessary to prevent further damage to both public and private land. Such projects also usually aim to produce an economic yield (e.g. fuel and fodder). Exclosure and soil conservation works (e.g. cut-off drains, terracing, micro-catchments) and tree planting may be necessary.

3.93 The major constraint is usually not of a technical character, but rather the cost of materials and labour. For example on the Baringo Fuel and Fodder Project (see Appendix II), between 1982 and 1989 successfully reclaimed 460.9 hectare at an average cost of between KSh 3000-5000 per hectare on flat land and KSh 5000-8000 per hectare on the sloped/hilly lands.

3.94 The BFFP has been intensively funded and managed and could be difficult to replicate on a larger scale. Due to the harsh climate in Zones VI and VII, seedling survival rates in afforestation programmes around town perimeters are normally extremely low and tree planting can probably only be justified only as part of wider drought-relief measures involving FFW.

3.95 The most satisfactory survival rates and the most successful afforestation, is usually on a very small scale (in school compounds, around houses, etc.) where seedlings can be protected and watered regularly. There will be a continuing, though relatively small, demand for seedlings for this purpose.

Bushland Management

3.96 Tree plantations are unsuccessful in areas with less than 600-800 mm of rainfall, except where trees can be irrigated. Under semi-arid conditions "fast growing" exotics grow scarcely faster than the pre-existing vegetation and are out-performed by indigenous species in drought years. As a result, the low esteem in which bushland used to be held is giving way to the recognition that previous estimates of natural woodland productivity may have been too low and that, even at low increment levels, there are millions of hectares to be exploited for charcoal. Most indigenous arid zone trees and shrubs continue to grow even when browsed, burned and coppiced, and in areas of over-exploited bushland, more protection leads to much increased productivity.

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3.97 In 1983, KREMU^[42] conducted a vegetation survey in Kitui District as part of the USAID-funded ASAL programme. They concluded that much of the lowland bush country could be usefully exploited by local people for charcoal production on a sustained yield basis under the control and supervision of the Forest Department. Unfortunately, the proposal was never taken up. Local people are therefore obliged to continue to exploit the bushland "illegally", a process which precludes the sustainable utilization of the resource.

3.98 Good rains for regeneration of natural bushland may only occur every decade or so. For this reason, woodlands tend to consist of large numbers of even-aged trees. In a good establishment year, it is necessary to ensure that more young established seedlings and saplings survive to adulthood by protecting them from browsing, fire, lopping and felling for cultivation. It is estimated that such protection would probably be hundreds of times more effective in reafforesting the arid zone than attempts to plant trees.

3.99 Bushland management by local people is likely to be a far more powerful weapon in the cause of sustainable biomass development than tree planting programmes in ASAL which are dependent on nurseries and planting out in wet periods when labour is in peak demand for planting and weeding food crops.

3.100 Bushland management should be encouraged in the context of the following:

- catchment reclamation and development: through reclamation of degraded land by allowing bushland regeneration to take place and on open access land, this would require "hillside closure"^[43] by community consent rather than by the authorities;
- pasture reclamation: through thinning dense stands of "bushy" acacias (e.g. *A. mellifera*, *A. reficiens* and *A. nubica*) to enhance grass and herb growth and provide an economic yield of wood for charcoal; and

[42] Kitui District Water Resources Study: Environmental Analysis, Volume 4, Louis Berger International, Nairobi, 1983.

[43] "Hillside closure" is a successful community-based land reclamation technique developed to enclose the degraded hillsides of Welo Region in Ethiopia. Attempts to use the same system in Kenya, e.g. the East Pokot hill closure project have been unsuccessful due mainly to a different authority structure.

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- charcoal production and firewood collection per se: the problem with firewood collection and charcoal-making is that it takes place in the most accessible sites (by outsiders who have no interest in sustainable yield or by local people who are too poor to care) but with some direction and control local people (e.g. women's groups from poor settlements) could be directed to areas where surplus material was available.^[44] This practice has been the reason for the high rate of success of the Suerrelbodi project in Niger.

Social Forestry

3.101 The national Development Plan, 1989-93 (pp 179-180), states that the Forest Department will popularize and promote the development of agroforestry/farm forestry and social forestry at the community and individual levels. For ASAL, it proposes the "initiation of special programmes for afforestation".

3.102 One of the major problems which has to be addressed by those recommending social forestry in semi-arid areas is the issue of common property rights. Rural people usually want to plant trees only on permanently owned land, often only as a cash crop and only where land in general is in such short supply that there is no communally-owned bush or forest nearby from which tree products may be taken without the trouble of growing them. In AEZs VI and VII, this rules out the likelihood of successful villager tree-planting projects in many areas.

3.103 Forest and woodland, though dwindling, still cover millions of hectares and will continue to be used by the populations who live near them for most purposes for the foreseeable future. The TRDP has, with some success, introduced improved management of riverine forests in Turkana District.

F. WILDLIFE AND TOURISM

Extension of the Protected Area

3.104 As stated in Chapter 2, paragraph 2.47, about 95 per cent of the Kenya Wildlife Service's protected area is in ASAL. Of this, the major part is in Zone VI, where pastoralists and wildlife compete for range resources.

[44] The Environmental Study of Turkana District, Volume 2, Norconsult, 1990 refers to "a massive stock of deadwood in the bush away from the main roads....some 40-60 tonnes per ha ...40 km from Lodwar ...which could supply the town's needs for many years" (page 68).

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3.105 It has been argued^[45] that, compared with other natural resources (surface water, fodder, wood fuel) in ASAL areas, wildlife and related tourism resources, such as scenery and natural vegetation, are under-utilized and that, if utilization were properly planned and implemented, expansion of wildlife and tourism would be possible without depleting natural resources. It is also argued that income generation of ASAL is potentially far higher under wildlife and tourism than under alternative uses, especially with respect to foreign exchange income. Further, foreign exchange generation is paramount when it is considered that, as a result of the droughts of the 1980s, Kenya has been a net importer of food staples.

3.106 In practice, the validity of the argument turns on the phrase "*if utilization were properly planned and implemented*". Although it may be possible to overcome the problems related to "degradation by excessive tourism development", the problem of increased intensity of land use by pastoralists displaced from the newly protected area would be more difficult to handle. Clearly, if the area to be allocated to wildlife is to expand, then the area for grazing must contract. No doubt, joint systems of land use could be devised, but at certain times of the year and in excessively dry years, acute clashes of interest would occur, especially around the remaining water sources.

3.107 To implement such a scheme, a considerable amount of detailed information would have to be accumulated and analyzed. Local people with customary rights would have to be involved in the planning; so also would the DDC. Given the jealousy with which land rights are guarded, it is difficult to imagine that implementation of expanded wildlife and tourism would proceed smoothly, especially if outside interests were perceived to be benefiting at the expense of local people.

Improving the Management of the Existing Protected Area

3.108 For wildlife outside Parks and Reserves, KWS has adopted a rural development and wildlife conservation approach whose main objectives are to:-

- (a) conserve wildlife populations and natural ecosystems;
- (b) increase economic and other benefits from wildlife particularly for communities and residents of areas supporting wildlife;
- (c) prevent wildlife and natural ecosystems from pollution and other unintended damage from industrial, agricultural and other activities; and

[45] Environmental Action Plan for the Arid and Semi-Arid Lands of Kenya, *ibid.*

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(d) reduce conflicts with legitimate land uses on private lands.

3.109 KWS acknowledges that local people should be allowed to benefit from local wildlife resources, rather than just bear the costs of the depredations of wildlife upon their crops and pastures. The KWS envisages that, in addition to benefiting from employment in protected areas and hotels, lodges, etc., local people should:

- be given a share of foreign visitors' daily entry fees;
- be allowed "to undertake sustainable utilization of wildlife"; and
- be encouraged to undertake game ranching and game cropping on private land.

3.110 These proposals are still tentative and have yet to be worked out in detail. They nonetheless represent a very encouraging development and an awareness of the need to mitigate the negative economic impact of wildlife, from parks and reserves, on neighbouring farmland and to encourage community support for anti-poaching measures.

3.111 However, as with the proposals to extend the protected areas, the problem is to specify in detail how local community involvement would work and to establish some pilot programmes. For example, what would be a practical way of channelling the proceeds of daily entry fees to the local community to ensure that they really benefited? Would it be possible to channel funds to the Locational Development Committees?

3.112 How would a parastatal operate an extension service and how would it be staffed? For example, one of the greatest impediments to effective outreach and public participation in Botswana's Department of Wildlife and National Parks extension programme is its law enforcement role. Apart from three months' military training, most of the game scouts' training relates to wildlife management and lacks any community development and public relations content.

G. WATER DEVELOPMENT

3.113 IFAD^[46] (page 58) list the priorities for water in ASAL as: domestic drinking water; livestock drinking water; water for subsistence cropping; water for fodder production; and water for cash cropping. While the list gives the impression of discrete categories for water use, the provision of a completely separate water source is not feasible. It is not meaningful to separate water supply for domestic use and livestock use in ASAL. Livestock production is important in all ASAL and in the drier areas it is the primary activity. Women who are responsible for the task of water collection for domestic use are, in many cases, responsible for watering or assisting in the watering of livestock as well. Facilities have to be designed which allow animals to water without contaminating domestic supplies.

3.114 Despite the aridity of much of Kenya, the feasibility of supplying water to the growing population must be considered good. The constraints are primarily financial and institutional. There are several types of improved water supply systems which, depending on the hydrogeological and hydrological conditions, are technically possible in ASAL:

- Groundwater: spring protection, shallow wells and boreholes equipped with a) handpump or motorized pump systems, b) solar-pumped systems or c) wind-driven pump systems; and
- Surface water: sub-surface or sand dams, dams and pans, rock catchments, roof catchments.

Water may be conveyed from the source utilizing a) gravity-piped systems or b) piped pumping systems (motorized and hydraulic ram pumps).

3.115 In the absence of exploitable groundwater, water supplies have to be obtained by catching and conserving surface run-off. The unfavourable physical conditions (low and uncertain rainfall, high evaporation, and high rates of sedimentation, etc.), compared with the more humid parts of Kenya, result in high unit costs both for construction and operation and maintenance of surface water supplies in ASAL.

[46] Arid and Semi-arid Lands (ASAL) Development Programme: Summary of Technical Reports on the Strategy, Policy and ASAL Development Programme 1989-93. Report No. 0131-KE, IFAD /UNDP, Nairobi, 1988.

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3.116 Rural supplies: The method employed has to be suited (a) to the locality and (b) to the ability and skill of the people, both inasmuch as they assist in construction and as they take responsibility for future maintenance. Prior consultation with local people, be they settled or nomadic is, of course, essential.

3.117 In rural areas, problems occur when these design principles are breached. Although it may be possible to employ complex methods in installing water supplies, regard has to be paid to the problems of supervision and recurrent costs. With less than total community involvement, there is a risk that a project will be perceived by the beneficiaries as Government's responsibility.

3.118 Urban supplies: In general, the criteria for water supply systems are different in urban settings. The requirement for larger quantities and higher standards of hygiene, arising from the higher risks of contamination, dictate more sophisticated design criteria and an operation and maintenance system funded by charges to consumers. These different requirements for water supply design, construction and operation and maintenance create an institutional dilemma for Government, a topic touched upon in paragraphs 3.115-117.

Institutional Aspects of Rural Water Supplies

3.119 The prime responsibility for providing water to the community lies with the MOWD. However, the Ministry, staffed by professional engineers, is not geared up to helping widely dispersed local groups build and maintain simple, local water conservation structures for domestic and livestock use. Since before Independence, this work has been done by the MOA; more recently by the Soil and Water Conservation Branch. The division of responsibility between the two ministries can be a problem. The institutional situation is further complicated by the fact that a number of NGOs are involved in water supply development in ASAL.

3.120 Such a situation requires clear leadership from the DDC and District Administration, especially with regard to community charges. Otherwise, various approaches within the same area will cause problems. Some water projects require a well-defined contribution from the community in terms of labour, materials and cash. Others provide the service free. This not only leads to a confusing situation, but can be frustrating for implementers who, in attempting to invoke cost-sharing, find resistance from a community that does not understand why they must pay for water when their neighbours do not.

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3.121 Standard contributions are not what is needed, as the costs for operation and maintenance vary according to the technology employed. Further, the ability of communities to pay will vary. People must be more involved in the planning and implementation of water supplies and that the system chosen must be within their technical and financial capabilities. Where appropriate, the provision of new supplies or the upgrading of existing ones should be linked to catchment development and be part of a multi-disciplinary extension effort.

H. CONCLUSIONS REGARDING NATURAL RESOURCE DEVELOPMENT OF ASAL

Crop Production Potential of ASAL

3.122 This Chapter has briefly reviewed the complex and interlocking problems and issues related to the development of natural resources - land, water, range, forest, bushland, livestock and wildlife - in ASAL. Several important conclusions emerge which have important policy implications.

3.123 One conclusion of fundamental importance is that the ASAL do not constitute a major reserve of productive land to accommodate the overspill of people from the high potential areas. With reference to the hopeful expectations of the MOA (see paragraph 3.3), it is unlikely that ASAL will be a source of surplus crops for inter-regional trade and export. Surpluses, especially livestock, will continue to be generated following good rainfall years, but on average the ASAL will continue to be net importers of food.

3.124 Food security measures will be increasingly needed as the population grows and the returns to land and labour decline (see Chapter 6).

3.125 The development strategy for ASAL should follow the modest course set out in the Sessional Paper No. 1 of 1986^[47]:

" these lands represent a potentially important resource which, if managed carefully, can help serve the income, employment, and food self-sufficiency goals...."

[47] Economic Management for Renewed Growth, *ibid.*

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3.126 It is possible, as has been optimistically stated^[48], that production from the ASAL can be doubled. But that doubling will come slowly and will be achieved mostly by an expansion of the population and cultivated area in Zone VI, with all its attendant problems. Intensification has to take place in Zone IV and V and this will require a significant increase in labour-intensive soil and water conservation work, preferably on a catchment basis.

3.127 A doubling of yields in the foreseeable future - say 15 years - would require an increment of 5 per cent per annum, clearly an impossible target given the technical and institutional problems confronting ASAL development. Our understanding is that by the time the production of ASAL has doubled, so also will the number of people living there. The challenge is to ensure that such an increase in population can be supported within the ASAL and that massive out-migration will not be a burden on the more productive areas of the country. However, self-sufficiency in food production in ASAL will not be a realizable goal, which in any case has traditionally exchanged livestock with maize from the high potential areas.

3.128 Adopting a food self-sufficiency goal in the ASAL, indeed in Kenya as a whole, is a potential source of economic inefficiency, low productivity and therefore low personal income in that it competes with promotion of the national economic base. Arable production in ASAL also carries with it real dangers of degradation. The ASAL have a comparative advantage in livestock production and wildlife utilization and management. Limited areas are also suitable for oilseeds and, in those places where irrigation sources are available, for horticultural crops.

Production Related Actions in Zone IV and V

3.129 In Zones IV and V, the following production-related actions will be central to increasing the stability and sustainability of rural livelihoods:

- MOLH: greatly accelerate the process of land adjudication;
- MOA/MOLD and local communities: greatly improve soil, water, fertility and fodder conservation and integrate them at farm and catchment level;
- KARI: increase the reliability of yield, as well as the yield per unit area, of dryland crops with the minimum of imported inputs;

[48] Arid and Semi-Arid Lands (ASAL) Development Programme, *ibid.*

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- KARI, MOA/MENR increase the range of crops (annuals and perennials) available to farmers, especially multi-purpose agroforestry species, which are the subject of considerable knowledge and optimism but slow to be incorporated in farming systems in ASAL.

Production Related Actions in Zone VI and VII

3.130 In Zones VI and VII, increasing the stability and sustainability of rural livelihoods, and reducing the risks and uncertainties faced by nomadic pastoralists, will require:

- protecting their habitat from encroachment, especially the dry season grazing areas;
- protecting their herds and flocks from outbreaks of disease by appropriate disease prevention measures;
- facilitating emergency destocking and grain purchase in times of drought and providing "food for recovery" afterwards; and
- maintaining security and protecting pastoralists from cross-border raiding and banditry.

Technical Review

3.131 There is need for a rigorous review of departmental structures, establishments and routines in the light of what is actually appropriate in ASAL. Offices have been staffed and practices have been imported from the high potential areas without regard to the special conditions prevailing in ASAL, particularly in Zones VI and VII. This could be a waste of money and professional manpower. A few examples will illustrate the point:

- the staff and operating cost of the MOA in the predominantly pastoral districts can exceed a thousand shillings per hectare actually cultivated, e.g. Turkana.
- the promotion of innovations in ASAL such as poultry (where there is no feed grain), KTB hives (where temperatures are too high) and improved breeds (which are not climatically adapted) and the attempts to implement range management in nomadic pastoral areas or to promote ranching when the land in question is overrun by "squatters"; and
- the proliferation of nurseries and tree-planting programmes in arid areas, despite all the evidence of very low establishment rates;

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3.132 Conversely, within these administrations, there is need to find ways of strengthening those activities which clearly need more support. e.g.

- soil and water conservation in Zones IV and V, particularly community-based water conservation structures for both domestic and animal watering; seed distribution and improved animal draught techniques and water-harvesting in Zones VI and VII based on a thorough understanding of the applicability of both local and imported techniques;
- detailed planning for emergency destocking in times of drought and operation of efficient veterinary investigation laboratories, controlling outbreaks of epizootics; and
- promoting sustainable bushland management as a source of income for the people and as a step towards controlling the current informal exploitation.

Coordination and Integration of Field Activities

3.133 Above all, there is need for much closer cooperation of the individual ministries at the district and divisional level. This cooperation, which already takes the form of shared offices, transport, etc., should be extended to include joint programming, staff training and extension programmes (e.g. catchment development) at divisional level (see Chapter 7). The MRDASW should consider programming its support to extension in ASAL districts (Zones IV and V) entirely within the context of catchment reclamation and development. Financing of three ministries (MOA, MOLD, MENR/FD) to carry out uncoordinated programmes should cease.

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Integrating Environmental Aspects into Development Planning

3.134 Despite the growth in environmental awareness at national level (paragraph 3.4), the capacity to integrate environmental considerations into the development process at district level is extremely limited. Two recent environmental reports on environmental issues on ASAL^[49] recommend the setting up of a Landuse Planning Commission in the Office of the President to review land use practices and conflicts in ASAL. The second report proposes that land use planning officers be posted to district level to decide on zoning between competing land users and set management guidelines based on land capabilities and a comparison of economic, social and ecological costs. The work of the land use planning officers would include measures to resolve control land use conflicts, e.g. watershed degradation, encroachment on dry season reserves under pressure, overgrazing near settlements and water sources, etc.

3.135 A more appropriate course, which might be favoured in the current financial climate, would be to strengthen the district-level DPUs and provide more training and technical support to District Environmental Officers to carry out land use planning. The MRDASW should request donors to support this effort in the context of donor-funded District Integrated Development Programmes.

[49] Environmental Action Plan for Sustainable Development for ASAL, (Draft), MRDASW, Nairobi, April 1990; Environmental Action Plan for Arid and Semi-Arid Lands of Kenya, by J. Allaway, World Bank, Nairobi, July 1990.

CHAPTER 4: INFRASTRUCTURE, MANUFACTURING AND TRADE DEVELOPMENT

A. OVERALL NATIONAL POLICY FRAMEWORK

Rural-Urban Balance

4.1 Rural development was accorded a top priority in the Development Plan of 1970-1974 which states that it is:

"...only through an accelerated development of the rural areas that balanced economic development can be achieved, that the necessary growth of employment opportunities can be generated and the people as a whole can participate in the development process."

4.2 Strategies to promote rural growth need to stimulate:

- first, growth in the agricultural and the livestock economies;
- second, small-scale manufacturing and other services in rural areas to provide off-farm employment ^[1]; and
- third, income-generating activities in rural areas^[2].

4.3 The particular importance of the informal sector for economic growth and development is recognized in District Focus for Rural Development.

4.4 The national Development Plan 1989-1993 suggests that urban growth in smaller towns (2,000-20,000 people) will be accelerated to 7.5% per annum. ^[3]

[1] Sessional Paper No. 1 of 1986

[2] Sessional Paper No.2 of 1985

[3] National Development Plan 1989-1993, *ibid.*

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Informal Sector

4.5 The Government recognizes that the potential of small-scale and Jua Kali enterprises must be realized if the country is to meet the targets for employment and income generation set out in the Sessional Paper No. 1 of 1986.^[4] It is recognized that "... the modern sector will be unable to raise enough capital to employ more than a fraction of Kenya's workers from now to the end of the century" and that "... the majority of future non-farm job opportunities will be in the informal sector."^[5]

4.6 In order to enhance growth of the informal sector, the Government aims to create a favourable environment by:

- ensuring that information vital to effective decision-making is made available through the media, extension and training;
- examining and changing existing laws, regulations and procedures which have hindered the development of small-scale enterprises;
- ameliorating financial constraints by institutional restructuring including extension of credit; and
- encouraging supportive efforts in training, advising and counselling entrepreneurs in project formulation, implementation and operation;^[6]

4.7 The ILO/UNDP/Ministry of Planning & National Development Report on Small-Scale Enterprises Development sets out guidelines to encourage promotion of the informal sector.^[7]

Infrastructure

4.8 Sessional Paper No. 1 of 1986 states:

"Priority in the allocation of Government funds will be given to infrastructure investments that promote the growth of productive employment in small scale agro-industry, manufacturing and commercial enterprise." (Para. 4.12)

[4] Development Plan 1989-1993, Government Printer, Nairobi, 1989.

[5] Development Plan, 1989-1993, *ibid*.

[6] A Strategy for Small Enterprise Development in Kenya: towards the year 2000, Government of Kenya/ILO/UNDP, 1989.

[7] A Strategy for Small Enterprise Development in Kenya: Towards the Year 2000, GOK/ILO/UNDP, Nairobi, 1989.

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4.9 Investment in physical infrastructure is needed to achieve the ASAL development objectives of self-sustaining development, innovation and production^[8].

Roads

4.10 An efficient and well-distributed transportation system is considered by Government to be critical to achievement of the national development targets as outlined in the Development Plan. To this end, Government plans to upgrade, strengthen and rehabilitate the existing road network with a view to improving communication and transportation throughout the country and especially in the rural areas. Labour-intensive technologies will be favoured. Priority will be given to the Rural Access Roads and the Minor Roads Programmes.^[9]

Water

4.11 Water is needed for home consumption, livestock and agriculture, construction works and industrial production. Government policy is to expand existing water programmes in rural areas to reach an additional 6 million people by 1993 (an increase from 26% to 50% of the rural population).

Power

4.12 Energy is also recognized as essential for sustaining and promoting economic activity. Government decided from the late 1970s to extend electricity supplies to the rural areas. Such investments usually require soft financing because of their initial low rates of return. The Development Plan states that:

"Government intends to pursue this programme vigorously to ensure the rapid connection of all District and Divisional Headquarters and other rural focal points."(para. 5.50)^[10]

Banking and Credit

4.13 Since Independence, the banking industry has expanded greatly and has been facilitated by the enactment of the Banking Act of 1986. The sector is recognized as playing a key role in the development process of the nation. The decision to go public by the larger commercial banks reflects an increasing interest in public involvement.

[8] National Development Plan, 1989-1993, Government Printer, Nairobi, 1989.

[9] Development Plan 1989-1993, *ibid.*

[10] Development Plan 1989-1993, *ibid.*

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Cooperatives

4.14 The cooperative sector with its marketing, input supply, savings and credit systems combined with a wide geographical outreach aims to put emphasis in the future on ASAL-oriented societies such as:

- Bee-keeping and Honey Marketing Cooperative Societies
- Handicraft Making and Marketing Cooperative Societies
- Hides and Skins Marketing Cooperative Societies
- Livestock Farming and Marketing Cooperative Societies
- Irrigation Farming, Produce and Marketing Cooperative Societies
- Brick Making and Marketing Cooperative Societies^[11]

B. CURRENT STATE OF DEVELOPMENT AND TRENDS

Trends in Informal Sector Development

4.15 The increase in the population who are of employment age will continue for the foreseeable future to outstrip the absorptive capacity of the modern sector (i.e. wage and salary employment; public and private). It is estimated that the work force will increase at 4.5 per cent annually over the next ten years.^[12] Government and World Bank projections indicate that at this rate of growth there will be a total population of employment age of 14 million by the year 2,000, of whom only 8 million will be able to find gainful employment.

4.16 Outside agriculture and the public sector, employment opportunities in the informal sector far outweigh those in the formal wage sector. Most (over 70 per cent) small-scale enterprises (SSE) are engaged in the rural-based areas of trade and commerce, while 15 per cent concentrate their efforts in urban manufacturing and services.^[13]

4.17 Employment opportunities in Kenya's informal sector are expected to continue to grow at a faster rate than those in the modern sector. In the past decade and prior to the new policy, employment in the informal sector grew rapidly. Between 1981 and 1984, the average rate of increase in the informal sector was 8 per cent per annum compared with 4.1 per cent per annum in the modern sector.

[11] Sectoral Paper on Cooperatives, submission to MRDASW in connection with the preparation of the ASAL Sessional Paper, MOCD, 1990.

[12] A Strategy for Small Enterprise Development in Kenya, *ibid.*

[13] A Strategy for Small Enterprise Development, *ibid.*

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4.18 The informal sector also is more resilient than the modern sector, and less influenced by changes in macro-economic policies. In the post-1981 period, when the industrial sector experienced a decline in production, which resulted in a reduction in output of almost 50 per cent, the informal sector continued to grow. Recent changes in policy that favour small-scale un-registered businesses should further stimulate its development. Most of the growth is expected to occur in the high potential areas of the country. The ASAL, on the other hand, will probably experience a markedly slower rate of growth.

4.19 The formal sector is relatively poorly developed in ASAL, and there are few manufacturing and service enterprises. Most growth in employment and in income generation is in the informal sector. In ASAL this embraces small-scale manufacturing (e.g. household products, handicrafts, processing of crops, production of charcoal), service provision (e.g. water) and trade.

Infrastructure

4.20 Both public and private investment in the development of physical infrastructure in ASAL has tended to favour provincial and district headquarters. As a result the outlying areas, which encompass the largest geographical region and the majority of the population, have poor roads many of which are impassable during the rains, no electricity except at those institutions with sun, wind or fuel-powered facilities, few reliable improved water systems and limited post and telecommunication installations.

4.21 Virtually all international road links (Class "A" roads) pass through expanses of ASAL. Three of these roads are asphalt: Nairobi-Namanga, Mombassa-Lunga Lunga and Kitale-Lodwar-Lokichoggio. Other international roads which pass through ASAL are Isiolo-Moyale, Isiolo-Mandera, Nairobi-Garissa-Liboi and Voi-Taveta.

4.22 Most of the national power stations are in ASAL areas and most urban water supply systems originate or pass through these dry areas, but the ASAL residents receive few of the direct benefits from these facilities/supplies.

4.23 Banks have increased rapidly in ASAL in the last five years. In addition, other financial institutions have sprung up and facilitated the implementation of a series of development projects in the rural areas.

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C. PROBLEMS AND CONSTRAINTS

4.24 Despite the importance accorded to the development of alternative investment and income opportunities in ASAL in the last ten years there have been few successes in the promotion of off-farm employment, especially in Zones VI and VII. Many of the lessons have been negative. Knowledge of how to develop the informal sector and the opportunities remains very limited.

Public Works

4.25 The level of consumption and demand in ASAL are heavily dependent on levels of investment in public works and the resources made available for this purpose. In the last decade one or two pastoral districts have benefited from development of physical infrastructure, principally roads, but other districts have not. This is reflected in the thriving centre which has grown up in Lodwar, for example. A slowing down in infrastructure development is likely to have adverse effects on the level of activity in the town as the commercial development of its hinterland is negligible.

Regulations and Controls

4.26 Most SSEs in the rural areas are inhibited from development by time-consuming administrative procedures such as obtaining licenses and inappropriate building codes.^[14] There is the inevitable opposition from the formal sector and the sometimes hostile attitude from local officials.

Credit and Investment

4.27 The formal credit system, which considers land title as the only acceptable collateral, further restricts would-be entrepreneurs in the ASAL from obtaining the funds required to engage in trade. Land adjudication in ASAL is little advanced. Small-scale enterprises (SSE) experience particular problems of inadequate loan funds, lack of collateral, negative perception of SSEs by lenders and lack of incentives for banks to lend to them.^[15]

4.28 There is an understandable unwillingness on the part of most entrepreneurs to invest in an uncertain situation such as that found in several of the districts with international borders. Improvement in the cross-borders situation would remove a major constraint to development of SSE in areas such as Lokichoggio, Mandera, El Wak and Garsen.

[14] Development Plan 1989-1993, *ibid.*

[15] A Strategy for Small Enterprise Development in Kenya: towards the year 2000. Government of Kenya/ILO/UNDP, 1989

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4.32 Problems and constraints associated with the promotion and development of small-scale enterprises increase the drier and more remote an area is from Nairobi. The main opportunities would appear to be:

- hides and skins processing
- gemstones collection
- handicrafts
- slaughter houses linked to transportation of carcasses and by-products to consumer points
- ice factories which would facilitate employment opportunities through local delivery networks, manufacturing of hay boxes and meat and fish preservation stores
- metal work and carpentry
- building construction and masonry, brickmaking and stone crushing
- vehicle repair
- tailoring
- charcoal manufacture

4.33 Elements that influence the slow rate of growth of income-generating activities in Zones VI and VII stem from the very low level of economic activity. They include:

- poverty and associated lack of purchasing power;
- inadequate infrastructure in terms of provision of energy, water, communications and roads;
- low levels of education and training;
- high costs of transport for inputs and outputs; and
- the difficulty of providing collateral for credit.

4.34 Entry into manufacturing and services is inhibited by the lack of skills, investment capital and by the limitations imposed by the poor infrastructure such as roads, transport, water, water and markets.

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4.35 Assistance with facilities and loans is still not a guarantee of success. KIE had set up Rural Industrial District Centres (RIDC) in several districts of Kenya by 1983 of which the Machakos RIDC was one of the first. The MIDP I programme financed the construction of Rural Workshop Clusters (RWC). The GOK assisted with KIE loans for entrepreneurs and the GOK/KIE met staff and generator costs for each RWC. The programme turned out to be more costly than originally anticipated and the economic rate of return was negative. It was unclear whether additional jobs were actually created or whether small businesses had just moved their premises to the KIE workshops. The Jua Kali operators preferred to work outdoors rather than in the hot workshops and the facilities provided were used mainly as lock up stores. [16]

4.36 In the absence of local storage, processing and manufacturing facilities raw materials continue to be removed for processing elsewhere. The added value of food processing is therefore lost to ASAL Districts. For example, in AEZ VI and VII livestock production dominates the economy, yet the marketing of livestock products has not changed significantly since Independence. Hides and skins are processed at plants in Athi River, Mandera and Garissa; slaughter houses are found only in Kajiado, Tana River and Machakos (where there are two). For most of ASAL, livestock are moved live out of the district, either by road or along stock routes. Trade is believed to be concentrated in the hands of a few traders who have developed connections with the supply sources and the main market/urban centres.

4.37 In Zones VI and VII, there is no significant arable farming sector and therefore no demand for the manufacture and repair of tools and implements or for local processing of crop produce. Demand for household hardware is also less. In the 100 per cent ASAL districts (Isiolo, Marsabit, Garissa, Mandera, Wajir, Turkana) the scope for expanding and diversifying non-pastoral production appears to be limited.

4.38 Handicrafts which rely on raw materials, such as doum palm or sisal, face difficulties if the resources on which they depend are over-exploited. The situation is especially critical for women who are heads of household and have sole responsibility for family support. These women are most likely to be involved in the poorest paid activities in the informal sector such as basket weaving, charcoal production and wood and water collection.

[16] Machakos Integrated Development Programme: Phase II 1983/84 - 1985/86, Volume II, Machakos, 1983.

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4.39 Women face particular problems in establishing small business enterprises including limited access to credit, legal constraints, cultural barriers and the inappropriate design of womens' entrepreneurship programmes^[17].

Trade and Commerce

4.40 In ASAL areas, most of the activities in the informal sector involve trade and commerce rather than manufacturing. Demands for goods and services depend on local needs and purchasing power. The number and types of traded goods are conditional on the natural resource base. Fruits, vegetables and grains, livestock products, handicrafts, items made from raw materials such as mats, pots, baskets, straps and bricks all rely on the bounty of the natural environment.

Trade in Fresh Produce

4.41 Understandably in Zones IV and V, income-generating activities are more developed than in Zones VI and VII. Fruits, vegetables and grain produced in Zones IV and V can be sold locally or exported to other areas without incurring high transport costs. On the other hand the same items, even if they can be produced in the drier areas, usually lack a market close to the source of production. The population is likely to be dispersed and without the cash to purchase fresh produce. The cost of transporting produce (except by traditional means) is likely to be prohibitively expensive. Some small trade in dried produce, e.g. fish can thrive.

4.42 The volume of animals and hides and skins traded will depend on the condition of the range and the livestock and on the subsistence needs of families. The supply of these products at the beginning of a drought can suddenly increase and then be severely restricted while herds and flocks are rebuilt. Some hides and skins are usually available but in the absence of skillful processing methods, their quality is greatly reduced.

Wholesale and Retail

4.43 In the more remote ASAL, the problem faced by would-be entrepreneurs is circular in nature. Local produce is cheap and plentiful and for local traders profit margins are small. The high cost of transport limits the ability of all but a few businessmen to export profitably and at the same time hinders small traders from importing the commodities that are retailed locally. Profit margins on the retail of imported items are small; many small entrepreneurs compete to sell the same items purchased from a few wholesalers.

[17] A Strategy for Small Enterprise Development in Kenya: towards the year 2000. Government of Kenya/ILO/UNDP, 1989.

INFRASTRUCTURE, MANUFACTURING AND TRADE DEVELOPMENT

Infrastructure

4.44 Poor basic infrastructure (particularly transport and communications) in ASAL, especially in Zones VI and VII, will restrict the growth of off-farm employment for some time.

4.45 The single most important constraint to infrastructure development in ASAL is high cost and minimal generated benefits. Poor roads result in high transport operating costs and therefore a reluctance on the part of investors to allocate capital and other resources to ASAL. The financing of infrastructure in ASAL can only be justified if a long-term view is taken by discounting future benefits at preferential rates.

Roads

4.46 The 1987 MOPND Infrastructure Inventory shows that 80 per cent of the roads in ASAL districts are ranked 'fair' or 'poor'. Roads rated as 'poor' comprise 100 per cent of all roads in Wajir District, 70 percent in Kilifi District, 72 per cent in Machakos District, 85 per cent in Kitui and Isiolo districts and 91 per cent in Narok District. Even "good" roads are frequently found to be impassable during the rainy season.

4.47 In the 22 ASAL districts in 1988, 12 districts (Kajiado, Laikipia, Samburu, Turkana, Taita Taveta, Tana River, Isiolo, Marsabit, Garissa, Wajir, Mandera and Lamu) had no rural access roads, 6 districts (Elgeyo Marakwet, Taita Taveta, Tana River, Isiolo, Kitui and Embu) had less than 100km of asphalt roads and 5 districts (Samburu, Marsabit, Garissa, Wajir and Lamu) had no rural access or asphalt roads.^[18]

4.48 Improvement and maintenance of rural access roads under the Rural Access Road Programme (RARP) tended to be concentrated in the high potential areas. The newly created Minor Road Improvement Project (MRP) is focusing its resources on class 'D' and 'E' roads, the vast majority of which are found in ASAL. However, only 8 ASAL districts are included in the programme although 3 others may be added in the near future. All of the districts targeted by the MRP are in Zones IV and V; districts which are predominately in Zones VI and VII are not included in the programme.

[18] Arid and Semi-Arid Lands (ASAL) Development Programme: Summary of Technical Reports on the Strategy, Policy and ASAL Development Programme 1989-1993, Report No. 0131-KE, IFAD/UNDP, Nairobi, 1988.

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4.49 The average costs for resurfacing asphalt and gravel roads cost approximately the same, KEs 9,000 per kilometre. Maintenance costs are estimated to be K£ 154 per kilometre.^[19] High unit costs and limited maintenance capacity result in a situation where as new roads are built and upgraded, maintenance falls progressively further behind. The maintenance budget fails to keep up with the increasing work load.

4.50 The Ministry of Public Works' Road Department are unable to extend their activities to all areas equitably. In 1987, only 30 per cent of the Ministry's road repairs maintenance fleet was operational.^[20]

4.51 Labour intensive methods of road construction are often proposed during times of drought because of their comparatively low cost and suitability for Food-For-Work. However, construction of roads utilizing the wet compaction method requires careful planning and technical supervision. In the ASAL construction is further complicated by the non-availability of water which is necessary for the compaction process. Water must be brought to site by bowsers and tractors which are rarely available when a FFW programme has to be started.

Power

4.52 The widely dispersed nature of the settlements constrains expansion of electricity. Only 15 ASAL district headquarters are on the national grid system. Most ASAL towns and centres which have electricity use diesel-power systems. The more remote the area, the more unreliable and expensive the supply of the liquid fuel.

4.53 The cost of power installation is high. In 1988, one kilometre of power line was estimated to cost KSh 200,000.^[21] Electricity connections are made only to the premises of the comparatively wealthy who can afford the high cost (i.e. salaried personnel and businesses). Recent estimates for Lodwar in Turkana District show that cooking by electricity costs 45 per cent more than cooking with charcoal or firewood.^[22] (For further discussions on biomass energy sources, e.g. firewood and charcoal see Chapter 3 paragraphs 3.96-.97, 3.100).

[19] Arid and Semi-Arid Lands (ASAL) Development Programme, *ibid.*

[20] Ministry of Transport and Communication's Rural Access Roads Programme and Minor Roads Programme, Progress Report No. 7, MOTC, Nairobi, 1987.

[21] Arid and Semi-Arid Areas (ASAL) Development Programme, *ibid.*

[22] Environmental Study of Turkana District, Volume 2, Norconsult, Nairobi, June 1990.

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4.54 Alternative power sources for electricity (solar power or wind), are also outside the reach of most of the population due to their high purchase and maintenance costs. The application of small solar power units is limited to high income or institutionally subsidized households and community or public sector facilities. Current solar lighting for a typical 35-watt, 12-volt domestic lighting system costs Ksh 5,250 per panel (Ksh 7,550 for high-temperature design required in the drier and more remote districts), Ksh 4,350 for the batteries and Ksh 600-925 for each fluorescent light depending on size.^[23] Wind-powered systems require large, expensive installations and appear to suffer from frequent break-downs.

4.55 Other non-biomass energy sources include paraffin, bottled gas and liquid fuels for transport. These sources are in demand by urban and commercial users. The supply problems are similar to those with diesel: prices are high and rising rapidly, supplies are unreliable and most of the consumption is limited to high income households and institutions.

Banking and Financial Services

4.56 The basic banking services, which have rapidly expanded in ASAL during the last 10 years, are now in place (see Appendix III). It will take time, however, before the demand for these services (measured in number of transactions) is fully realized.

4.57 For most of the population, the Post Bank is the most likely saving facility (see Appendix III) but the expansion of the Post Bank is dependent on the postal system, which in turn is constrained by the inadequate road network in ASAL.

4.58 Approximately one-third of total bank lending is by branches serving ASAL, but most of the credit goes to institutions which have security of land title (e.g ranches). While other institutions besides commercial banks have lending responsibilities such as the Cooperative Bank, District Cooperative Unions, Savings and Credit Cooperative Banks and the Cotton Lint and Seed Marketing Board, access to funds is limited to members.

[23] Environmental Study of Turkana District, ibid.

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Small Urban Water Supply

4.59 Water supplies in small urban centres are failing to keep pace with the growing population. Because these small urban supplies are not considered to be technologically "appropriate" and because they are assumed not to reach the poor, they have been accorded a low priority by donors. The increasing number of urban poor, many of whom have been displaced from the rural areas, do not have access to either livestock or agricultural land and are unable in most cases to pay for water. Unless donor priorities change, the situation is unlikely to improve.

D. POLICY ISSUES AND RECOMMENDATIONS

Strategic Investment Planning

Zones IV and V

4.60 The need for development in ASAL and their seemingly infinite potential for absorbing capital and recurrent funds makes it vital to focus investment in particular zones and within these zones on the centres with the best potential for growth. Because of their greater resource endowment, Zones IV and V demand particular attention.

Zones VI and VII

4.61 Within the drier zones of VI and VII it is also necessary to focus investment. In view of the many constraints in ASAL, care must be taken to match the effort and resources allocated to the promotion of the informal sector to local conditions, resources and needs. It would be inappropriate to adopt an aggressive pursuit of employment generation in districts where the capacity to absorb and effectively sustain it is limited. In investing scarce resources, careful account should be taken of the comparative advantage of alternative centres and their level of development.

4.62 It is recommended that MRDASW Technical Services Division acquire the necessary staff and expertise to coordinate the strategic planning of infrastructure development in ASAL, in order to ensure that investment decisions are reached on a planned basis.

Employment

4.63 A series of initiatives are necessary to create and sustain employment in ASAL, particularly within those districts with the least income-earning opportunities (Zones VI and VII), if only to avoid exporting employment problems. This can be achieved in at least seven ways:

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- a) Labour intensive methods: in the short-term, by ensuring that labour-intensive methods in the public sector are adopted whenever feasible, especially in construction, e.g. rural access roads, maintenance of roads, irrigation structures, government housing, minor rural water schemes.
- b) Encouraging traditional industry: e.g. the local manufacture of sun-dried bricks; craft items using doum palm and local timber (with appropriate controls) and leather.
- c) Value added: by seeking ways of increasing the availability of local produce for processing, e.g. hides and skins and gemstones.
- d) Jua Kali: exploring ways of encouraging and supporting the development of small-scale enterprise.
- e) Training: by improving training - formal and informal - so as to ensure that local people are better qualified for productive employment. For example, integrate business management skills into the Youth Polytechnic training.
- g) NGO's: by continuing to encourage non-governmental organizations, with access to national as well as external resources, to shoulder some of the burden of development.
- h) Tourism: by promoting tourism in areas with natural ecological features conducive to the trade (particularly wilderness, cultural history or wildlife), e.g. Lake Turkana.

Renewable Resources

4.64 Income-generating activities which rely on local material resources must be regulated to ensure that they are sustainable, e.g. charcoal (see Chapter 3 paragraph 3.100). This will require ecological monitoring of biological production and its variability over time (e.g. the work of IPAL/KALRES in Marsabit and more recently TREMU in Turkana), the establishment at community level of agreed rights of access to resources and levels and systems of control over resource use, as well as the strengthening of the district environmental offices.

4.65 Manufacturing and trade based on renewable resources are particularly important in Zones VI and VII. Within those zones it is men and women with little education and little wealth who are most dependent on them.

INFRASTRUCTURE, MANUFACTURING AND TRADE DEVELOPMENT

Credit and the Informal Sector

4.66 The difficulties in obtaining credit are due to both a lack of acceptable collateral and a weak or non-existent capacity for offering and supervising credit in most ASAL areas. It is argued that the financial system needs to be liberalized if the potential of the informal sector is ever to be fully developed. However, before any changes are proposed, the subject should be more carefully studied as it will be difficult to design a credit facility for SSEs that can operate on commercial terms without disfavoring competitors in the formal sector.

4.67 There are numerous financing schemes operated by the Government, donor agencies and NGOs for promotion of income-generating activities. It has been suggested that they should be consolidated under a national fund and the resources channelled through the commercial banks and the District Development Funds. Clearly, such a measure may be resisted by the many NGOs who prefer to operate locally and to keep track of the progress of their funds and their beneficiaries. There is a danger of over bureaucratizing the whole process and creating a barrier between the financiers and those who Government wishes to help. Certainly there is need for a free flow of information about the grants available, conditions, people and institutions to contact, etc. and this information should be made available by the DPU in each district and/or by the District Trade Officer.

4.68 Bilateral donors should be encouraged to channel their funds through commercial banks and to underwrite more liberal lending (relating to collateral and guarantees rather than interest rates) to individuals and groups engaged in activities the informal sector.

4.69 Local SSE associations should be encouraged or strengthened where they already exist in order to facilitate group credit and/or guarantee loans. Land adjudication in AEZ IV and V and in the settlements in AEZ VI and VII should be encouraged in order to provide collateral/guarantee to potential borrowers.

4.70 In seeking to promote income generation, Government should not lose sight of the advantages of the informal sector and try to formalize its activities. This could undermine its resilience and expose it to changes in macro-economic conditions, e.g. rising interest rates. The overriding object must be to disencumber the informal sector of regulations and controls and to provide the basic infrastructure it needs to thrive. The scope in ASAL for generating employment opportunities is clearly limited. Government intervention will have to be carefully planned and implemented if funds and resources are to be efficiently utilized. The informal sector is already very important in ASAL. It is necessary to understand the local economic and political context thoroughly before taking action.

INFRASTRUCTURE, MANUFACTURING AND TRADE DEVELOPMENT

Minerals

4.71 Mineral deposits are found in many ASAL districts (Elgeyo Marakwet, West Pokot, Turkana, Samburu, Kitui and Taita Taveta). The Mines and Geological Department (MENR) has encouraged individual prospecting by local people to boost their income. The trade is currently in the hands of middlemen and private entrepreneurs and the return to local people is minimal. People should be encouraged to form cooperatives for the purpose of processing and marketing minerals.

Cooperatives

4.72 Gemstones are second only to livestock as a source of income for ASAL Zones VI and VII. Both of these activities provide opportunities for cooperative development in areas where cooperative activity is currently non-existent. Building materials (nails, roofing sheets, etc.) are costly and difficult to obtain in remote districts. The same applies to basic consumer goods (salt, soap, blankets, etc.). The establishment of multi-purpose, input-supply and marketing cooperatives should be encouraged by MOCD.

Infrastructure

4.73 Investments in infrastructure will serve to stimulate markets and the development of a cash economy. Such investments should be strategically located to take advantage of promising economic trends. For example, investment should be concentrated in locations such as Mwingi in Kitui District, Garsen in Tana River District, Lokichoggio in Turkana District, Kina in Meru District and Marsabit town. Planning must also remain flexible with regard to choice of location as the locus of trade can move with the construction of a new road or the opening up of cross-border trade.

4.74 In order to service distribution, trade and commercial activities within the various districts, basic infrastructure is required in certain towns in each district (see Appendix III).

Roads

4.75 Good road links are essential to ASAL development. Equipment and materials for developing ASAL infrastructure will be carried on these roads and transport costs will be reduced if roads are in good condition. Secondly, good roads stimulate construction and trade.

4.76 The rehabilitation and maintenance of existing roads must be given priority over the construction of new roads.

INFRASTRUCTURE, MANUFACTURING AND TRADE DEVELOPMENT

4.77 Construction or upgrading of major roads is necessary in several ASAL areas (e.g. Narok-Mau Narok (C57); Namanga-Loitokitok-Taveta-Mwatate; Migori-Narok; Kibwezi-Kitui-Mwingi (B7); Wajir-Mandera (C80); extension of C113 from Nginyang to junction of B4 at Lokichar; Tambach (C52) to junction of A104 at Sigor; Isiolo (C81) to junction of Wajir-Garissa (B9); Maralal-North Horr (C77); and Moyale-Rhamu need to be considered. Such roads would also promote national development by facilitating international trade

4.78 Access to these major roads from the rural areas is also important. For the investment to be effective, parallel investment is needed in minor/rural access roads.

4.79 In the process of cut and fill for road construction, slit pans can be provided. The pans can provide water for livestock and if they are incorporated into the road design they are inexpensive.

Fuel Prices

4.80 People in ASAL must pay much more for such items as building materials and basic but non-locally produced foods because of high petroleum/diesel fuel prices. Centralized price controls which cross-subsidize transport costs so that all regions pay the same current costs would substantially assist in ASAL development.

Power

4.81 Solar electrical power is environmentally benign. Its installation, especially in the ASAL where solar radiation is abundant, should be considered for institutions (e.g. health facilities, boarding schools and government buildings). Its high cost rules out adoption by the majority of the population.

4.82 Diesel generators are vulnerable to fuel supply fluctuations and they are costly to run. Hydro-power stations located in ASAL primarily supply electricity to the main consumption areas outside the ASAL. Priority for connection on the national grid system should be given to key centres in the nearby ASAL in order to stimulate income-generating activities and to improve the quality of life of the population.

CHAPTER 5: HUMAN RESOURCES DEVELOPMENT

A. OVERALL NATIONAL POLICY FRAMEWORK

Economic Management for Renewed Growth

5.1 Sessional Paper No. 1 of 1986 states:

"Basic needs include the necessities of a decent life: adequate nutrition, shelter and clothing, convenient and clean water, good health and education. Provision of these basic needs is essential to maintain the dignity of people, but also to make them better able to increase their productivity and thus participate in a growing economy. However, the relationship between basic needs and economic growth are reciprocal: the best insurance of the availability of basic needs is a rapidly growing economy whose benefits are widely distributed." (paragraph 2.13)

Social Welfare

5.2 The goal of social welfare is to provide equitable access to such basic services as education, health, water, nutrition, transport and communications, energy, etc. Under the District Focus for Rural Development (1983) the delivery approach was decentralized in order to reach the most people.

Education

5.3 The ultimate goal for the education system is an egalitarian society and equal education opportunities.^[1] The long-term framework under which this goal is to be achieved is the development of an economy that will enable the country to cope with economic development, to sustain a large population and to ensure improvement in the standards of living and the quality of life.^[2] The development of human resources, which is fundamental to achievement of the goal, depends on imparting relevant and adequate education and training and the Government has made strides in this direction since Independence.^[3]

[1] Development Plan, 1989-93, Government Printer, Nairobi; Presidential Working Party on Education and Training for the Next Decade and Beyond, Nairobi, 1988.

[2] Sectoral Paper on Education in Arid and Semi-Arid Lands (ASAL), submission to MRDASW in connection with the preparation of the ASAL Sessional Paper, MOE, 1990.

[3] Kenya Education Commission Report, Parts I and II, Nairobi, 1964; Presidential Commission on Unemployment, Nairobi, 1981; Presidential Working Party, *ibid*; Sessional Paper No. 8, Nairobi, 1988.

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Health

5.4 The GOK recognizes that the provision of health is a basic need and an essential prerequisite to economic development. The national health objective is the achievement of "health for all by the year 2000" To meet this objective, individuals, communities, the private sector, self-help groups and NGO's will need to play a greater role and shoulder more responsibility and basic services need to be integrated.^[4] One approach that the Government has promoted to bring health care closer to the people is Primary Health Care (PHC). This approach identified eight principal elements: nutrition, water and sanitation, maternal and child/health/family planning, immunizations, prevention and control of endemic diseases, treatment of common diseases, essential drugs, and health education.^[5] The GOK has added two more elements: dental and mental health.

Social Services

5.5 Important policy documents in this area are Sessional Paper No. 10 of 1965^[6] and the national Development Plan of 1984. The national Development Plan of 1989 outlines the significant contributions such efforts as the Harambee movement and women's groups have made to the nation.

B. CURRENT STATE OF DEVELOPMENT AND TRENDS

5.6 Increasing population pressure in ASAL through natural increase and in-migration coupled with financial cuts has resulted in a situation where the quality of services has remained static at best, and in some cases has declined. This situation is unlikely to change in the foreseeable future.

Government Expenditure

5.7 In both the education and the health sectors, both recurrent and development expenditure figures have steadily increased at the national level from FY 1986/87 to FY 1989/90.^[7] In real terms, however, the increases have only kept up with inflation and population growth.

[4] Development Plan 1989-1993, *ibid.*

[5] The Alma-Ata Declaration, WHO, Geneva, 1978.

[6] African Socialism and its Application to Planning in Kenya, Government Printer, Nairobi, 1965.

[7] Economic Survey, Government Printer, Nairobi, 1990.

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5.8 The share of personnel costs (including the Teachers' Service Commission) in total current expenditure rose from 61 per cent in FY 1981 to 66 per cent in FY 1988. As a result, the real value of non-wage operating and maintenance resources available for teachers and medical staff to carry out their work fell by one-third in six years.^[8] There are frequent reports of health facilities which have run out of drugs, lack of funds for transport for school inspection and basic teaching materials.

5.9 In Social Services, recurrent expenditure has increased at the national level from FY 1986/87 to FY 1989/90 but they have not kept pace with inflation and population increase. Development expenditure figures have decreased over the same period by a factor of four.

5.10 In contrast development expenditure on Youth Polytechnics has increased, although, as elsewhere, recurrent expenditure has not kept pace with inflation.

5.11 Government grants to women's groups have decreased from K£ 127,900 in 1987 to K£ 80,050 in 1989; an approximate decrease of funding of K£ 100 per group assisted.^[9]

Social Welfare Indicators

5.12 The trend in infant and child mortality rates (Map 5.1), which are key social welfare indicators, may be one of little or no significant change in at least Zones VI and VII. In Coast and North Eastern Provinces, there appears to be little if any reduction in child mortality rates between 1950 and the mid-1970s.^[10] For other provinces, the general picture is brighter and reflects steadily decreasing rates, yet much of the analysis on which this is based has excluded large areas of ASAL, e.g. Isiolo, Marsabit, Turkana and Samburu, due to insufficient data.

5.13 In spite of the increasing enrolment figures for primary and secondary schools in ASAL, the drop-out rate has remained constant.

[8] Kenya, Recent Economic Developments and Selected Policy Issues, Report No. 7411-KE, World Bank, September 1988.

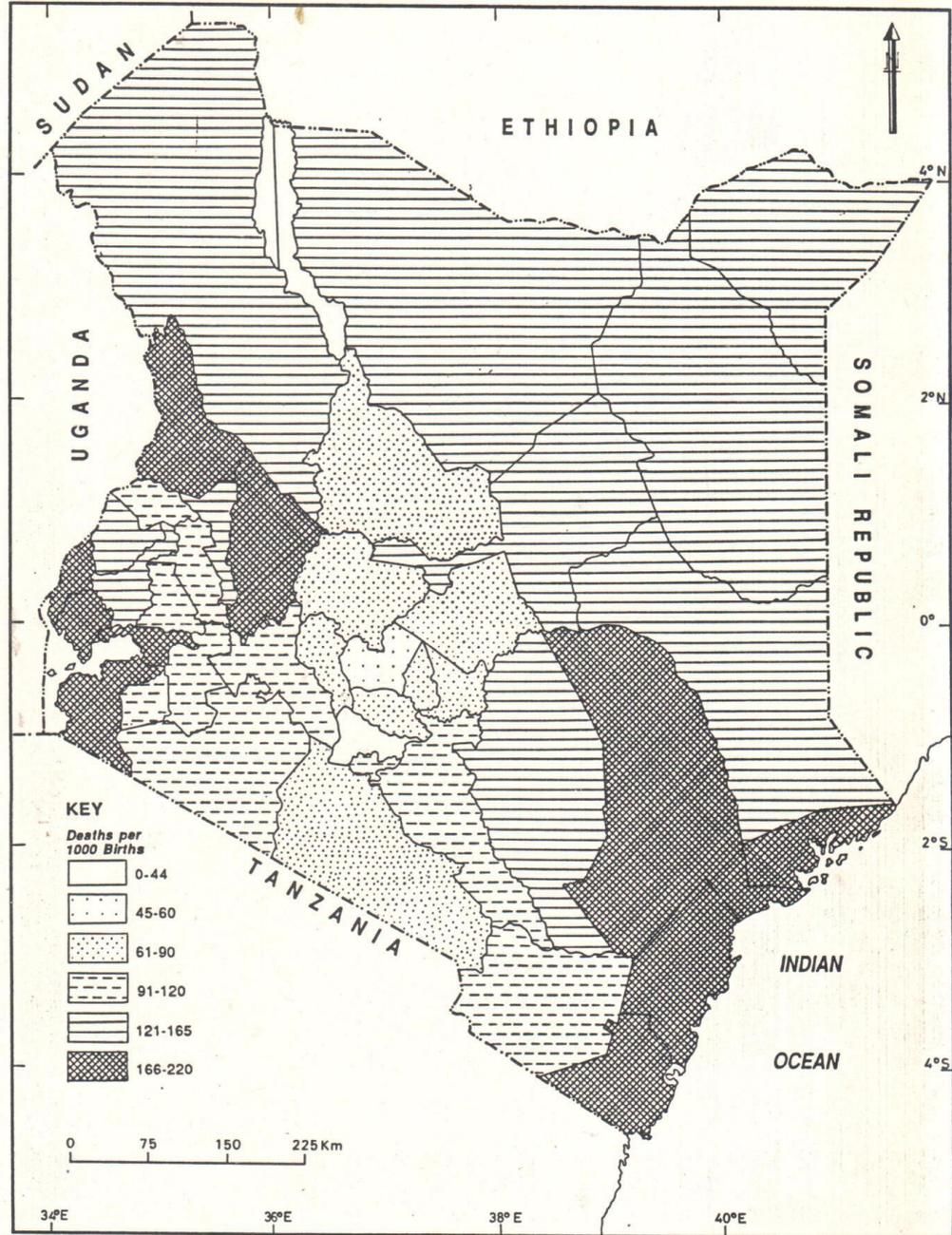
[9] Economic Survey, *ibid.*

[10] Situation Analysis of Children and Women in Kenya, UNICEF, 1989.

Map 5.1

HUMAN RESOURCES DEVELOPMENT

KENYA INFANT MORTALITY 1979



HUMAN RESOURCES DEVELOPMENT

5.14 The proportion of students who go to Standard 1 and complete Standard 8 remains low and appears not to be increasing. In Turkana District, for example, of the 10,503 students who began Standard 1 in 1982, only 1,017 or 10 per cent were enrolled in Standard 8 in 1989.^[11] The actual number of students enrolled in Standard 8 in Samburu District has remained the same over the last three years and is less than half the enrolment figures for Standard 1. While more equal numbers of boys and girls are found in Standards 1 through 4, there is a sharp decline in the enrolment of girls in the upper primary streams in some districts. In Turkana District, twice as many girls as boys had dropped out by Standard 8, but no difference in drop-out rate by gender was observed in Samburu District.^[12]

5.15 Illiteracy rates have decreased rapidly in Zones IV and V, yet the rates in Zones VI and VII have remained static or are decreasing at a slow rate. Over 80 per cent of adults in Baringo District are illiterate compared with only 30 per cent in Taita Taveta.^[13] In addition, enrolment in Adult Education classes has decreased nationally from 222,142 individuals in 1986 to only 133,931 in 1989.^[14] The situation is particularly worrying for women's development and for household nutrition since the vast majority of those who attend Adult Education classes are women.

5.16 While the number of those attending classes has decreased nationally, trends by region probably vary. One indicator is the amount of emphasis by the district ASAL Programmes on education. A great deal of emphasis and resources have been available for education and educational programmes in Turkana and West Pokot districts, but very little attention has been paid to this sector by programmes in Tana River, Lamu, Mandera, Marsabit, Isiolo, Wajir, Samburu and Garissa.

[11] Report of the Turkana District Education Sector Review, TRDP, April 1989.

[12] Participation in Education by ASAL Communities in Kenya: A Report on the Current Situation and Future Prospects, by J.K. Wang'ombe, W. Sakataka, M.A. Mbeo, L.O. Obidha and S. Bursiega, (Draft), Nairobi, May 1990.

[13] Participation in Education by ASAL Communities in Kenya, *ibid.*

[14] Economic Survey, *ibid.*

C. PROBLEMS AND CONSTRAINTS

5.17 The most intractable problems in delivering health, education and social services are encountered in Zones VI and VII. The remote pastoral districts have received least attention in the past; for example, until 1960, there was only one primary school in Turkana. In these districts, the unit costs of reaching the population are highest and the population is least able to contribute to cost-sharing and self-help schemes. Although Zones IV and V also face serious difficulties, there is little doubt that the gravest problems are encountered in the remotest ASAL districts.

Personnel

5.18 A shortage of trained personnel, especially people from the district, is directly related to the poor quality of services provided in ASAL. In Turkana District, despite considerable effort to train staff during the last 10 years, there is still a substantial shortage of staff in the rural health facilities. The number of Clinical Officers, Enrolled Nurses, Public Health Technicians and Laboratory Technicians is inadequate.^[15] The percentage of untrained primary school teachers in 1989 in three of the ASAL districts sampled were 70 per cent in Turkana District and 60 per cent in Marsabit and Wajir.^[16]

5.19 The problem is two-fold:

- the absence of trained personnel reduces the quality of direct service delivery; and
- the lack of sufficient trained local personnel creates dependency on staff from other districts who do not stay long enough to be able to grapple with local problems.

5.20 These problems are particularly true for Zones VI and VII where non-local personnel are reluctant to live and work. Yet it is precisely in those areas with fewest trained local personnel that the need is most urgent. Mobile services will not take hold until the situation is rectified, nor will there be local professionals on whom children can model their lives.

[15] Report of the Turkana District Health Sector Review, TRDP, 1989.

[16] Sectoral Paper on Education in Arid and Semi-Arid Lands (ASAL), *ibid.*

Costs

5.21 The unit cost of service delivery is high in Zones VI and VII. A large proportion of non-wage operating expenditure on health, social services and education is taken up by transport. Distances are great and private transport operators are few. For example, the high cost of transport for such activities as school inspections, supervision of the disabled, transport of the sick, etc. means that government services in Zones VI and VII have proportionately fewer resources than is the case elsewhere in the country. The distance that materials and equipment have to be transported increases their cost which in turn greatly increases the cost of construction. Further, when permanent structures are erected, they are generally under-utilized due to the dispersed nature of the population.

Physical Planning

5.22 As a result of the shortage of trained personnel and the high turn-over rate of staff, the planning capacity of the ASAL districts is evidently very weak. Despite the need for care in the allocation of scarce resources, government facilities have been constructed in ASAL without proper planning. Schools and health facilities have been built without consideration for adequate water supply and the need to locate them close to other facilities such as markets, shops, schools or clinics, etc. A mother/child clinic is more likely to be visited on a regular basis if it is located near a market. As a result of poor planning structures are largely under-utilized.

5.23 The attempt in ASAL to construct buildings according to the guidelines drawn up by the Ministry of Works has resulted in designs which are unsuitable to the local climate and unnecessarily expensive. For example, the MOH has been reluctant to take over dispensaries in prefabricated wooden buildings, erected by the Turkana Rehabilitation Project, and has made the construction of approved structures a precondition for subsuming responsibility.

5.24 Patients in health centres and hospitals who are able, spend most of the day outdoors in the shade to avoid the heat within the buildings. Students cloistered in hot rooms without adequate air circulation find difficulty in concentrating on their lessons. Harambee efforts by the local community to build their own schools overtaxes their meagre resources for construction of buildings that rely on transportation of materials and skills not found within the community.

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Services for Nomads

5.25 In Zones VI and VII where the main subsistence activity is nomadic pastoralism, services based in settlements do not reach the majority of the population. In 1984, it was estimated that 70 per cent of the population in Turkana District were nomadic.^[17] The nomadic population in Garissa is about 60 per cent. Schools are not attended by pastoral children not only because boarding is expensive and the family does not see the value of education, but also and more importantly because herding is a labour intensive activity and families cannot afford to lose their children's assistance. Even in areas like Samburu District, children chosen by the family are predominately male and of alternate age-sets so not to weaken the family's chances of survival in the pastoral system.

5.26 Health facilities are not located close to the homesteads, especially in dry season grazing areas. Because people leave formal medical treatment to the eleventh hour, even a short distance can be prohibitive to an ailing person. Preventative health measures also fall behind. It was reported at the Nakuru Workshop that Wajir District has only a 5.7 per cent immunization coverage. Mobile services are clearly the solution, but conventional operations which require vehicles, roads and fuel are too expensive to implement and sustain. In any case, such is the shortage of transport and lack of supervision that vehicles provided for mobile medical and educational services are likely to be diverted to other routine activities.

Education for Girls

5.27 The high drop-out rate of students in ASAL, especially girls, is cause for concern. The situation is less serious in Zones IV and V than in Zones VI and VII where children are required for herding. There are three overriding reasons for the high drop-out rates: lack of job opportunities, lack of funds for further education and poor motivation of local people because of the absence of role models. In Samburu, girls account for 29 per cent of students in Standard 1, but only 9 per cent in Standard 8.^[18] And girls represent less than 47 per cent of enrolment in two-thirds of the schools in ASAL compared with schools in non-ASAL areas where girls make up 47 per cent or more of total enrolment.^[19]

[17] Turkana District Resource Survey 1982-1984, Main Report by EcoSystems Ltd., Government of Kenya/Ministry of Energy and Regional Development, Nairobi, 1985.

[18] Participation in Education by ASAL Communities in Kenya, *ibid.*

[19] Situation Analysis of Children and Women in Kenya, *ibid.*

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5.28 In addition, women are under-represented as teachers. In Samburu District, only one-quarter of all primary school teachers are female.^[20] While early marriage is frequently cited as a reason for the high drop out rates of girls, the situation is unlikely to change until there are more girl's schools (day and boarding), female teachers, textbooks and teaching materials, financial assistance to families with daughters in schools and increased enrolment of mothers in literacy programmes.

Youth Polytechnics

5.29 Again, the major difficulties faced by YPs are found in Zones VI and VII; problems which will continue until there are more local employment opportunities and the training reflects local needs and entrepreneurial skills. In Samburu, Kajiado and Turkana districts most of the students come from outside the local area. In Baragoi, in Samburu District, where the Youth Polytechnic relies entirely on the indigenous population, the Youth Polytechnic has been unable to recruit students for the last two years.^[21] And women, who are the traditional builders of homes, are not encouraged to enrol in such classes as carpentry thereby limiting their access to skills important for their development.^[22]

D. POLICY ISSUES AND RECOMMENDATIONS

Education as a Priority Sector

5.30 Such services as health care, education and social services were conspicuously absent from most ASAL areas prior to Independence, especially in the remote pastoral zones. The incorporation of these basic services into ASAL development programmes remains in many instances a low priority and somewhat contentious.

5.31 In its review of ASAL issues and options, IFAD and UNDP^[23] omitted to include health and education. Only two of the major ASAL donors (Netherlands and NORAD) support formal education and health to any degree in their district programmes. It is noteworthy that these programmes happen to be in some of the remote pastoral districts. However, most of the districts do not benefit from such direct donor support.

[20] Participation in Education By ASAL Communities in Kenya, *ibid.*

[21] Participation in Education by ASAL Communities in Kenya, *ibid.*

[22] The Situation of Women in Turkana, Norconsult, Nairobi, May 1990.

[23] Arid and Semi-arid Lands (ASAL) Development Programme: Summary of Technical Reports on the Strategy, Policy and ASAL Development Programme 1989-93, Report No. 0131-KE, IFAD/UNDP, Nairobi, 1988.

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5.32 The approach to development in ASAL has been based to a large extent on reaction to droughts and famine. Development assistance has centred on the two interrelated problems of poverty and food scarcity. To a large extent, the search has been for alternative livelihoods in non-pastoral activities, e.g. fishing, irrigation, water harvesting. More recently attention has turned to the development of small-scale enterprises and Jua Kali. However, in areas of low and uncertain rainfall and infertile soils, the search for alternatives to nomadic pastoralism and ephemeral cropping will probably continue to be disappointing. In arid areas, wide departures from traditional systems of production are unlikely to be feasible. It is in recognition of these difficulties that the final phase of TRDP in Turkana has focused on the development of human capital. Education is to receive the highest level of funding of any sector.

5.33 The ultimate goal for the education system in Kenya, as presented in the GOK Education Policy^[24] is an egalitarian society and equal education opportunities. The national culture, in its various dimensions, is seen as the vehicle for the achievement of this goal. Within the school system, cultural integration has to be reflected in the school curriculum, teaching materials and in the teaching process itself. It will then be likely that the parents will see schools as useful and relevant and consequently children will be motivated towards school. In the short and the long-term, this will solve the basic problem of formal education in the remote pastoral districts. Thus the development of appropriate educational materials in local vernaculars should be accorded high priority.

5.34 While a large proportion of nomadic children will not be able to attend school and benefit from formal education without undermining the pastoral subsistence base, there is a need for them to have access to some level of education. Innovative approaches, such as deployment of mobile education units (perhaps nomadic teachers comparable to the paravets) could provide basic skills in arithmetic, reading, writing and Kiswahili to increase the effectiveness of pastoralists in dealing with traders, administration personnel and other outsiders.

[24] See Chapter 9, *Development Plan 1989-93*, *ibid* and *Report of the Presidential Working Party on Education*, *ibid*.

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Girls as a Priority in Education

5.35 There is a need in Zones VI and VII for special facilities and bursaries for girls. In these areas, and especially in the settlements, girls are an important source of labour for the household. To have girls in school during their most productive ages for the household and have the parents pay presents a double burden. Families need incentives and the reduction of half the problem by providing bursaries will help ensure that more girls continue and finish their education.

Cost-sharing in Education

5.36 Neither the cash nor the resources are available in most ASAL to meet cost-sharing in education (see Chapter 2 paragraphs 2.21, 2.25-.26, 2.41, 2.42-.44, 2.53-.54). In Zones VI and VII pastoralists are able to obtain less of their subsistence from animals than in the past. The same difficulties apply in Zones IV and V in generating a surplus to invest in education. The increasing costs of education (e.g. school uniforms, textbooks, etc.) is the problem most frequently cited by recent socio-economic surveys in both Machakos and Kitui districts.

5.37 Compulsory cost-sharing in arid areas will undoubtedly frustrate the achievement of a major policy goal; that of an egalitarian society and equal education opportunities for all Kenya's children.

Health Management

5.38 Of all the sectors, it is likely that Health has suffered the most from the difficulty of retaining management personnel in the remote ASAL districts for more than a few months at a time, especially at the senior level. This has seriously affected the overall management and coordination of Primary Health Care.

5.39 Preventive health programmes are more cost-effective than curative actions. Only through awareness of the incidence and the cause of disease, coupled with training in health, hygiene and sanitation can communities begin to improve their condition. However, a programme of preventive health must be linked with an element of curative service. There is no point in helping people to identify TB without also offering treatment with those found to have the disease. Clearly, a linkage has to be made among the various health components (MCH-FP, EPI, nutrition, curative services, etc.).

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5.40 If this is to be achieved, the management problems caused by high staff turn over and the associated lack of commitment to the development of PHC need to be overcome. The desire and will to resolve these problems and to plan an integrated, coordinated approach to PHC must come from within the District Health Management Teams. These problems are unlikely to be solved until the management teams emerge from the ranks of local people. In the meantime, and in the absence of these reforms, further expenditure on discrete elements of PHC in remote ASAL districts will probably not be reflected in an improved government health service.

District Planning

5.41 District planning in ASAL is notoriously weak. It is only recently that some districts established District Planning Units (e.g. Laikipia, 1989) others are still without one. Where they exist, the DDO is beset by a massive workload which distracts the officer from strategic issues and leaves no time for travelling in the district which he is expected to serve. Very often he is bypassed by line departments. In the circumstances the planning of services and facilities in the ASAL districts is extremely weak. It is essential that renewed efforts are made to support the establishment of DPUs and staff training.

Community Education and Training

5.42 A system of multi-purpose non-formal community education and training is needed. To organize separate courses for paravets, health educators, etc. is to waste both human and financial resources. While some specialization by professionals (nurses, paravets, TAs, etc.) is needed, a multi-disciplinary approach to training in non-formal education is necessary. An understanding of the principles and practices of non-formal education, for adults, children of nomadic households and of environmental education, is essential for extension workers. Teaching should be through discussion, practical demonstration and participation, not by lectures in the classroom.

Youth Polytechnics

5.43 In Zones VI and VII, the demand for places in polytechnics is relatively limited. Job opportunities for polytechnic leavers are also limited.

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5.44 There are not enough local jobs for the types of skills taught and few local students enrol. While polytechnic-trained workers are entitled under District Focus (1984) to local contracts, enforcement of the District Focus policy has been weak at this level. To a certain extent, the policy has been negated by the quality standards set by the Ministry of Public Works for construction, which many local contractors cannot meet. But perhaps more relevant is the fact that many of the polytechnic students are from outside the local area and they leave and take their skills with them. The local situation is characterized by a dearth of qualified personnel to handle what work is available. Setting up working groups of locally trained students in businesses with starting capital would help alleviate the current situation.

5.45 The curriculum offered in the ASAL is basically the same as for the rest of the country and a special curriculum is probably not what is needed. Rather a strengthening of the YPs is required in terms of the level of education of the teachers and their skills in business management. Teachers who have not passed their 'O' levels cannot train Grade A artisans nor in the absence of business management skills pass on the knowledge required for a student to later set up his/her own business.

Women's Programmes

5.46 Since the early eighties, support to women's groups in Zones IV and V has been demand driven. The dispersal of small self-help grants to women's groups resulted in a significant contribution to a large number of worthwhile projects^[25]. Women's groups in AEZ IV and V, who have income-generating activities such as vegetable growing, basket weaving, etc., are able to sell their products locally.

5.47 However, in Zones VI and VII women's groups tends to be supply driven by donors keen to promote a gender policy. In these circumstances, women's groups require a constant input of resources as the activities practised in AEZ VI and VII operate in isolation of local markets. Of the 75 women's groups in Turkana, only two are realizing profits. This raises the question of whether the groups are being encouraged to engage in unsustainable activities.^[26] It would be more appropriate if scarce funds were channelled, for example, into other social sectors which might more directly benefit women (e.g MCH-FP, girls secondary schools, etc).

[25] Machakos Integrated Development Programme: Phase II 1983/84-1985/86, MOPND, Machakos, 1983.

[26] Environmental Study of Turkana District, Volume 2, Norconsult, Nairobi, June 1990.

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5.48 More attention needs to be paid to helping women in the work they do. In the rural areas, women are the majority of the population and as such contribute the largest share to the rural labour force. But the burden on women's time and energy has doubled through cash cropping and life in settlements. Women have always been involved in agriculture and livestock, herding and production, management and utilization of woody biomass, fetching water, family hygiene and nutrition, health and the informal education of children. However, with many men finding urban employment away from home, women have been left to perform their traditional roles as well as undertaking many of the activities previously performed by men.

5.49 In the pastoral areas of Zones VI and VII, the movement of impoverished households into settlements involves a change from a subsistence system based on livestock to one based on cash. The change has not only deprived women of the fruits of production, but destroyed their complementary economic role in the household. In both situations there has been an increase in female-headed households, many of whom are among the poorest. The women have the responsibility for the family but not the support, they have little or no food security and certainly no opportunity for investment.

5.50 Greater opportunities exist for incorporating women in main stream development activities in all sectors: livestock, agriculture, forestry, health, education, etc. By making women's groups the focus of women's development, there is a danger of marginalizing women even further and saddling them with projects which have not been planned, designed or implemented with the needs of the majority of women in mind. A study in West Pokot on existing women's groups found that most of the groups had not been created at the initiative of the women, but mainly by the churches and as a result of this top-down approach, support to these groups is not expected to yield the desired results.^[27]

5.51 Women's groups can provide an opportunity for women to assist each other in the development process. This is particularly true where women have come together and formed groups on their own initiative and based on their own needs, capabilities and constraints. In Zones IV and V the delivery of programme packages to women's groups would be an efficient and effective means of promoting local and national development. But assistance to women's groups in Zones VI and VII may not be the right approach.

[27] West Pokot ASAL-Development Programme Review Mission, by P.J. Zijlstra, M.A. Mbeo and A.B. Ayako, Amsterdam, August 1990.

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Implications for Budgetary Rationalisation

5.52 Under the Budget Rationalization^[28] strategy ministries were called upon to identify high priority services and infrastructure and allocate funds to improve capacity utilization. Some budgetary implications of the foregoing review of ASAL social development issues could be as follows:

- (a) Choice between sectors: A review of problems and constraints, and previous development interventions in ASAL, strongly suggests that Education, including informal education to children who do not attend school, should be the priority social sector, followed by Health, with Social Services some considerable distance behind. Adult Education should receive priority in Social Services.
- (b) Although Government has been concerned at the rate of growth of expenditure on Education since 1975 (paragraph 3.13)^[29], the reduction of its budgetary share should be achieved outside the remote pastoral districts (Zones VI and VII) where formal education was slow to get started and parents are least likely to be able (or willing) to pay. Within that sector, measures to reduce the existing drop-out rate (e.g. by upgrading teachers, providing bursaries, materials in the vernacular, school inspection) will generate a better return than building new schools. Expenditure on girls' education should receive priority to promote an egalitarian society, in recognition of their role as family educators and in order to resolve the chronic shortage of women employees in the public service (teachers, nurses, extension staff, etc.) and in the private sector.
- (c) The return on health expenditure is seriously affected by the high turnover of senior MOH staff in the more remote ASAL districts. Closer coordination and control of the various elements of the Primary Health Care programme by the District Health Management Team could pay dividends.

[28] Economic Management for Renewed Growth, Government Printer, Nairobi, 1986.

[29] Economic Management for Renewed Growth, ibid.

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- (d) Many NGOs and some GOK programmes operate from buildings which are less costly and functionally better adapted than many official MOH and MOE designs. Considerable savings in capital and maintenance expenditure could be achieved in the construction of appropriate buildings (e.g. primary schools and dispensaries) by paying more attention to the needs of the locality and the ability and skill of the local people, both inasmuch as they assist in construction and as they take responsibility for future maintenance.
 - (e) Closer attention to planning the provision and location of services should result in better utilization of the facilities provided. For this and other reasons, the DPUs should be strengthened.
 - (f) Savings could be achieved and effectiveness increased by combining the training of the field staff of the different ministries involved in community development work.
 - (g) The funding of Youth Polytechnics in Zones IV and V should receive higher priority than those in Zones VI and VII. Development should be geared to local employment opportunities and the availability of pupils from within (rather than without) the district.
 - (h) Likewise, grants to women's groups for income-generating programmes should be geared to the scale of local demand, by the women's groups and the market place, otherwise the programmes will not be sustainable.
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CHAPTER 6: DROUGHT MANAGEMENT

A. INTRODUCTION

Drought

6.1 There are many definitions of drought, but perhaps the most simple and useful is "the failure of expected rains". This definition emphasizes the fact that there is no single threshold at which drought can be said to have occurred. Producers might suffer from low crop yields or poor pasture growth due simply to late rains or a broken rainy season or total loss due to complete rain failure.

6.2 Drought is an inherent feature of the natural environment of ASAL. Annual rainfall in ASAL is low, and there is great variability between years, both in total amount and in the length and timing of the wet seasons (see Chapter 2 paragraph 2.7). Rainfall variability is greatest in the driest areas. The incidence of drought is therefore most frequent in Agro-ecological Zones VI and VII.

6.3 "Normal" rainfall is not a useful concept in ASAL. The rainfall record shows great variability not just from year to year but from decade to decade. The 1950s and 1960s were relatively wet in much of arid Africa and there were a series of years together with very low rainfall totals in the early 1970s and 1980s. However, in some parts of Kenya, there was still greater variability: Turkana, for example, suffered droughts in 1956, 1960, 1965, 1968, 1970, 1971, 1979, 1980, 1981, 1983 and 1984^[1]. Periodic droughts must be seen as an unavoidable and natural feature of ASAL.

Objectives

6.4 The objective of a drought management strategy is to respond to hunger in a controlled and measured way so that people will not be obliged to abandon their way of life, to migrate to towns or move into relief camps. Rather, they should be helped to maintain their independence so that they can resume normal activities when rain eventually returns.

6.5 By responding in this way to local needs, the authorities will help people in ASAL to sustain agriculture and pastoralism and reduce migration to urban areas.

[1] Turkana District Development Strategy and Programme 1985/86-1987/88: Development Support Unit, Ministry of Energy and Regional Development, Lodwar, 1985.

B. POLICY FRAMEWORK AND CURRENT ORGANIZATIONAL STRUCTURE FOR DROUGHT RESPONSE

Policy Framework

6.6 The national food policy, developed after the drought of 1979-80, set the objectives as:

- *"maintain a position of broad self-sufficiency in the main foodstuffs in order to enable the nation to be fed without using scarce foreign exchange on food imports;*
- *achieve a calculated degree of security of food supply for each area of the country; and*
- *ensure that these foodstuffs are distributed in such a manner that every member of the population has a nutritionally adequate diet."* (para. 1.6)^[2]

6.7 Following the drought of 1984, the Government established a Food and Nutrition Planning Unit within the Ministry of Planning and National Development.

6.8 Sessional Paper No. 1 of 1986 recognizes that the Government's long-standing goal of meeting most of the nation's food requirements from domestic production will become

"increasingly difficult to achieve in the face of rapid population growth, rapid urbanization and a virtually fixed supply of land." (paragraph 2.20).^[3]

6.9 Drought aggravates the problems ASAL people have in meeting the minimum dietary requirements essential for adequate nutrition. Government has therefore established a drought contingency planning and monitoring mechanism which it intends to develop during the next three years.^[4]

6.10 One of the conditions attached to the current Agricultural Sector Adjustment Programme is that a drought contingency plan for Kenya be drawn up. In this connection, the Ministry of Agriculture has prepared a document on "Household Food Security and Nutritional Policy".

[2] Sessional Paper No. 4 of 1981 on National Food Policy, Government Printer, Nairobi, 1981.

[3] Economic Management for Renewed Growth, Government Printer, Nairobi, 1986.

[4] Development Plan 1989-1993, Government Printer, Nairobi, 1989.

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Organizational Structure

6.11 Disaster relief comes under the purview of the Office of the President, which administers the Disaster Relief Fund, and is budgeted annually in the Recurrent Estimates. Since the droughts of the mid-1980s, every district has a Drought Management Committee on which NGOs also sit. However, following several years of favourable rainfall, the DMCs in many districts have become inactive.

6.12 Monitoring of food production, prices and nutrition is carried out by a number of bodies.^[5] Much of the information does not become available until several months or even years after it is collected.^[6]

C. SUSCEPTIBILITY TO DROUGHT AND DROUGHT RESPONSE

6.13 Increasing population, declining livestock herds, increasing land scarcity and recurrent drought in ASAL mean that there will continue to be people who cannot support themselves on the land in times of drought stress. Susceptibility to drought stress and the chances of recovery are directly related to the degree of diversity of income sources (annual and perennial crops, seasonal wage labour, smallstock, cattle, wild fruits, hunting, etc.) and the duration and severity of the dry period.

Drought Response

6.14 Because of the prevalence of drought in ASAL, people have through time developed drought-coping mechanisms which help buffer them against short dry spells. Although these mechanisms can prove inadequate in periods of prolonged drought, it is important that relief programmes take account of traditional capabilities to survive and do not undermine people's self-reliance by providing assistance too soon or for too long. Only in extreme situations do pastoralists and agriculturalists seek out relief and migrate.

[5] For example, MOA, CBS, KREMU, NCPB, Meteorology Department, UNICEF/MOH (CHANIS).

[6] For example, food prices collected at some fifty markets by the CBS take several years to publish.

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6.15 Traditional methods of coping with drought elicit responses which are key indicators of stress levels. Observation of these indicators is essential in drought monitoring:

- Pastoralists split herds into smaller units and move more frequently to exploit the increasingly scarce resources; large stock, e.g. cattle and camels are offered for sale; family networks are mobilized to spread livestock among families and to secure animals as loans; and wild resources, such as game and roots, berries, etc. are increasingly exploited.
- Farmers use food reserves including seeds; sell livestock (especially goats); send family members out to seek employment; attempt to acquire loans; increase production of handicrafts; consume cheaper foods; increase activities such as charcoal production and firewood collection; and share and ration food.

Susceptibility to Drought

Zones VI and VII

6.16 Drier ASAL, dominated by pastoralism, are the most drought-prone, and rainfall is erratic and unreliable. For example, over a 60 year period Lodwar in Turkana recorded 662mm and 19mm of rainfall in extreme years.^[7] Using mean rainfall figures, e.g. 217mm in Lodwar, as an indicator of stable local conditions is therefore not useful.

6.17 However, the nomadic pastoral production system is well adapted to climatic variability. Livestock may be able to withstand successive dry years. Browsing livestock (camels and goats) eat woody biomass which is less affected than grass by variability in seasonal rainfall. Furthermore, the mobility and the flexibility of the management system allows nomadic pastoralists to exploit local variations in rainfall.

6.18 Despite the greater resilience of pastoralism, when sources of fodder become totally depleted and water sources dry up very high stock mortalities can occur. In a severe and prolonged drought livestock mortality rates of over 50 per cent can be expected, for in the absence of fodder nothing can save an animal that has insufficient to eat. Following the crisis, it takes pastoral households several years to recover.

[7] Environmental Study of Turkana District, Vol. 2, Norconsult, Nairobi, 1990.

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6.19 Provided a nucleus of breeding stock survives, sheep and goat flocks recover the fastest, but still take 3 to 4 years under average conditions to double in size; cattle and camels take much longer. In Turkana District in 1982 some 80,000 individuals or one-third of the population were almost totally dependent on famine relief one year after the prolonged 1979-81 drought had ended. As late as 1985 15,000 people still remained on the food distribution rolls^[8]. If appropriate action had been taken much earlier, the number of destitutes would have been much reduced.

Zones IV and V

6.20 Rainfed crop production is clearly more susceptible to drought than pastoralism. Late arrival of rains or mid-season breaks in rainfall can cause serious crop losses. Local variation in rainfall amount and timing can mean that farmers in the same area experience different drought impacts in the same season.

6.21 However, agricultural production can recover relatively quickly with the harvest following a return to normal rainfall conditions if farmers have been able to stay on their land, if serious degradation of soil has not taken place and if they have seeds to plant. During the 1984 drought period 67 per cent of households in Zone IV and 77 per cent in Zone V received some famine relief assistance^[9]. Further assistance was not needed once the crops from the first rains were harvested.

Impacts of Drought

Nutritional effects

6.22 People in poor households, pregnant and breast-feeding mothers and children under 5 years of age are particularly at risk during periods of food shortages. A CBS/NES survey which assessed the nutritional status of children prior to the first harvest following the 1984 drought found that the highest proportion (67 per cent) of the marginally or severely malnourished children lived in AEZ IV. While the area is more diverse than the drier and more remote zones in terms of subsistence activities, the zone is still characterized by relatively low levels of productivity, a scarcity of cash crops and fairly dense population concentrations. During the drought, most of the households' food needs had to be purchased.^[10]

[8] Turkana District Development Strategy and Programme 1985/86 - 1987/88, Overseas Development Institute, London, 1985.

[9] Coping with Drought in Kenya: National and Local Strategies, edited by T.E. Downing, K. Gitu and C. Kamau, (Draft), November, 1988.

[10] Coping with Drought in Kenya: National and Local Strategies, *ibid.*

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6.23 Prolonged and severe drought has profound effects on society. Family units are split when some members leave to seek employment or famine relief. Costs of medical care escalate as the susceptibility to disease increases. Development activities are interrupted as people focus their energy on survival. The 1984 drought in Kawelu location of Kitui District, for example, was characterized by a marked decrease in primary school registrations, a decline in self-help activities and a 56 per cent drop in Adult Education attendance.^[11]

Drought and Food Entitlement

6.24 From studies of famines in Europe, Asia and Africa in both historic and recent times, it is now well-recognized that hunger is not always the result of an absolute shortage of food but rather a breakdown in the ability of certain groups of people to obtain access to food. This loss of access is generally described in terms of "loss of entitlements"^[12].

6.25 Entitlements to food are obtained in various ways, e.g.: through working on one's own or labouring on another's land, or herding one's own or another's animals; by wage employment or work in the informal sector; through exchange (e.g. trading livestock for grain, or grain for milk); and through inheritance or gift.

6.26 Labour and exchange entitlements are particularly vulnerable to drought. Drought has a direct effect on the food entitlement obtained through the production of crops or livestock. Employment in the formal sector is to a large extent immune to drought, at least in the short term, however there can be a sharp decline in the availability of wage labour (particularly agricultural work) and in demand for services (e.g. fuelwood). This has a particularly severe impact on those without sufficient land or livestock to sustain the household and who are normally dependent on wage labour. These impacts are particularly severe upon women.

[11] Coping with Drought in Kenya: National and Local Strategies, *ibid.*

[12] There is widespread adoption of the ideas of A. Sen, 'Poverty and Famines', Oxford University Press, 1980.

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6.27 Exchange relations can be drastically changed by drought. On the informal market, grain prices rise in times of drought. Restrictions on unlicensed movement of grain prevent easy regional adjustment of grain supply. Those who are landless or lack sufficient land and those who are dependent on the sale of goods (e.g. handicrafts) to obtain grain are severely affected. Pastoralists may be unable to obtain grain because of the collapse of livestock prices during a drought. For example, in Meru before the 1984 drought one bag of maize could be purchased from the proceeds of one goat. At the height of the drought, 16 goats were needed to purchase one bag of maize.

Trends Affecting Entitlements

6.28 Population growth in Zones IV and V has been accompanied by a decline in the number of animals per head (see Table 2.9), while increasing intensity of land use, resulting in soil erosion and fertility decline (Table 2.7), has resulted in declining economic returns to land and labour. The rapidly declining size of land per person (Table 2.8) is also contributing to economic marginalization and exposure to entitlement failure.

6.29 In Zones VI and VII, due to the shrinking pastoral resource (both in real and relative terms), increasing numbers of households are unable to subsist upon their herds and flocks and they are obliged to seek supplementary income. This increases their exposure during drought. Pastoralists who have lost access to valuable dry season grazing reserves are also particularly vulnerable to drought conditions.

6.30 An increasing number of people in ASAL are dependent on wage employment (especially on-farm employment) and service provision. These people lose entitlements fastest when demand for their labour falls with drought.

6.31 It is widely held that agricultural and pastoral production in ASAL can be doubled and that this will remove the need for food relief^[13]. This view needs to be substantiated if it is to be the basis of policy decisions regarding drought relief programmes. On the contrary, there is evidence that increasing numbers of people face absolute poverty and food insecurity. The idea that food shortages are a transitory phenomenon which can be overcome by reclamation and development, should be challenged.

[13] A Second-Generation Strategy and Policy for Reclamation and Development in the ASAL Kenya: 1989-93, Ministry of Planning and National Development, Nairobi, May 1988.

D. TYPES OF INTERVENTION TO FORESTALL DROUGHT AND SPEED RECOVERY AFTER DROUGHT

6.32 The kind of intervention necessary to minimize the impact of drought depends on the farming system of those affected (cultivators or stock-keepers), and the nature and severity of the drought. The response needs to be matched both to the type and to the severity of the drought-related problem.

Strategy 1: Releasing Food on to the Market

6.33 The 1984 drought was met by the Government of Kenya using foreign exchange reserves to purchase grain from abroad, mostly yellow maize, which was released on to the market at subsidized prices. This recourse to the market was relatively cost-effective and efficient, but its feasibility in future will depend on the availability of foreign exchange reserves and on the extent to which farmers and pastoralists in ASAL can obtain money to pay for the subsidized grain. The strategy may not be appropriate in remote pastoral districts where people have no cash.

Strategy 2: Emergency Livestock Purchase

6.34 A programme in which livestock are purchased on the local market, in times of drought, can put cash into the hands of pastoralists. In some cases animals can be slaughtered and the meat dried and distributed to drought victims, but this is difficult to organize on a large scale. The emergency livestock-purchase strategy is much discussed, but rarely implemented on a large scale. It depends on the ready availability of cash reserves to enable the authorities (or an NGO) to buy animals and transport them out of the district. An alternative strategy is to purchase animals with food obtained through bilateral or multilateral assistance.

Strategy 3: Food Relief

6.35 There is considerable experience of the distribution of food relief to victims. This strategy is widely adopted when drought is prolonged and the food crisis has reached severe levels. In several respects, however, the recourse to food relief can be the result of a failure to intercept problems before they reach a situation where food hand-outs are necessary.

Strategy 4: Food-for-Work

6.36 Food-for-Work (FFW) has been widely used to meet demand for alternative sources of income in the long aftermath of drought, for example by the Turkana Rehabilitation Programme (see Appendix II). Infrastructural and agricultural projects (e.g. roads and tree planting) were attempted following a drought in the early 1980s. The viability of hurriedly undertaken FFW activities appear to be at best marginal and they could not have been justified if they had been funded with money wages.

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6.37 However, the purposes of preventing starvation and enabling people to retain their self-respect were generally achieved and the number currently on FFW is greatly reduced. How many of the participants who have left have returned to their herds and flocks and how many migrated elsewhere is not clear. Detailed socio-economic studies are needed to answer these crucial questions.

6.38 Information is also needed about the status of those who remain. There is a particular problem in dealing with that fraction of the drought-afflicted population who are unable to re-establish themselves in agriculture or herding (e.g. because of illness or chronic poverty, or simple preference for FFW).

6.39 FFW (or "Work for Food" as the beneficiaries call it) has a vital role in the short term, but can have negative long-term effects. Agencies involved in longer term development programmes are concerned that their programmes are seriously undermined by frequent relief activities. It is difficult to get people to participate in and contribute to their own development when they can rely on indefinite employment on FFW.

Strategy 5: Food for Recovery among Nomadic Pastoralists

6.40 Cereal is a more efficient food in terms of total calories than meat. As such, more people can remain in the pastoral system, and not have to migrate to relief camps or elsewhere in search of work, if grain can be provided and diffused rapidly. The normal livestock marketing system cannot be relied on a such times due to the poor condition of the animals for sale, the glut of meat on the market and the low profit margins for the traders. In the absence of a programme which can ensure that pastoralists can acquire grain for livestock, large numbers of people will be forced to leave the system in search of food. The costs of keeping people on relief food and/or FFW will cost more economically and socially than an injection of grain into the pastoral system which will be distributed within the social networks and along traditional lines of drought recovery.

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Strategy 6: Accelerated Restocking of Nomadic Pastoralists

6.41 Invariably some people will not be able to survive in the pastoral system during a prolonged drought and will turn to other alternatives to find food. Many of these drought victims will be able to return to pastoralism once the herds have recovered but others, including many widows, having severed ties with the pastoral system because of their extreme poverty will not be able to return on their own initiative. A case can be made for restocking of these destitute families with enough smallstock to re-enter the system. This process was attempted on a small scale through OXFAM in Wajir, Isiolo, Samburu and Turkana districts in the mid-1980s. The key component to a restocking programme should include the provision of a flock of animals large enough to form the nucleus for a new herd, initial provision of grain so offtake of the animals can be delayed, that the family is willing and able (e.g. has sufficient labour) to resume pastoralism.

6.42 The timing of intervention for restocking destitutes is important. If done too early it can serve to break down further the traditional coping system and create further dependence on Government, NGOs and donors. For this reason, it is considered that any restocking exercise should not begin until the herds of the district have sufficiently recovered to ensure that those destitutes remaining in the settlements/camps have no chance of returning to pastoralism on their own.

Strategy 7: Replacement Seeds for Farmers

In severe or prolonged drought farmers may be forced to eat their entire stock of grain. Provision of seed for planting in the next rainy season is necessary if they are to recover rapidly.

E. ORGANIZATION FOR DROUGHT MANAGEMENT

6.43 At both national and district level there is a need for a clear definition of powers and responsibilities for drought management by the Office of the President, coordinating ministries, line ministries, district administration, NGOs, bilateral and multilateral aid donors, etc.

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6.44 Drought management requires an administrative structure with clearly defined powers and responsibilities to monitor local food availability and to initiate the necessary actions promptly and to supervise implementation. At present no coordinated structure exists. Responsibilities for monitoring food production, food stocks, distribution and prices are diffuse. The information is not processed centrally by one technical group or clearing house with responsibility for monitoring the overall food security situation and for identifying areas for priority assistance. In the absence of centralized monitoring, diffuse actions are taken by some, none by others and the effectiveness of a programme to ameliorate the effects of drought is seriously undermined.

6.45 At district level, a drought management committee (DMC) should meet regularly under the chairmanship of the DC. It should include relevant ministries, church organizations and NGOs. The DPU should provide the secretariat of the DMC. This should draw up a district drought action plan, defining and describing the powers, responsibilities and relationships of each party. The DMC should meet at least twice a year (and more frequently during emergencies) to discuss survey findings and decide on appropriate actions.

Infrastructure

Grain Stores

6.46 Strategically placed grain stores for emergency food storage and distribution programmes at local, district and regional level are a prerequisite for ASAL. Kenya's grain store system has been greatly strengthened in recent years. Some important gaps remain. Grain storage capacities are low, for example, given the population sizes in Wajir, Garissa and Mandera districts. Isiolo has the capacity to supplement these stores in time of crisis, but not if the drought is so widespread that Isiolo is also affected. Movement of grain to these remote districts may be further and crucially delayed by the condition of the roads.

Transport

6.47 Good road communications are vital for grain distribution. The network of main roads has improved but it is still deficient in remote ASAL areas (see Chapter 4). Rather than maintain a stand-by transport fleet, it is less costly in Kenya, with its well developed private sector, to rely on the hire of commercial vehicles for moving food during drought-related emergencies.

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6.48 With an effective road and transport system locally held grain stocks need not be large. Indeed it is undesirable to store large quantities locally because of the high incidence of storage pests in hot lowland locations and because deliveries to a local store can spark off demand for relief hand-outs which may be difficult to resist.

Staffing

6.49 There is a requirement at district level for personnel trained in drought management, administration and organization of relief and FFW programmes. They need not be specially employed as such but can be drawn from the field cadre of line ministries. However, special training in logistics and on-site management would be required.

Monitoring for Drought Management

6.50 Monitoring is an essential component of a drought management programme. The basic requirement of a monitoring programme is the collation and analysis of data which can be used to monitor the onset of a future drought-related emergency. In many districts the necessary information is already being collected. It is, however, necessary to take specific steps to collate and analyze it systematically. Monitoring need not be elaborate. It must be done in a way which promotes strategic decision-making by the District DMC.

6.51 The drought-coping responses (paragraph 6.15) are often the earliest signs of an impending drought-related emergency and developing food shortages. Monitoring of these signs may give a better early warning of severe drought impacts than a measure such as nutritional stress, which is only likely to develop once a crisis is well advanced.

6.52 Information useful for drought monitoring is as follows: systematically collected rainfall data; livestock dynamics and yield (monitoring of births, deaths and sales, milk yields and live weight); livestock movements, both seasonally and from year to year; incidence of use of famine foods; nutritional status; cereal/animal price ratios; food supplies and stocks (information should be collated on imports and exports of grain from the area); water supply status (particularly the depth of shallow groundwater aquifers, measured at a regular series of wells); range condition (assessment of early and late-season conditions and variability between years) and crop condition.

F. RECOMMENDATIONS FOR ACTION

6.53 The central drought management technical unit should be expanded in the Office of the President to receive monitoring reports from the districts and the various national organizations which collect and process relevant data. The purpose would be to generate timely and accurate information specifically designed to allow Government to direct assistance to those locations most in need.

6.54 District Drought Management Committees (DMC) should be re-established in all ASAL districts and prepare drought action plans, comprising specific procedures for:

- drought monitoring;
- the specification of critical trigger points for action and appropriate plans for intervention at each stage of a drought-related emergency;
- grain storage, including temporary stores for use in emergencies;
- arrangements for grain transportation and distribution;
- emergency livestock purchase and processing; and
- identifying, planning and supervising labour intensive (FFW) works.

6.55 National guidelines should be prepared to assist the DMCs in this task, but the focus for drought management planning and action should remain at the district level. A training and planning group should visit each ASAL district in turn to assist with the training staff of the DPU, district administration and line ministries in drought management. Instruction in the management of drought relief FFW programmes (site facilitating, management of food stocks) should be incorporated in the induction training of TAs on their assignment to ASAL.

6.56 Drought management strategies in Zones IV and V and are going to differ from those in Zones VI and VII. In the former, with a more highly developed infrastructure and institutional set up, private sector and cooperative institutions can be effectively mobilized for grain distribution. Food-for-Work should primarily be geared to land reclamation work in degraded catchments on public land.

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6.57 In drought-prone districts (Zones VI-VII) during normal (non-drought) times, the DMC should oversee the following:

- the maintenance of a strategic network of relief food stores throughout the district;
- the handing over of works started in emergencies to line ministries (e.g. catchments, irrigation, water harvesting);
- the regular training of staff in relief food management, storekeeping, pest control, etc.;
- the maintenance of contact with pastoral groups through mobile extension teams; and
- monitoring (see paragraph 6.52)

6.58 During and immediately after drought-related emergencies, the DMC should oversee the following:

- facilitating emergency off-take of livestock;
- organization of FFW for the displaced pastoralists who have insufficient livestock to return to a pastoral way of life;
- provision food-for-recovery to help remaining pastoralists to rebuild their flocks without having to sell animals to buy grain; and
- provision of emergency health and nutritional support, water supplies, etc.

6.59 There should be a clear procedure for DMCs to call on funds in the event of a drought-related emergency.

6.60 The burden of drought management should not be undertaken by the Government alone. The NGOs and the private sector could and should be induced to play an appropriate role. To encourage this involvement, further measures should be taken to facilitate inter-district trade in foodstuffs.

CHAPTER 7: PROGRAMME MANAGEMENT

A. BACKGROUND

7.1 The Government of Kenya has pursued an active strategy for the development of ASAL for more than a decade. These areas tended to be neglected until, in the mid-1970s, it was recognized that they merited special attention since (a) their inhabitants were often amongst Kenya's poorest, (b) they needed to support and feed a growing population if they were not to become an increasing burden on the rest of the economy, and (c) intensified pressure on the arid and semi-arid lands carried environmental dangers that needed to be anticipated.

7.2 In 1980, in recognition of the need for coordinated action in a number of sectors, a special ASAL Section was formed in the Rural Planning Department of the Ministry of Economic Planning and Development (MEPD) to supervise and coordinate a series of donor-financed district programmes (see Appendix I) within the context of the District Focus for Rural Development Strategy.^[1] Field implementation of the different elements of these multi-sectoral programmes was undertaken by the appropriate ministries, through which development funds were channelled. MEPD, later MOPND, was responsible for coordination.

7.3 The decision to vest the MOPND, a non-sectoral ministry, with the responsibility for coordinating the ASAL district programmes arose from the inter-sectoral nature of the programmes. They encompassed, for example, water supply, soil conservation, crop and livestock production and possibly cooperative development and adult education and could not be entrusted to one field ministry alone. Further, the task of implementation was seen as one which involved the planning and allocation of resources among different sectors which was clearly a task for a coordinating ministry.

7.4 The ASAL Section of the MOPND provided an effective framework for channelling external funds to ASAL areas, resources which would not otherwise have been allocated on purely economic criteria. However, by 1988, it became apparent that the resolution of ASAL problems was receiving insufficient attention and that more administrative, technical and financial resources were needed to tackle the special problems of ASAL. Several of the procedures described in the national policy document,^[2] for example the Inter-ministerial Coordinating Committee on ASAL had lapsed and the individual donor-funded ASAL district programmes were in need of overhaul.

[1] District Focus for Rural Development (revised March 1987), Office of the President.

[2] Arid and Semi-Arid Lands Development in Kenya; the framework for implementation, programme planning and evaluation. Government of Kenya, 1979.

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7.5 Accordingly, the Ministry of Reclamation and Development of Arid, Semi-Arid Areas and Wastelands (MRDASW) was created in May 1989 with the mandate to oversee the development of ASAL. From its inception, it took over responsibility for the 12 district ASAL programmes from the former ASAL Section of the MOPND, some of whose planning officers at headquarters and district level were transferred to the new ministry.

7.6 In addition to its coordinating role, the MRDASW was also given the responsibility for dam construction in marginal areas and the Kenya Drilling Company.^[3] The execution of this implementation function will be dependent on building up the necessary manpower and equipment in the field. Initially, the Ministry should build up its policy making and coordinating capability.

B. MINISTRY OF RECLAMATION AND DEVELOPMENT OF ARID, SEMI-ARID AREAS AND WASTELANDS

Responsibilities and Relationships

7.7 The MRDASW has been given wide ranging responsibilities for ASAL development. These embrace both the "assessment of potentials and use of arid and semi-arid lands" ... "the implementation of suitable integrated programmes"^[4]. As the ministry specifically responsible for ASAL development, it oversees the implementation of the national ASAL five-year plan, comprising the sectoral ASAL plans and programmes (see Appendix II), the district ASAL programmes (see Appendix I) and the Special ASAL Development Fund.^[5] As an extension of the former ASAL Section of the MOPND, the Ministry's role is initially a coordinating and monitoring one.

7.8 The Ministry's monitoring and coordinating responsibilities will be exercised at two main levels.

- (a) **National Level:** The MRDASW is responsible for over-all policy formulation of all development activities in ASAL. In his capacity as chief executive of the ASAL Ministry, the Permanent Secretary will chair the twice-yearly meeting of the **Inter-ministerial Coordinating Committee on ASAL**, which will be the apex of the Government structure for liaison on ASAL matters.

[3] Letter from Office of the President regarding allocation of functions to MRDASW, April 1990.

[4] Letter from Office of the President, idem.

[5] Development Plan, 1989-93 (page 137).

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In consultation with the operating ministries, the MRDASW will coordinate, monitor and evaluate the ongoing sectoral ASAL development plans and programmes in the light of the Government's ASAL Policy and recommend modifications to MOPND as appropriate. MRDASW will chair a number of inter-sectoral Planning and Coordinating Committees.

- (b) **District Level:** The Ministry, in close cooperation with the operating ministries, will be responsible for coordinating the implementation of the donor-funded ASAL district development programmes. In collaboration with the Office of the Vice President and Ministry of Finance, the operating ministries, DDCs and donors, the MRDASW will also formulate additional projects and programmes for donor funding especially in districts without special ASAL development programmes.

The MRDASW will administer the Special ASAL Development Fund which will be set up to support specific projects proposed by the DDCs in ASAL districts, particularly to test and demonstrate improved techniques relating to reclamation and development of natural resources (e.g. local catchment development).

Organization for ASAL Policy and Planning

Inter-ministerial Coordinating Committee (IMCC) on ASAL

7.9 Ultimate responsibility for policy decisions on ASAL lies with the Cabinet. The members of the committee will ensure cabinet decisions affecting ASAL are carried out and that the Cabinet is advised on ASAL activities. The committee will provide a mechanism for informing Ministers of progress in the implementation of the ASAL Programme and for the Permanent Secretaries to keep each other up to date regarding ASAL matters.

7.10 As the apex committee for ASAL development, the IMCC for ASAL will:

- (a) direct and interpret the implementation of Cabinet's policies on ASAL, review constraints and advise on any new directions and strategies;
- (b) receive half-yearly reports from three Technical Planning and Coordinating Committees;
- (c) receive reports from operational ministries on on-going projects;

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(d) review the financial requirements for ASAL development, the allocation of donor commitments and advise on the preparation of forward budget estimates;

(e) advise on long term research needs of ASAL

7.11 The following ministries will be represented on the Inter-Ministerial Coordinating Committee on ASAL: OOP, OVP&MOF, MOPND, MOA, MOLD, MENR, MOWD, MOC, MOCD, MOI, MOTC, MOLH, MOH, MOE, MOCSS, MRST, MRD and other ministries as appropriate.

Technical Planning and Coordinating Committees

7.12 To facilitate the work of the IMCC, there will be three Planning and Coordinating Committees. The functions of the PCCs will be to advise the Inter-ministerial Coordinating Committee on ASAL on policy and technical matters, on specific development proposals and to handle administrative coordination between ministries.

7.13 The **Natural Resources PCC** will concern itself with integrated natural resource development in ASAL, especially regional and local catchment reclamation and development. The committee will be chaired by the Director Technical Services of the MRDASW's Technical Services Department, which will also act as the secretariat to the committee. It will be made up of the representatives of the planning units and implementing divisions from the following ministries: MOPND, MOA, MOWD, MOLD, MENR, MRD, MRST, MTW/KWS, MOCD and others as decided by the PS, MRDASW.

7.14 The **Infrastructure, Manufacturing and Trade PCC** will concern itself with issues relating to the expansion of employment in small-scale industry, trade, commerce and services in ASAL. It will cover credit (including farm credit), land adjudication, provision of infrastructure and the regulatory framework governing secondary and tertiary activity. The committee will be chaired by the Deputy Director of the IMT Division of the Technical Services Department which will provide the secretariat. It will be made up of the representatives of the planning units and implementing divisions from the following ministries: MOPND, MOC, MOCD, MOI, MOEN, MTTAT, MOLH, Banks and others as decided by the PS, MRDASW.

7.15 The **Human Resources PCC** will concern itself with issues relating to human resource development and the provision of basic services in ASAL. The committee will be chaired by the Deputy Director of the Human Resources Division of the Technical Services Department, which will also provide the secretariat. It will be made up of the representatives of the planning units and implementing divisions from the following ministries: MOPND, MOH, MOE, MOCSS, MTTAT and others (e.g. NGOs) as decided by the PS, MRDASW.

Special ASAL Development Fund

7.16 The national Development Plan (page 137) notes that some (10 out of 22) districts have yet to receive any funding from donor-funded area-based projects and that the Government intends to set up a **Special ASAL Development Fund** into which multi-donor/GOK funding will be channelled.

" Use of the fund will, however, be weighted directly in favour of productive investment combined with environmental reclamation and protection measures and supporting infrastructures. The districts will bid for allocations under the fund for specified and integrated activities reflectingThis will facilitate the generation of genuine beneficiary demand for the proposed activities and projects. [6]

7.17 The application of this fund will be administered by the Programme Development Section of the MRDASW's Planning Division in cooperation with the district DPUs and DDCs.

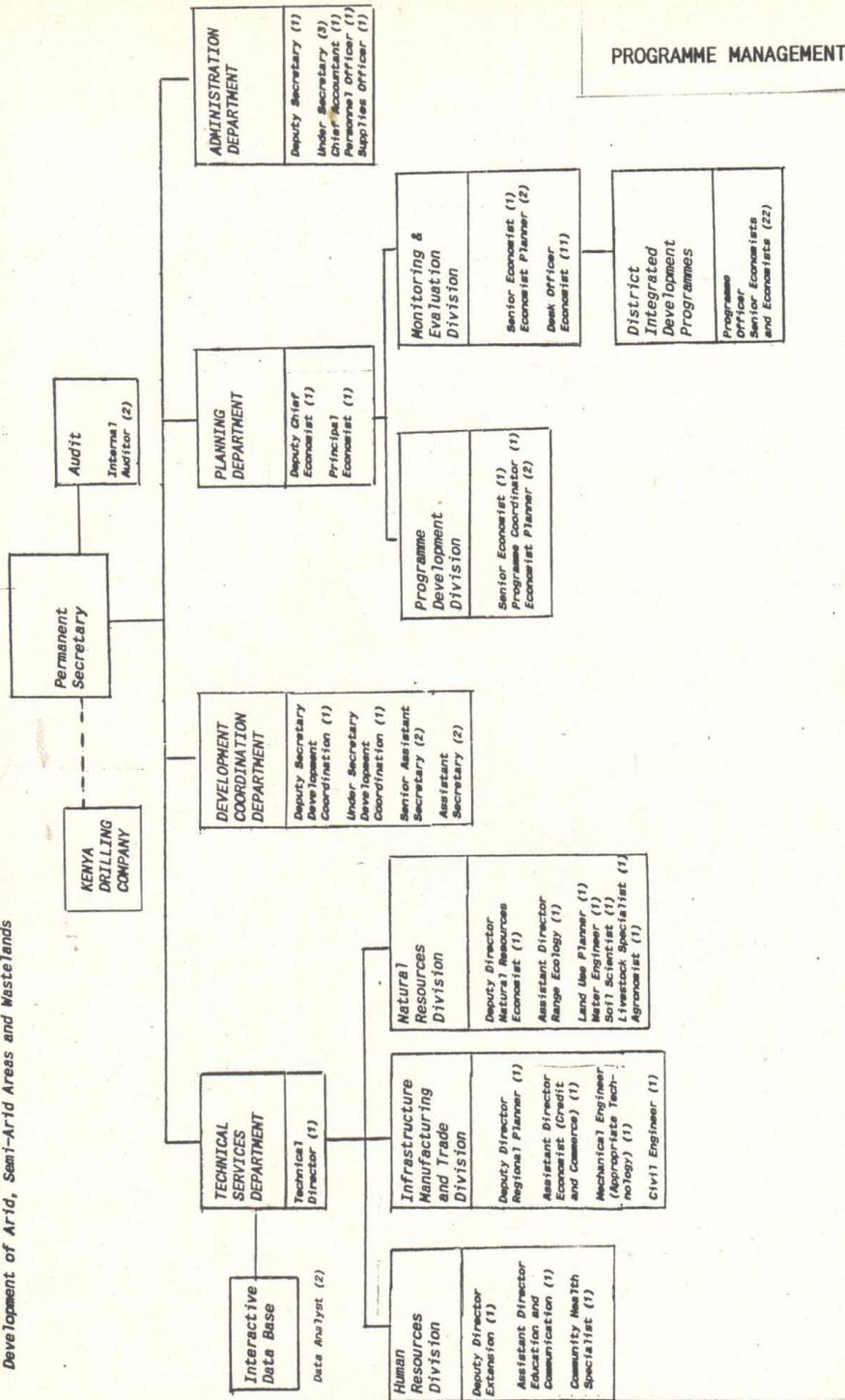
Organization of the MRDASW Headquarters

7.18 The task of developing the arid and semi-arid lands calls for a greatly enhanced administrative and technical capability in the MRDASW. The Ministry will be reorganized and strengthened so that it can fulfil its mandate. Figure 7.1 shows the proposed organizational structure of the Ministry which is envisaged at full development. The Ministry will have four departments: Administration, Development Coordination, Planning Department and Technical Services Department.

7.19 The Planning Department will be headed by a Deputy Chief Economist and staffed primarily by economists. The Programme Development Division will be responsible for the preparation and appraisal of new development programmes and will work closely with donor representatives and consultants when new programmes are being considered and existing programmes come up for renewal. For this purpose, with the consent of the Permanent Secretary, the Division will call upon the expertise of the Technical Services Department.

[6] Development Plan, 1989-1993 (page 138).

Figure 7.1 Organisational Structure of the Ministry of Reclamation and Development of Arid, Semi-Arid Areas and Wastelands



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7.20 The Programme Development Division will ensure that gender issues are taken into account during programme formulation & development. A women's Programme Coordinator will be retained within the Division.

7.21 The Monitoring and Evaluation Division will be responsible for the day-to-day technical supervision of District Integrated Development Programmes. Administrative matters relating to the DIDPs (e.g. personnel, accounts, supplies) will be handled by the Administration Department at the request of the Deputy Chief Economist.

7.22 The Technical Services Department will provide technical back-up to the ASAL Planning and Coordinating Committees and day-to-day technical liaison with operational ministries. The work of the department will be divided among three divisions: Human Resources; Infrastructure, Manufacturing and Trade; and Natural Resources. The specialists in the Technical Services Department will provide a pool of experts to work with outside consultants on assignments to donor-funded district programmes. In this way, the MRDASW will rapidly build up their technical capacity and reduce their dependence on outside expertise.

7.23 Some specialists have already joined the Technical Services Department. Additional specialists will be transferred with their posts to the MRDASW. Specialists in Community Health, Education and Communication and Non-formal Education will be required in the Human Resources Division. The Natural Resources Division will be staffed by a Range Ecologist, a Land Use Planner, a Water Engineer, a Soil Scientist, Livestock Specialist and an Agronomist under the leadership of a Natural Resources Economist. The Infrastructure, Manufacturing and Trade Division will require a Regional Planner, economic specialists in Trade and Manufacturing and a Civil Engineer.

7.24 The Development Coordination Department is responsible for donor relations and coordination and the development of long-term ASAL policy matters.

C. PROBLEMS AND CONSTRAINTS WITH ASAL DISTRICT PROGRAMMES

Background

7.25 About the time the Ministry was formed, a number of concerns were being voiced about the overall national ASAL programme. Some of these are reflected in the IFAD/UNDP report.^[7] Prominent among them was the belief that insufficient supervision and control was being exercised by the Government over the donor-financed programmes. These concerns extended into the realm of project design as well as the administrative and financial domains. It is worth enumerating some of these problems as they provide a list of issues to be resolved by MRDASW and aid agencies.

Programming

7.26 Originally the ASAL funds allocated to the districts were seen as incremental. They represented funding over and above that which the line ministries in the district would otherwise be receiving from the Treasury. The funds were meant to be used for investments which addressed the special problems of ASAL, i.e. human resource development, exploitation of productive potential, conservation and integration within the national economy.

7.27 With the introduction of the District Focus Strategy, the planning and implementation of district specific development activities were meant to be brought under the supervision of the DDC and sub DDCs at divisional and locational level. Understandably, the extent to which this happened depended on the level of involvement of the community in the sub DDCs and DDC; for example, there were marked differences between Machakos and Turkana. However, the operational departments at district level have resisted community participation in the programming of their activities.

7.28 As the years passed, ASAL funds ceased to be incremental and became a substitute for routine allocations from the ministry headquarters. The situation has now been reached in which the major portion of external resources has gone to funding departmental operating costs. GOK and donors have justified this by arguing that it made little sense to finance separate programmes when many of the developmental services were functioning at low levels of effectiveness on account of the scarcity of GOK funds. They reasoned that comparatively modest incremental resources could be used to make the existing services more effective.

[7] Arid and Semi-arid Lands (ASAL) Development Programme, Summary of Technical Reports on the Strategy, Policy and ASAL Development Programme 1989-93. Report No. 0131-KE, November 1988. IFAD and UNDP.

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7.29 The planning of ASAL district programmes follow a so-called "process approach". In other words, they proceed by annual review, programming and budgeting. From time to time a four or five-year review is undertaken and a new phase is programmed. However, the essence of the approach is that of a rolling plan rather than a formal project design drawn up several years in advance. Annual departmental programmes to be financed by ASAL are submitted to the Programme Officer by the district heads of department for approval in March/April for inclusion in the budget for the coming financial year. It is the responsibility of the Programme Officer to incorporate these submissions in an overall annual ASAL programme for the district.

7.30 However, because departments do not believe they will receive GOK funds to cover routine operating costs, they load these costs onto the aid agency programme. Thus much of the ASAL budget goes to cover transport, travel allowances, stationery, etc. for routine departmental work with very little innovative content. Sometimes this work is a replication of programmes in high potential areas which have little relevance to ASAL.

7.31 Understandably, attempts by the PMU to change this pattern of disbursement are resisted by the staff of implementing ministries on the grounds that it would be against "ministry policy". The situation is made more difficult by the fact that Programme Officers from the MRDASW are often junior economists, at least two job groups lower than the heads of department with whom he is dealing. Because of manpower shortages, the Programme Officers in the field get very little assistance on these occasions from the MRDASW in Nairobi.

7.32 In an attempt to resolve these and related problems, the donor's Programme Adviser (and possibly the donor as well), tends to become involved in "district politics". The problem stems as much from the weak representation of the MRDASW at district level as it does from donor interference. Indeed, donors complained that the coordination of ASAL programmes via the MOPND was not as effective as it ought to be.

7.33 In order to limit donor influence, it has been proposed that district programmes should be financed by more than one donor.^[8] However, this would not solve the underlying problem arising from the weak representation of the MRDASW at district level. The presence of several donors could make matters more complicated for the beleaguered Programme Officer. In any case, there are many districts, currently without an ASAL programme which would prefer to have one donor rather than none at all.

[8] IFAD/UNDP (ibid)

Donor Disbursement Procedures

7.39 Financial control over ASAL programmes has been and continues to be extremely weak. The volume of funds flowing through the PMU can exceed the allocation to the district Treasury. Neither the Programme Officer nor the Programme Adviser has the time or the training to adequately supervise the disbursement of funds without the assistance of a qualified accountant and a battery of accounts clerks. In practice, the ASAL programmes manage with a couple of accounts clerks who are unable to verify the expenditures incurred or to provide the Programme Officer with financial management information. The Ministry is drawn to the recommendation in 7.8.

7.40 Initially, ASAL programmes were funded by donors through a system of reimbursement to the Treasury, but, because of growing liquidity problems which delayed project implementation, it was replaced by one of direct payment. However, this system carries with it a number of risks:

- (a) payment outside the budget, with all its attendant problems;
- (b) the erosion of a well established and understood financial system;
- (c) creation of an administrative burden for PMUs, and donor agencies.

7.41 A third option, payment in advance through the revenue account of the Development Budget, has virtually been abandoned by donors. The move to direct payment has resulted in a loss of liquidity in the Treasury and has undermined confidence in the Revenue Account causing a further shift to A-in-A. The Treasury and some donors are concerned about these developments and believes that positive efforts should be made to reform the system.

7.42 Most bilateral-funded projects operate through a special account in a local bank, a pre-financing tool which is useful when there are many small expenditures. A sum of money, usually not more than four months' anticipated expenditure is placed at the disposal of a PMU, which then has access to funds to pay amounts due. The obvious benefit for the aid agency of project special accounts is that they eliminate the need for it to act as project cashier. Suppliers and contractors benefit as funds are paid immediately.

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7.43 However, special accounts are held in KSh only and they do not allow scope for foreign expenditures.^[10] Thus overseas procurement (e.g. cars, equipment, consultants) is normally handled by the donor agency and the PMU may not be kept up-to-date on the financial situation. In this respect the authority of the PMU can be undermined. The PMU should have the sole authority to both request and authorize international procurement for their programme as they are held responsible for its management.

D. ORGANIZATIONAL STRATEGY FOR DISTRICT INTEGRATED DEVELOPMENT PROGRAMMES (DIDP)

7.44 ASAL development will continue to be implemented in the context of district-based coordinated rural development. Operational procedures will be more or less similar to the procedures of the ongoing ASAL district programmes. However programming and budgeting and organization and management of donor-financed district ASAL programmes will, as far as possible, follow a common format in the interests of administrative and technical efficiency.

7.45 Since the Machakos Integrated Development Programme (MIDP), subsequent District Integrated Development Programmes (DIDP) were given a similar acronym, e.g. Baringo, West Pokot. This report adopts this convention and henceforth the acronym DIDP describes the standard donor-financed, district programme.^[11]

7.46 DIDP is an integrated programme, in that its various components complement and are coordinated with each other. At the same time, DIDP is implemented mainly through existing departments for which DIDP implementation represents only a part of their work programme. An effective system for planning, coordinating and monitoring implementation of DIDP is therefore crucial.

[10] Government regulations preclude PMUs that are part of a government agency from operating foreign currency accounts. Conversely some donor-funded PMUs, e.g. World Bank, are not permitted to hold balances in local currency and thus rely on the World Bank's Disbursement Unit in Nairobi or advance payment by GOK and subsequent reimbursement which slows down disbursement of funds and the progress of the programme.

[11] The format is based on MIDP, KIDP and TRDP, references are as follows: Machakos Integrated Development Programme, Phase II 1983/84-85/86, Volume I, MEPD/EEC, 1983; Kitui Integrated Development Programme, Plan of Operations, Phase I, Volume I, Strategy and Organization, MRDASW/Danida, 1989; Turkana Rural Development Programme, Plan of Operations, 1991/92-1994/95, MRDASW/NORAD, 1990.

The District Planning Framework

7.47 The Government has established a framework for the management of development at district level. This is briefly described below, as it is important to show how DIDP fits within this framework.

7.48 The Government is naturally organized along sectoral lines, so that most GOK representatives in any district belong to national ministries with headquarters in Nairobi. The District Focus approach recognizes the importance of the district as a geographical and administrative unit within which planning and implementation of development programmes and the provision of Government services should be coordinated. It provides a framework for balancing sectoral against district considerations, with Development Committees at each administrative level which facilitate coordination and enable community concerns to be taken into account. Figure 7.2 summarizes the District Focus framework.

7.49 Districts are now the most important sub-national units for development planning and administration in Kenya. The senior representative of the Government in the district is the District Commissioner (DC), and, under the District Focus strategy, he has responsibility for coordinating the work of the various Government departments represented in the area.

7.50 A hierarchy of Development Committees from sub-location, to location, to division has its apex in the District Development Committee (DDC). These committees provide an opportunity for local views and priorities to be taken into account in the planning and delivery of Government services. At administrative level, the District Executive Committee (a sub-committee of the DDC) brings together all the district heads of department each month as a means of coordinating their activities.

7.51 A District Planning Unit (DPU) is headed by the District Development Officer (DDO), who comes under the day-to-day direction of the DC. The DPU is the secretariat to the DDC and DEC and is responsible for preparing the District Development Plan.

7.52 An important aspect of District Focus has been to locate more financial authority within the district. District heads are holders of AIEs (Authorities to Incur Expenditure) and all district-level expenditure is processed by the District Treasury, headed by a District Accountant. Procurement below certain ceilings is overseen by the District Tender Board.

Figure 7.2 District Focus Institutional Chart

LEVEL	ADMINISTRATION AND IMPLEMENTATION	COORDINATION AND CONSULTATION
<u>National</u>	OFFICE OF THE PRESIDENT	Parliament
	MINISTRY OF FINANCE	Cabinet
	MINISTRY OF RECLAMATION AND DEVELOPMENT OF ARID, SEMI-ARID AREAS AND WASTELANDS MINISTRY OF PLANNING & NATIONAL DEVELOPMENT** LINE MINISTRIES	Inter-Ministerial Committees
<u>Provincial</u>	PROVINCIAL ADMINISTRATION (Provincial Commissioner)	Provincial Monitoring and Evaluation Cttee (PMEC) Chairman: Provincial Commissioner Secretary: Provincial Planning Officer Membership: All Provincial Heads of Department All District Commissioners All MPs All DDOs
	PROVINCIAL PLANNING UNIT (Provincial Planning Officer) PROVINCIAL DEPTS (Provincial Heads)	Meetings: Quarterly
<u>District</u>	DISTRICT ADMINISTRATION (District Commissioner)	District Development Committee (DDC) Chairman: District Commissioner Secretary: District Development Officer Membership: All District Heads of Department MPs, District KANU Chairman Local Authority Chairmen Chairmen of Divisional Devt Cttees Representatives of development-related parastatals Invited representatives of NGOs and self-help groups
	DISTRICT TREASURY (District Accountant)	Meetings: Quarterly
	DISTRICT PLANNING UNIT (District Devt Officer) DISTRICT DEPTS (District Heads)	District Executive Committee (DEC) Chairman: District Commissioner Secretary: District Development Officer Membership: All District Heads of Department Clerks of Local Authorities Representatives of development-related parastatals Meetings: Monthly
<u>Division</u>	District Officer	Divisional Officers
		Divisional Development Committee (DvDC) Chairman: District Officer Secretary: District Development Officer Membership: MP(s), KANU sub-branch Chairman Locational chiefs Clerks and councillors of local authorities All Divisional Department Heads Divisional representatives of development-related parastatals Invited representatives of NGOs and self-help groups Meetings: Quarterly
<u>Location</u>	Chief	Field Staff
		Locational Development Committee (LDC) Chairman: Chief Membership: Assistant Chiefs Councillors, KANU Locational Chairman Departmental Officers Headmasters of Secondary Schools Co-opted local leaders, representatives of cooperatives, NGOs and self-help groups
<u>Sub-Location</u>	Assistant Chief	Field Staff
		Sub-Locational Development Committee (SLDC) Chairman: Assistant Chief Membership: Councillors, KANU Sub-Locational Chairman Departmental Officers Headmasters of Primary Schools Co-opted local leaders, representatives of cooperatives, NGOs and self-help groups.

*Based on District Focus for Rural Development (Revised March 1987), Office of the President.

E. ORGANIZATIONAL FRAMEWORK FOR DIDP

7.53 Figure 7.3 shows a typical organization for DIDP in relation to the existing district structures depicted in Figure 7.2 above.

7.54 The MRDASW is responsible for the overall planning, coordination and monitoring of the DIDP. The implementing departments are coordinated by the Programme Management Unit (PMU). The senior staff of the PMU are the Programme Officer (PO), who is an Economist with the MRDASW, and the Programme Adviser (PA) provided under Technical Assistance. The PMU itself works closely with the District Planning Unit (DPU).

7.55 A Programme Steering Committee (PSC) forms a subcommittee of the District Executive Committee. Like the DEC and the DDC, it is chaired by the District Commissioner, although the DC may delegate this task. Terms of reference and membership of the PSC are set out below.

7.56 The annual work plan and budget of DIDP is reviewed by the proposed Inter-ministerial Committee on ASAL, or a subcommittee appointed by the chairman, which ensures (a) that appropriate provision for DIDP is made in the GOK estimates and forward budget and (b) that agreed GOK inputs (and especially staff postings) to the programme are forthcoming.

Programme Steering Committee

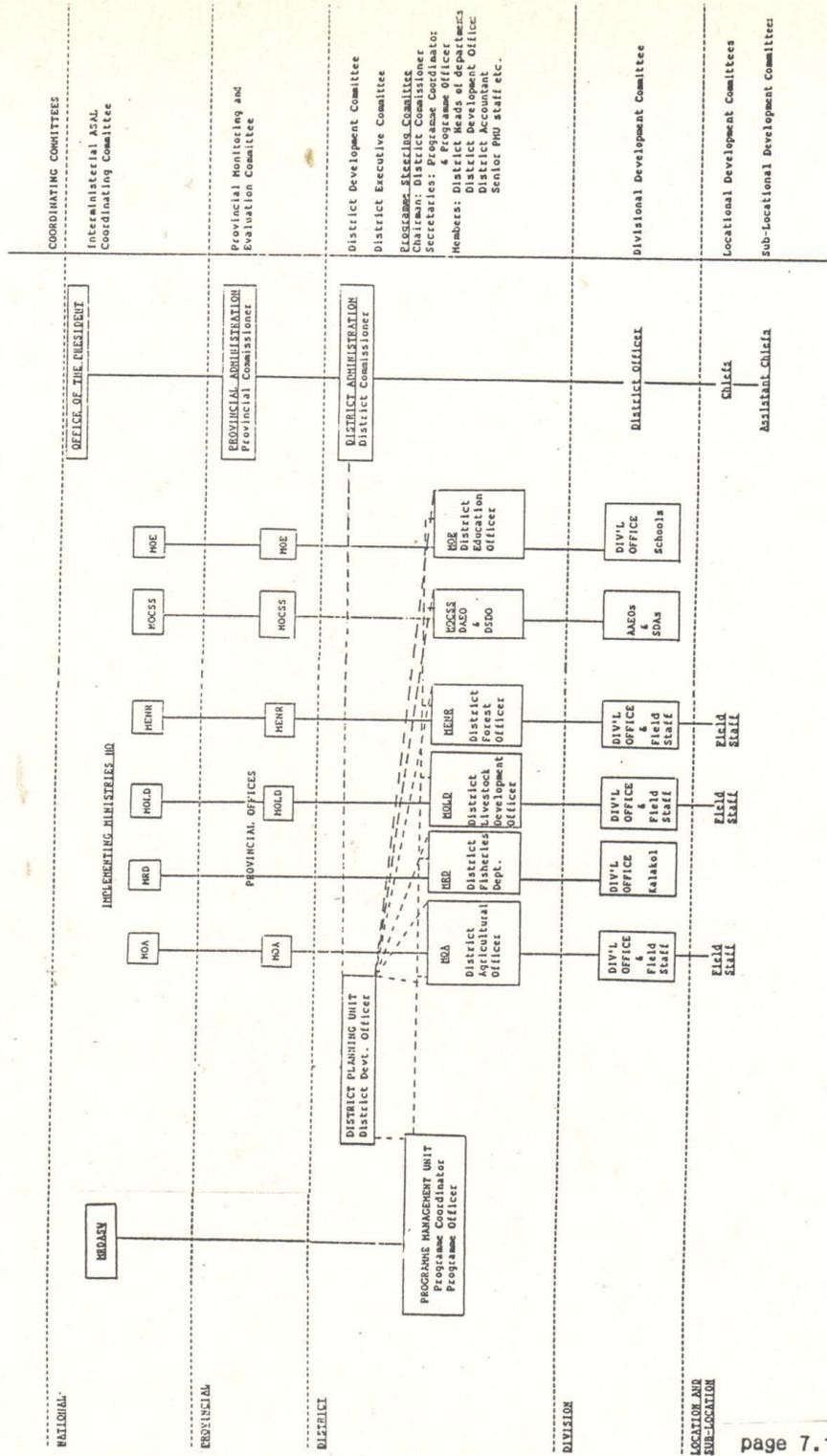
7.57 DIDP involves a number of separate Government departments at district level, and it is necessary to ensure regular follow-up and continual coordination of their DIDP activities. Although the District Executive Committee includes the officers responsible for implementing DIDP, it also includes many other district heads and representatives who are not directly involved in the programme. The Programme Steering Committee is therefore a special subcommittee of the DEC.

7.58 The Programme Steering Committee's functions includes:

- review and approval of work plans and budgets;
- monitoring of the progress of the programme and of its constituent projects; and
- advising DEC on DIDP issues

Figure 7.3 DIDP Organisation

Key: ——— Line control
 - - - - - Coordination



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- addressing any problems or bottlenecks that may arise during implementation.

7.59 Membership and Meetings: The PSC is chaired by the District Commissioner or his delegate and the Programme Management Unit provides the secretariat.

7.60 Membership includes:

- the district heads of all departments involved in implementing the programme
- the District Accountant
- the Programme Officer
- the Programme Adviser
- the Programme Accountant
- a representative of MRDASW
- a representative of the donor mission, Nairobi
- the District Development Officer
- the District Supplies Officer

7.61 The PSC may invite or co-opt other persons as appropriate. Meetings are held quarterly.

7.62 Links to Other Bodies: The District Commissioner is also chairman of the DEC, the DDC and the District Tender Board.

7.63 The Programme Officer and Programme Adviser are members of the DEC and DDC.

Planning and Review

7.64 For each DIDP a plan of operations is drawn up by Districts and approved by the MRDASW and the Donor. This forms part of the agreement between the Government and the donor. Changes to the plan of operations require the concurrence of the two parties to the agreement. In particular, the plan of operations describes agreed procedures relating to financial administration, procurement and audit, and to the further planning and review of the programme, which cannot be modified unless by express agreement.

7.65 The plan of operations provides detailed budgetary projections for each component of the programme. These constitutes an agreed budget for the first year of the programme's implementation and an indicative forward budget for the subsequent years (three or four) which are subject to review in accordance with the procedures described below.

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7.66 Each year GOK and the donor jointly undertake a review of DIDP implementation as an input into the planning of the subsequent year's operations. Appendix IV (Standard Procedures for DIDP) provides outline terms of reference for this annual programming exercise. This is fairly informal, feeding directly into the DIDP planning process.

7.67 A joint GOK/donor mid-term review team normally conducts a comprehensive assessment of the first two/three years of the plan period. The mid-term review team's report (a) proposes any necessary modifications for the remainder of the phase, and (b) considers whether and in what form the Programme might be extended. Outline terms of reference for the mid-term review are provided at Appendix IV.

Reporting Requirements

7.68 DIDP has to meet reporting requirements emanating from a number of sources:

- (a) First, and most important, a systematic flow of information is needed as the basis for DIDP's own internal monitoring and programming.
- (b) Second, it is necessary to keep GOK adequately informed, both in regard to specific ministerial programmes and in regard to the overall performance and budgetary requirements of the programme.
- (c) Third, it is necessary to meet the reporting requirements of the aid agency.

7.69 In the short term, inadequate or untimely reporting could cause the flow of resources to the programme to be restricted. In the longer term, a failure to develop adequate systems for performance review could jeopardize the achievement of the programme's objectives.

7.70 At the same time, there is a need to keep reporting procedures relatively simple, so that there is time to implement the programme as well as reporting on it.

7.71 Full details of reporting routines and formats should be worked out and agreed by the programme's implementing officers themselves, and approved by the Programme Steering Committee. This should be carried out in the course of setting up the programme's monitoring procedures in the first few months of PY1. Some of the elements of the required system are set out below.

Responsibilities for Reporting

7.72 Overall responsibility for reporting on the programme to GOK and the aid agency rests with the PMU. Nevertheless, primary responsibility for reporting on programme activities rests with the implementing departments themselves.

7.73 Financial Reporting: The DIDP accounting unit compiles regular financial reports, but, again, this is not a substitute for the maintenance, by implementing departments, of systematic records of expenditure and commitments. A system is needed whereby the PMU is able to furnish the responsible officers in implementing departments with computerized monthly statements of budgeted provision, actual expenditure, commitments and available balance.^[12] The budget and expenditure statements need to be coded so as to yield breakdowns according to both GOK and aid agency formats, as well as corresponding to practical categories from the point of view of managing the programme.

Reporting Intervals

7.74 Meetings of the Programme Steering Committee are held (at least) quarterly. It may not be necessary to require written reports from all officers for each meeting, but:

- (a) A summary of the expenditure position should be presented by the PMU each month.
- (b) Each implementing officer should report, at least orally, on the implementation of his/her work plan.
- (c) Minutes of PSC meetings should be prepared promptly and circulated. They should in particular note any actions agreed at the PSC and form the basis for follow-up at the next PSC meeting. PSC minutes will be copied to MRDASW, the External Resources Department of Treasury and the aid agency mission in Nairobi.

7.75 Written quarterly reports on the implementation of each department's work programme are mandatory. MRDASW has prepared a standard format. The PMU must prepare an overall quarterly report for the programme.

[12] The West Pokot ASAL-Development Programme has developed computer software which allows monthly and quarterly financial progress reports to be produced.

PROGRAMME MANAGEMENT

7.76 The annual work plan and budget will be revised half-way through the year. This allows for pragmatic changes and reallocation of resources within the programme in the light of performance and external circumstances. The revision of the DIDP budget in November/December allows time for any necessary revisions to GOK estimates to be included in supplementary estimates by Treasury. The revising the budget at this time (which will also consider revisions to the outline budget for the succeeding years) provides a starting point for the annual programming mission in March/April.

Procurement, Disbursement & Accounting

7.77 Procurement, disbursement and accounting procedures must:

- facilitate timely and cost-effective procurement of goods and services for the Programme;
- ensure proper accountability for, and control of, project resources;
- provide adequate financial management information to the Programme itself;
- ensure that all Programme expenditures are duly authorized through the GOK Estimates and recorded in the GOK Accounts;
- ensure prompt and adequate documentation of expenditures to meet the donor's auditing requirements and hence timely replenishment of programme funds.

7.78 The procedures are intended to follow Treasury Circular No. 3 (1988) Procedure for Direct Payment under Donor Funded Projects and Treasury Circular No. 5 (1987) as regards procurement. International procurement will follow GOK and/or donor procedures for competitive bidding. Alternative procedures for validation of procurement and payment documents should be as specified in the March 1990 Circular from the Permanent Secretary MRDASW (Appendix IV). The alternative procedure actually adopted will depend on the type of funding (grant or credit) and the agreement reached with the donor.

Budget Preparation

7.79 Although a four or five year allocation to DIDP may have been made by the aid agency, the annual budget cycle remains extremely important. Disbursement of funds by the donor will be contingent on the submission of acceptable work programmes and budgets, as well as the documentation of expenditure already incurred. It is also dependent upon appropriate provision appearing in the GOK estimates and this makes it crucial that

PROGRAMME MANAGEMENT

DIDP's budget preparation cycle dovetails with the regular GOK budget timetable.

7.80 DIDP expenditures are included in the GOK budget; indeed, it is not permissible to incur expenditures for which provision does not appear in the GOK budget. Component programmes are separately identified within the annual and forward budgets of the participating line ministries, while expenditures to be incurred through the PMU appear in the Development Budget of the MRDASW.

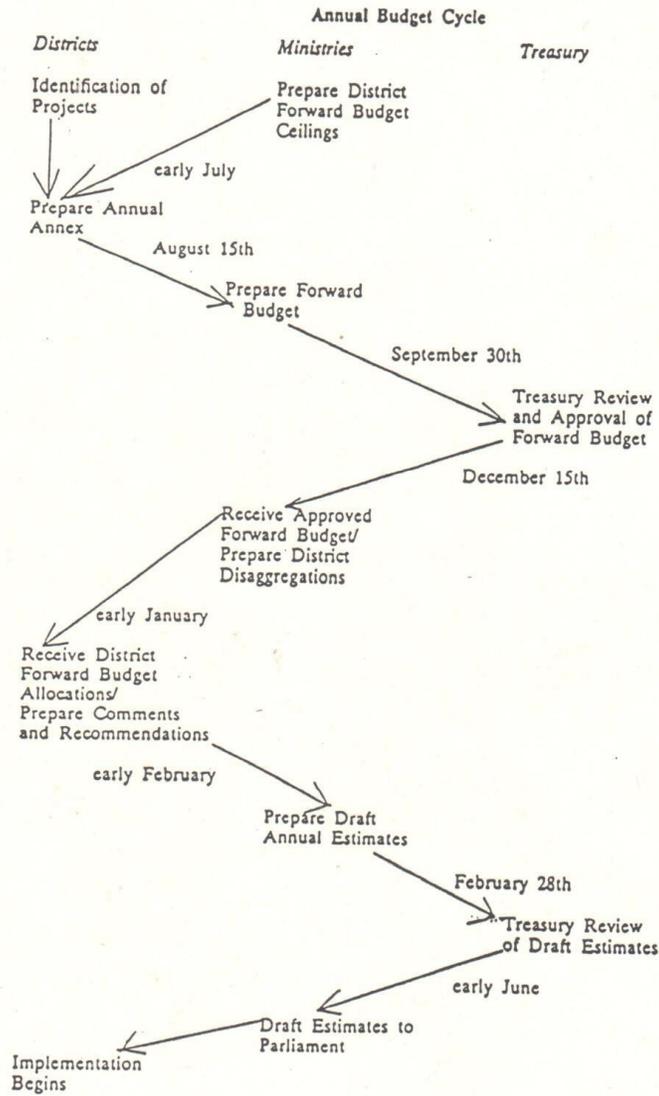
7.81 GOK has a well-established annual cycle for budgeting, which embraces the preparation of the three-year forward budget as well as the annual estimates. (Each district is also required to prepare an annual annex to its District Development Plan; the annex should describe all the development projects that will be under way in the district during the year.) This cycle is illustrated in Figure 7.4, which is taken from the District Focus "blue book".

7.82 To ensure that DIDP receives a smooth flow of funds, without delays caused by failure to include adequate provision within the GOK estimates, DIDP's budget cycle must anticipate the GOK's, i.e. DIDP's own budgeting and resource allocation exercise should precede GOK's, so that details of DIDP requirements are available by the time draft estimates are requested by GOK. DIDP's ability to do this is aided by its 4 or 5 year planning frame.

7.83 The sequence in which DIDP projections feed into GOK estimates should be as follows:

GOK Stage and Date	DIDP Input
Preparation of Forward Budget (August/September).	Forward budget projections available from latest Plan of Operation (prepared May-June).
Preparation of Annual Estimates (February - June)	Initial figures from six-monthly update of work plan and budget (November/December). Revised figures from Annual Programming exercise (March/April mission, finalization in May).

Figure 7.4 Annual Cycle for Budgeting



Functions of the PMU

7.84 The organization of DIDP in relation to existing district institutions is explained in Section D. Figure 4.3 depicts the relationship of the PMU to the various institutions concerned in DIDP. The present Section focuses on the specific functions of the PMU and its internal organization.

7.85 The PMU may be seen as having three inter-related functions:

- (a) Administration and Coordination. DIDP is likely to be a large programme. Although most of the programme is implemented through the participating line ministries, there is a substantial coordinating role for the PMU. The PMU must also provide certain services centrally: it initiates all overseas procurement^[13], consultancies and administers all project-employed staff.
- (b) Planning and Monitoring. The "process" approach of DIDP requires continual monitoring of implementation and detailed planning of successive annual installments. The PMU ensures that there is systematic monitoring of the different sectoral components and that there is coherence in the planning of the programme as a whole. The PMU has overall responsibility for reporting on the Programme and for preparation of budgets and work plans. The monitoring and the overall planning of the programme is a prime concern of the Programme Adviser and the Programme Officer. Short-term consultants can be recruited to assist if and when required. Procedures for the initiation and finalization of consultancies are described in Appendix IV.
- (c) Accounting and Financial Control. As explained in Appendix IV, in the case of disbursement by direct payment, all donor-funded DIDP expenditures will be processed by the PMU, which must maintain full accounts for all components of the programme and is responsible for the management of stores and other DIDP assets.

7.86 Thus, although the bulk of the programme is implemented through the participating line departments of Government, the effectiveness of the programme as a whole very much depends on the PMU's performance.

[13] All requests to the donor for overseas procurement must be channelled via MRDASW and the Treasury.

E. RECOMMENDATIONS

Staffing

7.87 As indicated in paragraph 7.28, the ASAL Section in MOPND posted junior planning officers in the field. The same trend is apparent today. This situation has made management and coordination of the ASAL programmes difficult. The Ministry should discuss with the Directorate of Personnel Management, MOPND and the Treasury the creation of more posts for Senior Economists (Job Group L and M) who should act as Senior Programme Officers in the field.

7.88 Similarly, qualified accountants should be posted to the programme to handle project funds.

7.89 Large projects should also be assigned a junior economist. This would act as a training ground for them.

Disbursement Procedures

7.90 The system of direct payment insisted upon by bilateral donors carries with it a number of problems, above all the misuse of funds and the erosion of well established financial procedures. Donors and Government should strive to seek ways to overcome the difficulties which led to the abandonment of payment in advance through the revenue account of the Development Budget. A reversion to formal procedures must be accompanied by guarantees that donor funds, which are paid in advance, are promptly made available through the district treasuries for the agreed workplans and budgets.

Genuine Community Based Projects

7.91 Ways should be found to reduce the domination of ASAL budgets by routine departmental expenditure in favour of larger allocations to genuine community-based projects. This will require greater efforts in the area of community education and training at the locational and sub-locational level in order to help communities to formulate development proposals and submit them for funding.

APPENDIX I

THE ASAL DISTRICT PROGRAMMES

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APPENDIX I

THE ASAL DISTRICT PROGRAMMES

A. INTRODUCTION

The Ministry of Reclamation and Development of Arid and Semi-Arid Areas and Wastelands (MRDASW) manages and directs the implementation of 12 ASAL projects and programmes. These ASAL programmes are found in Machakos, Kitui, West Pokot, Kajiado, Egeryo Marakwet, Kwale, Kilifi, Laikipia, Taita Taveta, Embu, Meru, Isiolo, Turkana and Baringo Districts. One programme which operates in four districts focuses on women. The programmes were established and are funded by donors within the framework of the 1979 policy paper entitled Arid and Semi-Arid Lands Development in Kenya: The Framework for Implementation, Programme Planning and Evaluation.

Table I.1 Summary of ASAL Programmes

Programme	District	Commenced	Donor	Sectors	Status
Machakos Integrated Dev. Programme	Machakos	1978	EDF	Water, Agric., Livestock, Forest., Co-ops, Rural Ind., Social-Services, Adult Ed., Instit. Support, TA	Phase III is under preparation.
Baringo Pilot Arid	Baringo	1979	W/Bank	Water, Agri., Livestock, Forest., TA	Phase II to be implemented under Rural Services Design Project (RSD)
Embu/Meru/Isiolo	Embu/Meru Isiolo	1980	ODA/UK	Agri., Goat/Sheep Livestock, Forest., TA.	Phase III under consideration
West Pokot ASAL	W/Pokot	1980	Netherlands	Water, Agri., Forest., Ed., Inst. Support, TA, Livestock	Phase II evaluated, Phase III under consideration.
Turkana Rural Dev.	Turkana	1980	NORAD	Agri., Health, Livestock, Fish., Ed., S.Services, Forest., Instit. Support, TA	Programme in its third phase. Funded until 1996.
Kitui ASAL	Kitui	1981	USAID/ DANIDA	Water, Agri., Forest., S.Serv., Survey & Monitor., Inst. Support, TA	The programme is funded for the next 5 years (1996).

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Elgeyo Marakwet ASAL E/Marakwet		1982	Netherlands	Agri., Ed., Health, Livestock, Forest., Rds., S.Services, Inst. Support, TA	Project is on-going under the execution of SNV
Ndeiya-Karai	Kiambu	1983	Netherlands	Water, Ed., TA	Project terminated in 1986.
Laikipia Rural Dev.	Laikipia	1984	Swiss-(SDC) A	Water, Infrastr., gri., Livestock, Soc/Comm.Dev., Forest., Research, Inst. Support, TA.	Phase III is being negotiated.
Kwale Rural Dev. Programme	Kwale	1985	IFAD	Agri., Livestock, Co-ops, Credit, Adapt. research, Instit. Support.	Pilot programme ended in 1990. Phase 1 started in 1990.
Kilifi Rural Dev.	Kilifi	1985	IFAD	Agri., Livestock, Co-ops, Credit, Adapt. Res., Inst. Support.	Pilot programme ended in June 1990. Phase I started in 1990.
Taita/Taveta Rural	Taita/Taveta	1985	DANIDA	Water, For./Agro-forestry, livestock Agri. (S&WC), Women's Dev., Sur., & Monitoring, Inst. Support.	Phase II under negotiations.
Kajiado ASAL	Kajiado	1987	Netherlands	Water, Agri., Ed., Livestock, Forest., Health, Public, Works, Tourism & Wildlife, Culture, Adult Education.	Phase II started in July 1990.

Key: TA - Technical Assistance

Table I.2 Programmes, Population and Funding Estimates

Programmes	Population	Total Funding to Current Phase (K£Mil.)
Machakos	1,654,486	17.25
Baringo	306,594	23.00
Kitui	723,725	15.00
Kwale	458,202	4.50
Kilifi	684,458	4.50
Laikipia	256,075	1.23
Elgeyo Marakwet	169,159	1.25
West Pokot	296,611	1.74
Kajiado	267,300	4.10
Taita Taveta	227,631	8.80
Turkana	145,869	19.60
Embu/Meru/Isiolo	1,815,159	0.35

B. MACHAKOS INTEGRATED DEVELOPMENT PROGRAMME (MIDP)

Background

The Machakos Integrated Development Programme was identified in 1977 by the EEC and the Government and the programme started 1978. The bulk of the funding came from the European Development Fund under the Lome Convention. The beneficiaries of the programme and the district administration, who had little previous experience in project planning, budgeting and monitoring, were hurriedly requested to approve the programme package before implementation could begin.

Objectives

- The programme's objectives were to:
- utilize existing institutions and strengthen them where necessary in order to meet the challenges and demands of the programme;
 - decentralize planning and implementation to the district level;
 - encourage local participation;
 - elicit self-help inputs;
 - exploit complementarities among components eg. soil & water conservation, forestry, dam construction etc.;

- ensure flexibility in the programme and provide continuous monitoring; and
- devise strategies that will move the district towards food self-sufficiency and food security.

Strategies

To achieve the above objectives, the programme funded several components to ensure balanced development in the district. These included soil and water conservation, crop production, livestock development, cooperative development, rural afforestation, water development, rural industries, social services and adult education and institutional support.

The programme approached the soil conservation project by identifying 42 catchments covering approximately 600 km². The MOA developed a catchment plan on each of the selected catchments. Comprehensive soil conservation measures were applied. These included cut off drains, bench terraces, construction of check dams, tree planting and reseedling. This was done through the use of voluntary community labour. Outside the catchments, protective measures for dams and forests were undertaken.

The aim of the crop production project was to increase crop yields through the introduction of modern inputs and tillage techniques. This was achieved through the implementation of projects such as staff and farmer training, demonstration plots, promotion of sorghum and millet and storage of grains.

Livestock development focused on two aspects: animal production and veterinary services. The animal production component promoted grazing management and stall feeding, smallholder milk production through artificial insemination, bull camps and support to cooperative societies through the purchase of dairy equipment. Sheep and goat, honey production and processing were also given attention. Acaricides were initially supplied to all dips in the district. Water for the dips was also provided. Dams constructed by the MOWD provided water for livestock.

The major support to cooperative development was the strengthening of 21 primary cooperative societies which dealt with cotton. The techniques applied were the construction of crop produce and input stores, the launching of a highly efficient mobile cotton buying system for the producers, the operation of a credit scheme and the improvement of the management skills of the societies.

Rural reforestation took the form of establishment of tree nurseries in Zones IV and V to supply seedlings for rural extension and afforestation, protective forestry and agroforestry activities.

MIDP constructed large dams for supplying domestic and livestock water. Gravity water schemes, spring and well development, subsurface dams, rock catchments. Roof catchments in community institutions were also implemented.

The rural industries project constructed three industrial promotion centres in Zones III and IV. These centres are used by entrepreneurs who engage in such trade as tailoring, metal works, carpentry and vehicle repairs.

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The main focus of the social services and adult education programmes was women's development projects, self-help projects and training women and self-help groups to manage their own affairs. In addition, adult education activities concentrated on adult literacy campaigns through teaching functional education. Resource centres for adult learners were also given priority.

Support was also given to the district planning process through seminars for the local development committees, assistance to sectors on planning and budgeting and finally managing and monitoring the implementation of projects.

Projects were designed and implemented by the sectors. The success of this district level project identification, preparation and implementation contributed greatly to the formulation of the District Focus policy.

In the absence of specified targets, cost estimates and technical descriptions in the original Project Dossier, district level planners conceptualized, designed and implemented the projects and thus assumed responsibility for project success or failure.

In the initial stages of the programme, technical assistance was provided to assist in project design and implementation. Through time the number of TAs has been reduced as the GOK posted more senior and technically qualified personnel to the district.

Phase I of the programme provided a solid basis upon which other donors could support similar projects in the country.

Experiences gained during Phase I were incorporated into Phase II of the programme. The strategy employed during the second phase included:

- increasing expenditure on water supplies from 22 per cent to 45 per cent;
- increasing the funding for crop production to 21 per cent and for livestock activities to 9 per cent compared with a combined level of 21 per cent in the first phase;
- reducing cooperative funding from 16 per cent to 12 per cent and;
- reducing TA expenditure from 25 per cent to 12 per cent.

Phase III of the programme is currently under discussion in line with the view that rural development is a long-term process. The third phase is expected to start in 1991/92 and cover a 5 year period.

C. BARINGO ARID AND SEMI-ARID PROGRAMME

Background

This programme commenced in 1980 coordinated by the Ministry of Agriculture. Later the role of coordinator was transferred to the Ministry of Planning & National Development. It is funded with a soft loan from the International Development Association (IDA). The programme was designed to reach 55,000 people.

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The World Bank Staff Appraisal Report of 1980 clearly states the major problems of the area:

"However, due to poor communication and lack of staff, the main constraint for agricultural development, both in high and low potential areas is the inadequacy of the extension service. The problem is one of low morale due to lack of proper transport and supervision rather than lack of proper extension package." (page 35)^[1]

Objectives

The main objectives of the programme are to improve the social and nutritional status of the local communities and to develop a system of monitoring to enhance food security which could be replicated in other arid districts.

Strategies

The programme components include:

- Soil and Water Conservation with a focus on catchment protection, gabion construction and tree planting;
- Livestock Development including animal health, range rehabilitation and farmer training programmes;
- Crop Production, eg. the Pekerra Irrigation scheme;
- Water Supply development of dams and pans;
- Culture & Social Services with a focus on community mobilization;
- Lands & Housing;
- Regional Development;
- Institutional Support.

Phase II of the programme will be an expansion of Phase I into the other dry areas of the district. Phase II will operate under the title "Rural Services Design Project" for a period of 5 years.

Initially, the programme was implemented with a minimum of technical assistance. Today all project staff are Kenyans.

The mode of funding has mainly been through the Authority to Incur Expenditure (Revenue) and substantial underspending of the available funds has occurred over the years.

D. KITUI ARID AND SEMI-ARID LANDS PROGRAMME

Background

USAID was one of the first donors to commit funds to ASAL-related activities. Although the commitment was made as early as 1974, a district-based programme agreement was not signed until August 1979. Implementation of Kitui ASAL Programme did not start until October 1981.

[1] Arid and Semi-Arid Lands (ASAL) Development Programme: Summary of Technical Reports on the Strategy, Policy and ASAL Development Programme 1989-1993, Report No. 0131-KE, IFAD/UNDP, Nov. 1988.

Objectives

The project objectives were stated in the financing agreement as follows:

"... assist Kenya in its efforts to establish a basis for national accelerated development programme in arid lands through (a) enhanced administrative planning and technical capabilities (b) testing and proving an array of activities in soil and water conservation and tillage methods. Additionally, the project would (c) assist Kenya to improve and preserve the agriculture base in Kitui district."

Strategies

The main project comprised the following components:

- Water Conservation & Development
- Soil & Moisture Conservation
- Crop Development
- Livestock Development.

Projects expenditure was mainly on technical assistance, consultancies, training, feasibility studies and management services. These components accounted for 79 per cent of expenditure, purchase of commodities such as vehicles accounted for 10 per cent and the remaining 11 per cent went to actual development. If this programme had been managed within the framework of the District Focus Strategy, more funds would probably have been allocated to development activities in the district.

Financing of the Kitui ASAL Programme was through direct disbursement. The budget soared from US\$ 4.7 million to US\$ 8.3 million during the two phases of the programme. Government contribution to the project was in the form of non-incremental expenditures and additional matching funds. The implementing Ministries spent 70 per cent of the budgeted GOK funds for the project under the Authority to Incur Expenditure.

In 1986 USAID decided to pull out of the district.

E. KITUI INTEGRATED DEVELOPMENT PROGRAMME (KIDP)

Background

In September 1987, the Government of Kenya requested the Government of Denmark to expand its operations in Mutomo Division to the rest of Kitui District. The proposal was viewed favourably and the Danish Agency for International Development (DANIDA) agreed to fund an Integrated Rural Development Programme to cover the whole district. Operations began during FY 1990/91.

Objectives

The main objectives of KIDP are:

- regeneration and preservation of natural resources through soil and water conservation, afforestation and range rehabilitation;
- strengthening community participation in development activities; and
- improving agricultural and livestock practices.

Strategies

The programme consists of the following components:

- Institutional Support
- Community Education and Training
- Water Supply and Conservation
- Soil Conservation
- Crop Development
- Livestock Development
- Forestry.

These sectors are to be implemented in a manner that will ensure that activities complement each other. The catchment approach to the development and management of natural resources will be used to achieve the programme's goals and objectives. Community participation is considered to be a necessary prerequisite.

The project is designed to be implemented by line ministries with coordination and monitoring support from the MRDASW. A limited number of technical assistance personnel have been assigned to the programme to fill existing technical gaps. These include a programme coordinator, a survey and monitoring adviser and a water engineer.

F. WEST POKOT ARID AND SEMI-ARID PROGRAMME

Background

The West Pokot ASAL Programme is funded by the Netherlands Government. The programme was identified by a joint mission of the two countries in 1980. The early stages of the programme were characterized by low levels of investment while the donor and the DDC worked out the development priorities of the district. Later heavy costs were incurred building the project's planning capacity and supporting the district's planning process. A survey of basic data provided the basis for the District Atlas.

Objectives

The programme objectives were:

- to intensify the use of natural resources in the arid and semi-arid lands of West Pokot including measures and methods to conserve its productivity;
- to increase and improve services to the people of the area; and
- to support the process of decentralized planning and implementation of development activities in West Pokot in general.

Strategies

During Phase I of the programme major investments were put into water supplies. These activities accounted for 17 per cent of total project costs. Technical assistance costs were progressively reduced from 42 per cent in 1982 to 10 per cent in 1987.

The following components have been funded:

- Crop Development
 - rehabilitation of traditional furrows
 - ox plough introduction
 - irrigation through the use of shallow wells.
- Soil Conservation

- Education-in-Service Courses for Primary School Teachers
- Road Development Programmes
- Afforestation
- Cooperative Development
- Livestock Development

The programme has been evaluated and a third phase is being negotiated.

G. KAJIADO ARID AND SEMI-ARID LANDS PROGRAMME

Background

The Kajiado ASAL Programme, funded by the Netherlands, is a long-term development programme designed to be implemented in three phases over a 12 year period. The programme commenced in 1987. The first phase is designed to take two years; the subsequent phases average 5 years each. The programme is executed by SNV, a Dutch Voluntary Organization, and implemented by the line ministries.

Objectives

The programme objectives are:

- Development of Human Resources
- Exploitation of Productive Potential
- Resource Conservation
- Integration of the District's Economy with the National Economy.

Strategies

Phase I of the programme concentrated its efforts on data collection. The data were to form the basis of project planning. To date 40 projects have been implemented in 16 sectors. The sectoral composition is:

- Institutional Support
- Water Supplies
- Irrigation (small-scale)
- Education
- Health
- Cooperative Development
- Public Works
- Forestry
- Tourism & Wildlife
- Adult Education
- Livestock Development

A joint evaluation has recommended continuation of the programme into the second phase. Emphasis will be given to addressing the needs of groups which have been marginalized such as pastoralists and women.

H. ELGEYO MARAKWET ARID AND SEMI-ARID LANDS PROGRAMME

Background

The Elgeyo-Marakwet ASAL Programme started in 1983. It is funded by the Netherlands' Government.

Objectives

The programme's objectives are the same as those for the Kajiado ASAL Programme.

Strategy

The strategy of the programme was initially to concentrate on financing only a few small-scale projects while strengthening the planning capacity and infrastructure within the ASAL parts of the district. Two priorities for implementation were identified during the planning stage: the need for an all-weather road and the need to promote education.

The project component during the first phase included:

- Institutional Support
- Assistance to Dispensaries
- Construction and Renovation of Chesoi Irrigation Canal
- Cooperatives
- Assistance to Chepsirei Craft Centre
- In-Service Training for Teachers.

Phase II is designed to put more emphasis on:

- Health
- Education
- Culture and Social Services
- Agriculture
- Public Works
- Livestock Development
- Forestry
- Water Development
- Institutional Support.

Although there are only a few technical assistance personnel, 21 per cent of the total resources have been spent on this component of the programme.

The programme, after experiencing delays during Phase I, is now about to enter Phase II. A key constraint to development of this area remains the fact that the Biretwa-Chesogon-Marich Pass Road (C52) has not been upgraded to an all-weather road even though it passes through the Kerio Valley with its high potential.

I. KWALE-KILIFI RURAL DEVELOPMENT PROGRAMME

Background

The Kwale-Kilifi Rural Development Programme was started as a pilot project in 1983. The programme is funded mainly by the International Fund for Agricultural Development (IFAD). Other contributors include the GOK, UNDP and the Dutch Non-Governmental Organization (NOVIB). The pilot phase of this programme was to test technologies and provide the institutional framework for implementation of a fully fledged Phase I. The programme covers two districts but each district is responsible for its own management and implementation of projects.

Objective

The overall objective of the programme is to improve the return per unit of land and labour in order to increase production and raise incomes of the small-scale farmers and livestock owners in the two districts.

Strategies

The programme components include:

- Agriculture (fruit trees, small-scale irrigation, crop demonstrations, and extension);
- Livestock (smallstock and poultry improvement);
- Cooperative Management & Extension (strengthening the cooperative movement);
- Credit (to small-scale farmers, women's groups through the Kenya Financial Trust and the KGGCU);
- Adaptive Research, (e.g. tsetse research);
- Institutional Support.

Implementation of Phase I began in FY 1990/91 after agreement between IFAD and GOK on a highly concessional loan was concluded. Phase I is for a 5 year period.

J. LAIKIPIA RURAL DEVELOPMENT PROGRAMME

Background

The Laikipia Rural Development Programme started in 1984. It is funded by a grant from the Swiss Development Cooperation. Although the programme was designed in 1983, the project agreement is not in line with the policy on District Focus.

Objectives

The objective of the programme is to assist in the improvement of the welfare of the rural population in the district through a balanced programme of economic and social development.

Strategies

To achieve the objective, the programme has funded the following components:

- Infrastructure (bridges, buildings);
- Water Supply (borehole rehabilitation, weirs, rock catchments);
- Agriculture, Livestock and Agro-forestry (crop trials, cattle dips, bee-keeping, fisheries); and
- Social/Community development in youth polytechnics (training of leaders assisting YP graduates with loans).

Activities were concentrated in Central Division during Phase I. In Phase II the programme was extended to other areas of the district. The research findings and recommendations from the Laikipia Research Programme (LRP) are supposed to form the basis for implementation of activities. The new Water Master Plan for the district will form the basis for planning and investment in the water sector and for irrigation projects.

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The programme has been implemented with donor contribution supported by GOK budgetary allocations and harambee contributions. Project beneficiaries have provided labour and financial contributions. The latter contribution is a prerequisite for release of donor funds.

Technical assistance, payment of local staff allowances, etc. comprise a large share of the programme's allocation budget. This has reduced the amount of funds available for direct development activities. Phase III is being designed with the intention of avoiding the above experience.

K. TAITA-TAVETA ARID AND SEMI-ARID LANDS PROGRAMME

Background

This programme commenced in 1985. This programme and Kitui Integrated Development Programme are funded by DANIDA.

Objectives

The main objectives are to conserve and improve soil, water and forest resources in the district and to improve agricultural practices in order to increase production and to raise the standard of living of the rural population.

The immediate development objectives of Phases I and II are:

- to increase the use of soil and moisture conservation practices through increasing awareness of the population;
- to establish on-farm agro-forestry practices, tree planting in non-farm areas and to improve the protection and management of forestry plantations, reserves and watershed management;
- to improve access to potable drinking water for humans and water for livestock and to introduce community management systems for water usage and other resources;
- to increase agriculture, forestry and livestock productivity; and
- to strengthen local authority institutions and self-help groups.

Strategies

To achieve the above objectives the following components are seen to be vehicles to development:

- Water Development
- Soil Conservation
- Forestry and Agro-Forestry
- Improved Agricultural Practices.

The implementation strategies to be applied are:

- to implement the projects through the District Focus for Rural Development;
- to use the line Ministries to implement the projects;
- to utilize environmental impact assessments in planning of the projects;
- to integrate activities through the extension service based on land use patterns;
- to operate a process whereby all activities have surveys, planning, mobilization, implementation, monitoring and maintenance aspects included in their programming; and
- to provide institutional support.

APPENDIX I

To strengthen the programme, a coordinator, a survey and monitoring adviser and a natural resource adviser are members of the programme team.

In Phase I, 13 per cent of funds for direct development activities went to afforestation, 12 per cent to soil conservation and 7 per cent to water supply.

The first phase, planned for a three year period, took longer to achieve because the district did not have the capacity to implement the programme. This programme was designed to start slowly and build up on experience. Negotiations are currently going on to fund the second phase.

A livestock component has been included in Phase II.

L. EMBU/MERU/ISIOLO ARID AND SEMI-ARID LANDS PROGRAMME (EMI)

Background

This programme covers the three districts of Embu, Meru and Isiolo. It is funded by a grant from the Overseas Development Administration (ODA). The programme commenced in 1981.

Objectives

The objectives of the EMI programme are to assist in working out measures that are technically, economically and socially viable in order to maintain and develop agricultural and livestock production in the ASAL areas of the districts.

Strategies

To achieve the above objectives, the following project components were included:

- Dryland Farming/Soil & Water Conservation
- Forestry Development
- Goat and Sheep Project (GASP)
- Isiolo Livestock Development Project (ILDLP)
- Small Project Fund

The dryland farming and soil and water conservation projects are designed to reduce on-farm and off-farm erosion, to retain soil moisture, to start on-farm adaptive research projects and to strengthen the Ministry of Agriculture through training of frontline extension staff.

The forestry component is aimed at assuring self-sufficiency in tree products through the production of seedlings, the encouragement of tree planting, the promotion of afforestation by the public sector, the creation of awareness in the value of trees and the protection and preservation of existing forest resources.

The objective of the goat and sheep project is to improve the genetic potential of the smallstock in lower Embu and Meru Districts and to provide the participating farmers with income on a sustained basis. The project has 1000 acres of land in Marimanti Location where a breeding centre was established. The project is also assisting with appropriate animal husbandry practices at the Kiburine station.

APPENDIX I

The Isiolo Livestock Development Project was designed to improve the lives of the rural families through improvement of their animals. This is to be accomplished by the identification of livestock water needs for range improvements, the facilitation of direct interventions to improve animal health and production, the design of sustainable systems of rangelands use and livestock husbandry, and the identification of institutions that can facilitate livestock marketing.

The small project fund aims to assist well-defined community-based projects that are not covered by the other sector programmes.

The level of technical assistance in the programme is high. The programme is expected to be decentralised to district level during the next phase.

M. TURKANA RURAL DEVELOPMENT PROGRAMME (TRDP)

Background

TRDP is the only programme which is within an entirely arid district. The first bilateral agreement between Kenya and Norway was signed in 1965. Assistance prior to the KEN 040 agreement of 1980 focused on roads, fishing and irrigation activities. The KEN 040 agreement was conceived in such a manner that all future activities would be covered by the same accord. It was under this accord that the TRDP was conceived and financed in 1980.

Objectives

The main objective of the agreement, on which the programme is based, is to improve "the general standard of living of the people in the Turkana area to the same level as that of the majority of the Kenyan people by utilizing the area's resources, while interfering as little as possible, however, with its ecological balance and settlement structure." (Article I,2).

Strategies

In order to achieve the objective, efforts should "be made to involve members of both sexes of the local population in the initiation, planning and implementation of development activities." (Article I,2).

The financing agreement did not specify the kind of projects which would be funded or the sectors which would benefit from the NORAD support. This arrangement made the programme flexible and open-ended. An annual planning and budgeting exercise was carried out by the heads of departments of the implementing ministries. Upon approval of the plans, funds were released and implementation commissioned.

By 1988 the programme had evolved and embraced a range of sectors including agriculture, fisheries, health, education, forestry, livestock, small-scale enterprises, community development and institutional support through training of the district development committees and the project beneficiaries.

APPENDIX I

The Ministry of Agriculture provides technical support to irrigated farming, to water-harvesting/water-spreading activities, and to date palm development.

The Fisheries Department concentrates on extension work amongst the lake shore fishing communities.

The livestock programme covers livestock extension, marketing, camel development project, paravet training, CCPP control project and animal disease investigation project.

The forestry component concentrates on extension and research as well as its regulatory functions.

The education sector's activities are upgrading of untrained teachers, provision of bursaries, construction of girl's dormitories and teachers' advisory centres and provision of textbooks.

The social services sector activities include the adult literacy programme and women's development, sports, youth, vocational rehabilitation and cultural promotion programmes.

The health sector focuses on Primary Health Care.

The programme has also assisted in developing the planning and implementation capacity of the district through support to the District Focus Planning process.

Technical Assistance has been a large component of the programme.

N. COMMUNITY ACTION FOR RURAL WOMEN IN ASAL (CARW)

Background

The Community Action for Rural Women in ASAL is a gender-oriented project whose emphasis is on the disadvantaged women of the marginal districts. The programme was launched in 1982. It is funded by UNDP and is carried out in four ASAL district: Isiolo, Kajiado, Taita Taveta and West Pokot. The total donor contribution has been US\$ 403,000 in grant form and US\$ 237,000 in kind.

Objectives

The objective of the programme is to improve the social welfare and economic status of families in ASAL through women's group activities and community participation.

Strategies

The objectives of the programme links directly with GOK's stated objectives of poverty alleviation through balanced development using programmes under District Focus.

Programme components include:

- Crop Production
- Health
- Social Services
- Cooperatives
- Livestock Development.

These projects have been implemented through women's groups . The groups have been able to initiate projects in small-scale irrigation, dry land farming, sheep and goats keeping and small-scale businesses. Phase III of the programme is being negotiated.

APPENDIX II

OTHER ASAL PROGRAMMES

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APPENDIX II

OTHER ASAL PROGRAMMES

A. INTRODUCTION

There are several programmes in ASAL areas which are not under the MRDASW. These include the Wamba ASAL Project, the ASAL Livestock Development Programme, the Turkana Rehabilitation Project (TRP) and the National Soil and Water Conservation Project, the Dryland Research Project and the Baringo Fuel and Fodder Project. Various regional authorities also have management control of certain programmes in ASAL. These include the Tana & Athi River Development Authority (TARDA) and the Kerio Valley Development Authority (KVDA). Other sector-specific programmes operating through the line ministries exist in all the ASAL areas: Non-Governmental Organizations are also heavily involved in development of these areas.

B. WAMBA ASAL PROJECT

Background

The Wamba ASAL Project in Wamba Division of Samburu District started as a famine relief operation in 1979. The project area consists of 9,062 km² and has a population of 18,764 individuals. The population density is 2 persons per square kilometre.

The project was initiated by and continues to be supported by the West German Government. Before funding was released, a pre-feasibility study was carried out in 1979 followed by a full feasibility study in 1980.

In 1982, the West German Government agreed to fund a three year pilot programme scheduled to terminate in 1984. Because of the severe drought of 1984, the project was extended for one year and further extensions have carried the project through to the present.

Objectives

The objectives were defined as "food security and improvement of the income situation of the rural population, increase in food production (at first livestock) and the creation of marketing possibilities".

Strategies

The expected outputs were:

- establishment of a marketing structure for livestock in Wamba;
- construction and maintenance of water places;
- improvement of the livestock potential through veterinary and advisory measures with simultaneous reduction of the livestock numbers;
- introduction of a rangeland rotation system;
- introduction of appropriate fodder species for rangelands; and
- creation of a demonstration herd.

The project budget of Ksh 30 million for the period 1986 to 1988 shows that 65 per cent of the funding was allocated to overheads and administration costs while the remaining 35 per cent was allocated to development of infrastructure.

C. ASAL LIVESTOCK DEVELOPMENT PROGRAMME

Background

This programme is financed by the European Development Fund (EDF) and implemented by the Ministry of Livestock Development. The costs of the programme are estimated at European Currency Units (ECU) 9 million over the current three year period to be financed as a grant from the Lome III National Indicative Programme. The programme covers Turkana, Marsabit, Samburu, West Pokot, Elgeyo Marakwet, Baringo, Isiolo, Mandera, Wajir and Garissa Districts, but most of the actual programme components will be concentrated in a limited number of areas. The implementation of the projects is carried out through the various District Development Committees and the criteria for funding DDC projects have been agreed upon.

Objectives

The programme agreement states that "the basic aim of the programme is to develop a sustainable improvement in the production and marketing of livestock from the arid and semi-arid lands (ASAL) of Kenya, with particular emphasis on the pastoral areas."

Strategies

The overall strategy to achieve the objective is given as the strengthening of the existing institutional framework and physical infrastructure to enable individuals or groups of producers and traders to improve their productive performance in order for them to be able to participate more fully in the economic development of the country. The programme aims to incorporate the socio-economic environment and is concentrating on actions which have proved successful in the past.

The major components of the programme are:

- livestock census;
- northern rangelands development;
- rehabilitation of holding grounds; and
- a livestock sector study.

During the first year of implementation, a full national livestock census is to be carried out. The objective of the census is to accurately determine the current livestock numbers. This data base will be used to monitor trends in livestock numbers and their distribution.

Under the northern rangelands development component a wide range of activities are planned to improve range conditions. These include the creation of monitoring/early warning systems, district data banks, water projects (e.g. shallow wells, dams, pans, boreholes, water harvesting, etc.), livestock breeding centres, etc.

In order to integrate the northern rangelands into the national livestock industry, the rehabilitation of the holding grounds is considered to be an important and necessary undertaking. Holding grounds for rehabilitation will be chosen on the basis of their existing condition. Collection of user charges for sustainability would be the guiding criteria for the rehabilitation exercise.

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A livestock sector study is planned with the objective of identifying the current situation and sectoral constraints and to propose an appropriate livestock development strategy and identify possible donor support for the next phase.

While it is too early to assess achievements, the ultimate success of this programme will depend on how efficiently the programme is coordinated. Ten districts are covered by the programme, some of which have on-going ASAL programmes coordinated by the MRDASW.

D. TURKANA REHABILITATION PROJECT (TRP)

Background

At the height of the 1979-1982 drought in Turkana District, concern for the large number of famine victims was expressed in a bilateral agreement between the government of Kenya and the Netherlands/EEC. The agreement, signed in November of 1980, formed the basis on which the Turkana Rehabilitation Project was established under the former Ministry of Energy and Regional Development (now the Ministry of Regional Development). The initial programme objectives were two-fold: the immediate movement of food to the famine areas of the district and later to implement a five-year rehabilitation programme, with emphasis on activities which would increase self-reliance, supported by Food-For-Work (FFW) supplied by the World Food Programme (WFP).

With the recovery of the district's livestock herds and reduction in the number of people requiring food assistance, from 80,000 at the height of the drought to approximately 2,000 today, the infrastructure, transport and equipment used by TRP during their famine relief operation was increasingly employed in supporting development work of other line ministries in the district.

Objectives

The overall development objective of the project is to provide food security for the people of Turkana by reducing the impact of future drought-related disasters among the Turkana pastoralists; by bringing the Turkana to a stage of self-reliance; and by promoting awareness and community participation in development projects.

The immediate objectives of the project are to maintain an organization capable of responding promptly to drought-related emergencies and to provide logistic support and to strengthen other organizations involved in development work among Turkana communities at risk.

Strategies

The project consists of five main components: monitoring and early warning, management of food stocks, supporting services, health and nutrition and extension and community education.

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The monitoring and early warning component has been institutionalized in the Turkana District Drought Contingency Planning Unit (TDCPU) which is part of the DPU. Information on climatic conditions, range conditions and forage availability, cereal/animal price ratios, livestock health conditions and nutritional status of children are collected and analyzed to establish current levels of stress. Action by the TRP, in collaboration with other line ministry programmes, should be taken to offset the effects of drought on the population. In addition to the warning component of the programme, the intermediate goals (e.g. trees to be planted and animals to be vaccinated) and district-wide livestock movements are also monitored.

Management of food stocks includes transport and storage of food; the distribution of food according to needs identified by the TDCPU; and the planning and organization of FFW activities. The FFW activities are of particular interest as experience has shown that small, discrete projects are better than large ones which tend to concentrate people and thereby increase health risks. The FFW activities include:

- bunds for sorghum production;
- spate irrigation projects;
- livestock water supplies, small pans excavated in water receiving sites with impervious clay soils;
- rural road and track maintenance;
- public works such as carrying sand, stones, excavation, etc. and;
- construction and maintenance of small-scale basin irrigation schemes.

Supporting services consist of the construction and commissioning of infrastructure on behalf of other sectoral departments; the provision of transport and workshop facilities for cooperating agencies; and the provision of material support to labour intensive construction programmes suitable for FFW and which meet the overall project objectives.

Health and nutrition has focused on the monitoring of human health and nutrition and the contingency planning of emergency preventative health campaigns.

For the purpose of creating and maintaining close links between the District Support Unit and the pastoral community, multi-purpose extension and community education has been delivered through the Mobile Extension Team.

The effectiveness of the TDCPU in ameliorating the effects of famine have yet to be tested. Since the Unit's conception in 1987, the district has experienced several good years of rainfall and forage conditions. However, this situation is not expected to last.

The project's shift of emphasis from that of a relief programme to an organization which can anticipate and act to minimize the effects of drought has been the most important achievement and probably the most difficult one to realize. The reduction of the number of people who are food dependent was essential not only because people who are reliant on food delivery system are less likely to partake in other subsistence activities but also because food as a medium of exchange has considerable costs of administration, transport and storage. The realization of a project oriented to drought preparedness could not be accomplished as long as most of the limited resources were diverted to FFW.

APPENDIX II

The future of TRP is currently in doubt pending resolution of funding questions (EEC) and the reorganization of its parent ministry.

E. TANA AND ATHI RIVERS DEVELOPMENT AUTHORITY (TARDA)

Background

This authority was established by an Act of Parliament in 1974 and now assumes responsibility for all planning within Tana Basin. Athi River Basin was incorporated into the authority following an amendment to the Act in 1981. The move incorporated two basins both of which share some of the same catchment areas.

Objectives

The objectives of TARDA are stated as:

- to raise the level of agriculturally-based economic activity within the catchments, particularly by means of irrigation, with a view to providing improved living standards and increased settlement opportunities;
- to utilize land and water resources of the Tana and Athi river basins to the best overall natural advantage and the conservation of those resources;
- to improve land holding capacity and increase employment opportunities; and
- to develop the country's hydropower resources.

Strategies

The duties for which this authority was established were stated as follows:

- advise the government on all development within the Tana and Athi Basins;
- establish long range plans for the effective utilization of the water resources of these basins;
- coordinate and monitor all development projects in the catchment and where necessary, undertake the execution of projects;
- maintain liaison between the Government, the private sector and foreign agencies in the development of the basins; and
- assist the operating agencies in their application for loan funds if required.

Although TARDA is seen as an authority established to execute hydro-power projects, it is implementing projects and programmes which could potentially have considerable effect on the standard of living of the people living in ASAL. These projects include:

- soil and water conservation projects along the Athi and Tana basins;
- livestock development programmes eg. Bura Dairy Ranch, (planned) Kitui Honey Refinery;
- reforestation programmes to protect and rehabilitate catchments eg., Chyulu Hills, Ngong Hills, etc.and;
- irrigation schemes such as the Kibwezi and Bura.

F. KERIO VALLEY DEVELOPMENT AUTHORITY (KVDA)**Background**

Like the Tana and Athi Rivers Development Authority, the KVDA was established by an Act of Parliament in 1979. The Authority was established in order to make a resource inventory of the Kerio Valley region with a view to designing programmes. The ASAL districts that are covered by this Authority include, Baringo, Elgeyo Marakwet, West Pokot and Turkana. The Authority has the mandate to operate in non-ASAL districts. The projects identified include the construction of hydropower plants of which the Turkwel Gorge hydro-electricity dam is to be the first. Once completed, it will produce 100MW. KVDA has also been involved in projects and programmes that are aimed at improving the food security of the ASAL districts.

Strategies

KVDA is implementing projects that have direct impact on the inhabitants of the ASAL. The projects include Horticultural and Food Crop Development, Catchment Protection, Environmental Impact Assessment and Rangeland Development.

The objective of the Horticulture and Food Crop Development programme is to promote the production of horticultural crops in the Sigor area of West Pokot, Tot and Arror areas in Elgeyo Marakwet and around the Chemeron Dam in Baringo. These projects are being implemented in Zones V, VI and VII. A sprinkler irrigation scheme of 40 hectares has been planned in the Arror area of the Kerio Valley. In the Chemeron Dam area, the project will focus on food crop production with the expectation that food shortages will be alleviated and the reliance on Food-For-Work supplies reduced.

KVDA is supporting catchment conservation measures and collection of hydro-meteorological data for planning and designing water utilization projects. This is being done in the whole Kerio Valley region with special emphasis on dam catchment.

Environmental impact studies on the downstream Turkwel River area and on the Suam catchment areas are planned. The Turkwel Dam and the Suam Rehabilitation Project will affect livestock projects downstream and within the catchment areas.

A rangeland development project is planned for implementation in Lokori division of Turkana District. The aim of the project is to improve the livestock in the area by providing veterinary services and range improvement. The project is expected to improve food self-sufficiency and food security.

The Authority's plans need to be coordinated with the other ASAL programmes in order to achieve maximum benefits from the investments.

G. NATIONAL SOIL AND WATER CONSERVATION PROJECT

Background

Environmental degradation was recognized as a serious problem by the Kenya Government in the late 1960's, and concrete action was initiated after the Stockholm Conference on Environment in 1972. The MOA's Soil Conservation project assisted by SIDA was started in 1974, expanding progressively to cover the present 40 districts in the country. The project has a long-term development horizon which is important in order to create a sound base for sustainable improvements in productivity.

For a number of years the MOA's conservation extension advice was directed mostly at willing individual farmers. However, in July 1987, a new approach, focusing on well-defined "catchment areas" was initiated. This participatory approach will continue to be promoted in order to encourage greater farmer involvement, and also to facilitate the development of location-specific solutions which are both socially and economically acceptable and physically feasible. In this regard the project will give greater emphasis to biological and cultural methods within the overall improved farm management practices. This will facilitate the realization of short-term benefits through increased farm productivity on a season by season basis.

At the same time the project will establish more concrete collaboration links with research institutions (KARI, KEFRI, ICRAF and universities) in order to conduct studies to produce new technology, while at the same time helping to define the relationships between erosion, conservation and yields, and thus permit a degree of quantification of the likely economic benefits.

The training programme has aimed at covering a wide spectrum of the population, and this high publicity level should continue. Staff training will move towards more specific training in communication methods and in the planning and design of catchments.

The project forms part of the extension system at the grassroots level. Efforts will be made to remove implementation bottlenecks, particularly those related to the flow of technology into the extension channels.

The Swedish Government, through SIDA has assisted in building up the project over the last 15 years. The next three year period should see an intensification of conservation activities in the higher rainfall areas, while developing a significant programme covering the lower rainfall (ASAL) areas.

Objectives

To be able to provide a focal point for development of technology necessary for ASAL development, especially on resources conservation for all the projects in the ASAL having soil and water conservation as a component and to plan for new programmes, the Ministry of Agriculture has started an ASAL Section within the Soil and Water Conservation Branch. This section will have the following functions:

- initiate and implement a resource conservation and agricultural development programme in selected ASAL areas;

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- in conjunction with research establishments and local universities, develop soil and water conservation strategies that support sustainable resources conservation and utilization for agricultural development in the ASAL areas (attempts will be made to promote land use systems consistent with the basic soil and water resources capabilities of these areas);
- to gather and disseminate relevant technologies developed by research establishments to ensure access to available techniques by all projects; and
- to carry out appropriate on-farm trials of technologies developed by research stations to ascertain their applicability and likely adoption in the ASAL areas.

Strategies

There are already several area-based soil and water conservation programmes in the country all attempting to develop their areas of concentration with special emphasis on environmental conservation. The MOA-ASAL programme will increase the pace of conservation in the ASAL area as well as provide liaison for the other programmes.

In the next three year period the main effort will be directed at the development of a well-defined conservation programme for the ASAL. This programme will include the elements detailed below with modifications as necessary. Consultations with experts from universities and elsewhere are planned.

A core of multi-disciplinary senior staff agricultural engineer, agronomist, agricultural economist and rural sociologist will be posted at the S&WCB Headquarters. This section will continuously be supported by personnel from universities, both local and international, and from research institutes.

It is envisaged that the programme will start implementation in a few districts (10 in 1989/90) and progressively move into all the districts of the country with arid and semi-arid conditions. At the same time effort will be put into adaptive research and on-farm trials on technologies relevant to the ASAL areas through universities and research institutes.

The implementation of the programme will be an extension of the existing soil and water conservation activities found in the high potential areas to the arid and semi-arid regions.

Priority for implementation will be mainly on:

- areas with high density of population where inappropriate farming systems pose a threat to soil and water resources. This is especially so where former large scale farms have been sub-divided into small plots with little consideration for existing conservation measures, especially in agro-ecological Zone IV;
- areas where people are settling from the high potential areas and bringing with them technology that is not suitable for these areas. These are characterized by settling in former ranches in Zone V;
- in areas where there are no other programmes dealing with environmental control; and

APPENDIX II

- specific areas that are considered to require urgent conservation measures.

It is expected that the initial thrust of the programme will be in the agro-ecological Zone IV and parts of V and later will cover the rest of Zone V and all of Zone VI.

The proposed activities include:

- Soil Conservation
 - establish suitable physical and cultural methods of soil conservation; and
 - predict soil losses in the ASAL areas.
- Water Conservation
 - investigate possibilities of water harvesting for crops, fodder or tree growth;
 - construct and renovate water retention reservoirs, sand, earth dams, etc.;
 - ensure that existing water structures retain water for longer durations and;
 - train local people in techniques for construction and maintenance of water structures.
- Crop Production and Tillage
 - establish farm trials;
 - ensure the availability of ASAL seeds;
 - campaign on the use of manure;
 - evaluate tillage practices and equipment for ASAL; and
 - in liaison with KEFRI and other organisations, promote establishment of shrubs, bushes and tree species suitable for the ASAL areas.
- Livestock and Grazing Management
 - promote pasture improvement techniques;
 - introduce appropriate fodder for dry seasons;
 - increase productivity of dry woodlands; and
 - rehabilitate degraded grazing lands.

H. BARINGO FUEL AND FODDER PROJECT

Background

The BFFP project was started in 1981 from the Ministry of Energy's Fuelwood Cycle Study. It is funded directly by the Netherlands.

The first year funding was through the Swedish Beijer Institute which was undertaking large-scale energy studies at that time. The initial BFFP focus was on fuelwood production, using *prosopis* species. This has shifted to the more general objective of rehabilitation of eroded areas, with special emphasis on fodder production. One reason for the shift is that trees take longer to mature in Zone VI. Another reason is the realization that livestock, which are the backbone of subsistence will need fodder.

Objectives

Phase I: 1982-1989 was seen as an experimental pilot phase conducted on a small-scale. The long-term objectives were to rehabilitate land denuded of vegetation in order to increase the availability of fuelwood and fodder and to establish local management systems. The development objectives were:

- to prove that it is technically possible to rehabilitate land with species that provide basic resources to local people;
- to develop methods and technology to attain this goal; and
- to create local support for project rehabilitation activities.

In the proposal for the new phase for 1990/1993 the implementation activities have been expanded. Rehabilitation of land is to increase from 300 hectares to 1000 hectares per year and institutional development, research and training have been made explicit components of the project.

Strategies

The key technical research activities are:

- to devise suitable micro-catchment systems for rainwater collection;
- to establish drought-resistant species of trees and grasses;
- to utilize nursery techniques;
- to enhance seed germination methods;
- to improve planting procedures;
- to protect vulnerable trees; and
- to install a solar fencing system.

The key field rehabilitation activities are:

- to prepare land for planting by removing non-useful scrub;
- to break ground; and
- to create bunds, using machines, to halt run-off during rainy season.

Social research was seen as central in finding ways to anchor innovative techniques in the communities. Research focused on the following:

- local perceptions of basic needs and priorities;
- local perceptions of environmental changes; and
- household composition and economics, stock ownership and management.

The programme has demonstrated, that with close community involvement, degraded land can be turned into productive rangelands although at high cost per hectare. The approach which offers proper range management techniques; fencing of range blocks; community organization for joint management decision-making; and demonstrations of the advantage of grazing rotation may lead to a more widely adopted system of community range management.

APPENDIX III

BANKING OUTLETS IN ASAL DISTRICTS

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APPENDIX III

BANKING OUTLETS AND SELECTED INVESTMENT CENTRES IN ASAL DISTRICTS

A. POSTBANK OUTLETS AND ACCOUNTS IN ASAL, MID-YEAR 1986

District	No. of Outlets	%	No. of Accounts	%
Samburu	5	4.09	2068	1.11
Machakos	18	14.75	27490	14.85
Lamu	4	3.27	5852	3.16
Narok	2	1.63	4175	2.25
Nakuru	13	10.65	67096	36.24
Garissa	2	1.63	4730	2.55
Elgeyo Marakwet	6	4.91	1981	1.07
Turkana	4	3.27	2676	1.44
Wajir	1	0.81	2094	1.13
Laikipia	4	3.27	1208	0.65
Isiolo	3	2.45	3508	1.89
Embu	3	2.45	12778	6.90
Taita Taveta	13	10.65	11380	6.14
West Pokot	2	1.63	2538	1.37
Kajiado	7	5.73	6655	3.59
Tana River	5	4.09	2379	1.28
Kwale	8	6.55	3100	1.67
Kitui	6	4.91	7621	4.11
Marsabit	2	1.63	2405	1.29
Mandera	2	1.63	2093	1.13
Kilifi	9	7.37	8517	4.60
Baringo	3	2.45	2766	1.49
TOTAL	122	100	185,110	100

COMPARATIVE TOTALS:

ASAL	122	39.61	185,110	20.53
NON-ASAL	186	60.38	716,520	79.46

APPENDIX III

B. COMMERCIAL BANK OUTLETS IN ASAL DISTRICTS, DEC. 1989

District	Bank Branch	Town
Machakos	Cooperative Bank	Machakos
	Standard Bank	Machakos
	Standard Bank	Athi River
	Barclays Bank	Athi River
	Kenya Commercial Bank	Machakos
	Kenya Commercial Bank	Tala
	Kenya Commercial Bank	Matuu
	Kenya Commercial Bank	Wote
Nakuru	Kenya Commercial Bank	Kangundo
	Cooperative Bank	Nakuru
	Standard Bank	Nakuru
	Standard Bank	Molo
	Barclays Bank	Molo
	Barclays Bank	Nakuru East
	Barclays Bank	Naivasha
	Barclays Bank	Nakuru West
	Kenya Commercial Bank	Naivasha
	Kenya Commercial Bank	Nakuru
	Kenya Commercial Bank	Menengai Crater
	Kenya Commercial Bank	Elburgon
	Kenya Commercial Bank	Njoro
National Bank of Kenya	Nakuru	
Kenya Commercial Bank	Njabini	
Kilifi	Habib Bank	Malindi
	Standard Bank	Malindi
	Barclays Bank	Malindi
	Barclays Bank	Kilifi
	Kenya Commercial Bank	Malindi
	Kenya Commercial Bank	Kilifi
Laikipia	Standard Bank	Nanyuki
	Barclays Bank	Nanyuki
	Kenya Commercial Bank	Nanyuki
Kitui	Standard Bank	Kitui
	Kenya Commercial Bank	Mwingi
Lamu	Standard Bank	Lamu
Garissa	Barclays Bank	Garissa
Narok	Barclays Bank	Narok
	Kenya Commercial Bank	Kilgoris
Kajiado	Barclays Bank	Ngong
	Kenya Commercial Bank	Kajiado
	Kenya Commercial Bank	Namanga
	Kenya Commercial Bank	Loitokitok

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Isiolo	Barclays Bank	Isiolo
Embu	Kenya Commercial Bank	Embu
	Kenya Commercial Bank	Runyenjes
	Kenya Commercial Bank	Ishiara
	Union Bank of Kenya	Embu
West Pokot	Kenya Commercial Bank	Kapenguria
Tana River	Kenya Commercial Bank	Hola
	Kenya Commercial Bank	Bura
Baringo	Kenya Commercial Bank	Kabarnet
Mandera	Kenya Commercial Bank	Mandera
Marsabit	Kenya Commercial Bank	Marsabit
Taita Taveta	Kenya Commercial Bank	Taveta
	Kenya Commercial Bank	Voi
	Kenya Commercial Bank	Wundanyi
Wajir	Kenya Commercial Bank	Wajir
Kwale	Kenya Commercial Bank	Ukunda
	Kenya Commercial Bank	Mariakani
Samburu	Kenya Commercial Bank	Maralal
Turkana	Kenya Commercial Bank	Lodwar
Elgeyo Marakwet	Kenya Commercial Bank	Iten
TOTAL	62	

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C. MOBILE BANK OUTLETS IN ASAL DISTRICTS, DEC. 1989

District	Bank Branch	Town
Machakos	Kenya Commercial Bank	Kibwezi
	Kenya Commercial Bank	Kangundo
	Kenya Commercial Bank	Nunguni
	Kenya Commercial Bank	Masii
	Kenya Commercial Bank	Mukuyuni
	Kenya Commercial Bank	Tawa
	Kenya Commercial Bank	Kilala
	Kenya Commercial Bank	Matiliku
	Kenya Commercial Bank	Kikima
	Kenya Commercial Bank	Makindu
	Kenya Commercial Bank	Emali
	Kenya Commercial Bank	Athi River
	Nakuru	Kenya Commercial Bank
Kenya Commercial Bank		Bamboo
Kenya Commercial Bank		Engineer
Kenya Commercial Bank		Murungaru
Kenya Commercial Bank		Ndunyu Njeru
Kenya Commercial Bank		Karangatha
Kilifi	Kenya Commercial Bank	Kaloleni
	Kenya Commercial Bank	Rabai
Embu	Kenya Commercial Bank	Mwea
Baringo	Kenya Commercial Bank	Eldama Ravine
	Kenya Commercial Bank	Kimwarer
Taita Taveta	Kenya Commercial Bank	Mwakitau
	Kenya Commercial Bank	Bura Hills
	Kenya Commercial Bank	Mwatate
	Kenya Commercial Bank	Bura Station
Kwale	Kenya Commercial Bank	Waa
	Kenya Commercial Bank	Kinango
	Kenya Commercial Bank	Shimoni
	Kenya Commercial Bank	Shimba Hills
	Kenya Commercial Bank	Ramisi
	Kenya Commercial Bank	Msambweni
	Kenya Commercial Bank	Kwale
	Kenya Commercial Bank	Matuga
	Kenya Commercial Bank	Kenya Navy
	Kenya Commercial Bank	Likoni

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Elgeyo Marakwet	Kenya Commercial Bank	Tambach
	Kenya Commercial Bank	Chepkorio
	Kenya Commercial Bank	Kapsowar
	Kenya Commercial Bank	Nyaru
TOTAL	41	

NB. Standard Charter and Barclays Mobile Banks not included.

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Merti	Isiolo
Kajiado	Kajiado
Loitokitok	Kajiado
Namanga	Kajiado
Nanyuki	Laikipia
Rumuruti	Laikipia
Ngarua	Laikipia
Kabarnet	Baringo
Marigat	Baringo
Mogotio	Baringo
Iten	Elgeyo Marakwet
Biretwa	Elgeyo Marakwet
Tot	Elgeyo Marakwet

APPENDIX IV

STANDARD PROCEDURES

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APPENDIX IV

STANDARD PROCEDURES

A. TERMS OF REFERENCE FOR PROGRAMME OFFICERS

[The following are the standard TOR for programme officers issued by MRDASW]

1. The DPO is responsible to the Permanent Secretary, MRDASW, to coordinate the planning and implementation of programme activities under different ministries, and working very closely with the district department heads.
2. Work with the DDO and other members of the District Planning Unit to assess local needs on a continuous basis and identify viable projects compatible with the overall objectives of the programme. Carry out economic and financial appraisal of new projects. In liaison with DDO ensure that programme activities reflect district priorities.
3. Support general activities in the district, through participation in the DEC, DDC and other relevant subcommittees. A member of the DPU, the DPO would work with the DDO to liaise with other development agencies in the district, to coordinate planning activities.
4. Responsible for preparation of annual work plans and budget proposals for Programme funding in consultation with department heads of the technical ministries. In liaison with the DDO ensure that the annual work plans are incorporated into the annual district annex.
5. Ensure that issues affecting implementation of the programme, e.g. finances and staff, are communicated to the headquarters of implementing ministries through the district heads of department and are communicated to the donor agency through MRDASW.
6. Responsible for proper management of project personnel, finances and procurement in accordance with GOK procedures, as agreed between donor agency and GOK.
7. Establish monitoring and evaluation systems for the programme which are compatible, and provide models that can be adopted for all development activities in the district. Initiate appropriate supporting research activities which will further develop programme activities, prepare TOR for necessary consultancies and coordinate consultancy work.

8. Responsible for compilation, analysis and distribution of quarterly and annual financial and implementation reports. Dissemination of consultancy and research results, in coordination with DPU, through seminars and workshops.
9. Although the Programme Officer will be concerned with the management of the programme under his/her charge, he/she will also create additional planning capacity in the district by assisting the DDO and ADDO and the District Statistical Officer in the District Planning Unit.

B. TERMS OF REFERENCE FOR PROGRAMME ADVISERS

1. Responsibility

The Programme Adviser will be the leader of the aid agency technical assistance team to DIDP. He/she will work in close collaboration with his/her counterpart, the Programme Officer, who will head the PMU. The PMU is responsible to the Permanent Secretary in MRDASW. The Programme Management Unit (PMU), in close collaboration with the District Planning Unit (DPU), which is headed by the District Development Officer (DDO), will undertake the overall coordination of the programme and its financial administration. The PMU is responsible for the provision of administrative support to the district authorities necessary to plan, coordinate and implement DIDP's annual work plans. This involves collaboration with the district heads of the implementing ministries.

The Programme Adviser and the Programme Officer will be jointly responsible for the preparation of accounts and reports to the aid agency and the Government and for the coordination and supervision of the work of the aid agency's advisers attached to the programme.

2. Specific Duties

- Assisting the PMU in the overall planning and coordination of DIDP activities.
- Assisting the Programme Officer in preparing a plan of operations and annual work plans based on inputs received from the implementing officers of the respective ministries and the aid agency advisers.
- Assisting the Programme Officer in the development and implementation of a monitoring and evaluation system and of a computerized financial control system.
- Ensuring that results of surveys, evaluations and monitoring activities are integrated in the four/five-year plan and in the annual work plans.

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- Overseeing that programme disbursement procedures, as agreed between MRDASW and the aid agency, are being followed.
- Preparing and forwarding regular financial statements of disbursement under the programme to MRDASW, the implementing ministries and the aid agency.
- Forwarding progress reports regularly to the aid agency, the MRDASW and the implementing ministries.
- Supervising the consultants attached to the programme.
- Assisting in the establishment of relevant links with other ASAL programmes with the objective of strengthening the communication and exchange of experiences of relevance to the development of ASAL areas.
- Handling of sector portfolios as agreed between Programme Adviser and Programme Officer.
- Deputizing for the Programme Officer in his absence.

C. PROCEDURES FOR CONSULTANCIES

1. Initiation: Terms of reference^[1] and the budget for each consultancy (excluding programme and mid-term reviews) will be prepared and/or approved by the PMU in collaboration with the concerned departmental head and ratified by the PSC. Details will then be forwarded to MRDASW and the aid agency for comment and for preparation of a list of suitable candidates.
2. A short-list of candidates, together with CVs will then be submitted to the PMU for final selection of the candidate(s). Consultants for programme and mid-term reviews will be selected jointly by MRDASW and aid agency. Every external consultant shall work with a local consultant. They will be jointly responsible for submitting their findings.
3. Finalisation: Before leaving the district, the consultant(s) will prepare a brief report outlining the main conclusions and recommendations of the consultancy and will discuss them with the PMU and departmental head concerned.

[1] including timing, logistics, reporting schedule, number of copies, etc.

4. In keeping with the reporting schedule in the consultancy contract, the consultant(s) will then submit a draft final report to the PMU, to MRDSAW and to the aid agency in Nairobi. Comments on the report will then be prepared by each party and forwarded to the PMU and copied to the consultant so that the report can be finalized. Computer diskettes of the accepted report should be lodged with the PMU. Only then can the final payment to the consultant be approved by the PMU.

D. ANNUAL GOK/AID AGENCY PROGRAMME REVIEW OF DIDP

Rationale

1. The District Integrated Development Programme has adopted a "process" rather than a "blueprint" approach to the planning of its activities. There will be continual review of progress, and there is scope for modifying the content of programme components and resources allocated to them. The programme's planning cycle dovetails with the GOK cycle for forward and annual budgeting.

2. Primary responsibility for implementation and planning of the programme rests with the Programme Management Unit and the heads of the implementing departments. However, both the Ministry of Reclamation and Development, Arid, Semi-Arid Areas and Wastelands, which has overall responsibility for DIDP, and the external funding agency, are involved in the strategic planning and direction of the programme. Each year, therefore, a joint MRDASW/aid agency annual programming exercise will be conducted.

Terms of Reference

3. The general tasks of the programming team will be:

- to assess DIDP's progress against the general objectives and specific targets set out in the plan of operations and the annual work plan;
- to review each of the sectoral components of the programme and the performance of its central administration (PMU);
- to report on the fulfilment of their respective obligations by both GOK and the aid agency;
- to identify any problems that may have arisen and make recommendations for dealing with them; and
- to make recommendations on the future sectoral and geographical allocation of resources under DIDP, particularly concerning the next annual budget.

4. The team may be given additional specific terms of reference as deemed appropriate and jointly agreed upon by MRDASW and the aid agency.

Timing and Conduct of the Annual Programming Exercise

5. The programming exercise will be conducted in March/April of each year, so as to enable its conclusions to influence the detailed work plans and budget for the financial year beginning on 1 July.

6. The programming team will comprise no more than four members nominated by MRDASW and by the aid agency. MRDASW and the aid agency will jointly select the team leader. Secretarial and logistic support will be provided by the PMU.

7. The Programme Steering Committee will serve as a reference group for the team.

8. The team may not be required to prepare a full-scale report, but will in any case prepare a short summary of its conclusions and recommendations. Conclusions and recommendations will be discussed with the PSC before final submission to MRDASW and aid agency in Nairobi.

E. MID TERM REVIEW OF DIDP

Rationale

1. DIDP is one of a number of programmes specifically addressing the problems of Kenya's arid and semi-arid lands. It is appropriate that decisions about the long-term development of the programme should be taken in the light of:

- (a) an evaluation of the effectiveness of DIDP's interventions to date;
- (b) comparative experience from Kenya's other ASAL programmes and the development of national strategies for rural development.

2. A mid-term review of DIDP will therefore be mounted during the second half of the programme.

Terms of Reference

3. Broadly, the mid-term review team will be required:

- to assess the performance of the programme to date and its prospects for achieving the objectives set out in the plan of operations;

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- to assess separately each sectoral component of the programme and its central management;
 - to consider whether additional activities should be incorporated within the programme, or existing ones discontinued;
 - to make recommendations concerning the allocation of resources within the programme during the remainder of the phase;
 - to make recommendations, as appropriate, for the improved organisation and management of the programme, including internal monitoring and planning procedures; and
 - to make recommendations concerning the possible extension of the programme.
4. The mid-term review team will be required to take account, inter alia, of:
- the policies of the Government of Kenya as they relate to ASAL development and the management of aid programmes;
 - the likely availability of resources (human and financial) both from aid agency and from GOK;
 - comparative experience of other ASAL projects in Kenya.
5. The mid-term review team will draw on the internal monitoring and evaluation reports prepared by DIDP and on previous consultancies commissioned in connection with the programme.
6. More specific terms of reference may be drawn up and agreed between the aid agency and GOK.

Team Composition

7. The mid-term review team will be led by a senior international expert in rural development. Its members will have a range of expertise corresponding to the range of activities covered by, or contemplated for, DIDP. They will not previously have been directly involved in the preparation or implementation of DIDP.

F. PROCEDURES FOR THE VALIDATION OF PROCUREMENT AND PAYMENT DOCUMENTS

[Issued by the Permanent Secretary, MRDASW, 7 March 1990, ref. 13/4/(25)]

In order to harmonise the procurement and disbursement procedures in all the arid and semi-arid programmes in the country, the following procedures must be adhered to:

A. FUNDS VOTED UNDER APPROPRIATIONS IN AID

All ASAL development offices will design and produce local purchase orders similar to those used by the Government and will issue them to the implementing officers. These LPO/LSO books will be accountable documents and will be used for effecting procurement of goods and services.

1. *Authorized officers in each ministry will initiate procurement of goods and services by indicating their requirements on the LPO/LSO. They will ensure that the laid down procurement procedures under the District Focus Strategy are followed. They will also sign on the LPOs/LSOs to indicate that the indented materials are necessary for the implementation of projects in their sectors and have been approved and included in the annual work plan.*
2. *The implementing ministries will forward their LPOs/LSOs to the Programme Management Unit (PMU), who will:*
 - (a) *examine the order and upon satisfaction, commit the funds in the relevant budget code within the ASAL AIA vote book;*
 - (b) *submit the LPOs/LSOs to the programme officer or programme adviser who will jointly authorise the order. In cases where there are no programme advisers, the Programme Officer will authorise the order;*
 - (c) *the PMU will return the order books to the implementing ministries who will issue the authorized LPO/LSO to the suppliers; and*
 - (d) *the suppliers will issue goods and/or services to the implementing officers. Invoices will be submitted to the implementing officers so that they can initiate the payment procedures.*

B. FUNDS VOTED AS REVENUE

1. *In cases where disbursement of funds is wholly or partially made through the authority to incur expenditures (AIE), accounting officers will issue AIEs to their departmental heads in the field. A copy of the AIE will be issued to the Programme Management Unit inter alia.*
2. *Authorised officers in each ministry will initiate procurement of goods and services by indicating their requirements on the LPO/LSO. They will ensure that the laid down procurement procedures under the District Focus Strategy are followed. They will also sign on the LPOs/LSOs to indicate that the indented materials are necessary for the implementation of projects in their sectors and have been approved and included in the Annual Work Plan.*
3. *The implementing heads of departments (AIE) holders will forward their LPOs/LSOs to the Programme Management Unit for endorsement to confirm that the intended purchases will be reimbursed to the Government by the donor.*
4. *The rest of the procedures which include examination of the payment voucher, commitment of funds etc will remain the responsibility of the district treasury.*

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5. The suppliers will issue goods and/or services to the implementing officers. Invoices will be submitted to the implementing officers so that they can initiate the payment procedures.
6. A contract which follows a tender must be formalised by the signing of a standard contract agreement between the Ministry on behalf of the Government and the successful bidder. Such a contract, whether to be paid under AIA or AIE must be countersigned, *inter alia* by the Programme Officer or Programme Adviser. The total contract sum must be committed under the programmes AIA or AIE vote book. This arrangement will enable the programme to request for reimbursement from the donor.
7. In cases where international competitive bidding is a must, the donor should be involved in all procurement procedures of tendering, evaluation and awarding. This will ensure concurrence.

C. PAYMENT AND REIMBURSEMENT PROCEDURES (Appropriations in Aid)

1. Upon receipt of invoices, each implementing officer (head of department in an implementing ministry) will prepare and ENDORSE all the payment vouchers relating to the programme expenditures. He will further ensure that all the relevant supporting documents are attached to the payment voucher. He will similarly ensure that all the necessary certificates are signed.
2. The payment vouchers and supporting documentation, will be taken to the PMU's accounts section for examination and vote book control.
3. The PMU will arrange to take the payment vouchers to the District Internal Auditor for auditing.
4. The authorization of the payment vouchers (through form F 20 or F 22) will be done by either the Programme Officer or the Programme Adviser or both.
5. Upon authorization of the payment vouchers, the PMU will arrange to make payments. The signatories to the project account will be:
 - (a) The Programme Officer.
 - (b) The Programme Adviser
 - (c) The District Accountant/District Development Officer.

Two signatories will be sufficient to effect the payment. It is recommended however that as far as applicable both the Programme Officer and the Programme Adviser should sign. During the absence of any of them, the one available together with one of the alternate signatories will be sufficient to effect payments.

The PMU will forward all the payment vouchers to the Office of the Vice President/Ministry of Finance through MRDASW for reimbursement.

7. The Ministry of Finance through its External Resources Department will write to the donors requesting them to make direct reimbursement to the project imprest accounts.
8. Upon receipt of request from the Office of the Vice President and Ministry of Finance, the donors will issue cheques of equivalent amounts to the project's imprest accounts and forward a copy of the advisory communication to the project, the External Resources Department of the Office of the Vice President and Ministry of Finance and the Ministry of Reclamation and Development of Arid, Semi-Arid Areas and Wastelands.
9. PMUs should initiate the above reimbursement procedures as soon as between 30 - 50% of their respective imprest floats are utilised.
10. The project's imprest accounts should be audited once every year.

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D. PAYMENTS AND REIMBURSEMENT PROCEDURES - (Funds Voted as Revenue - AIE)

1. Upon receipt of invoices, each head of department will prepare and authorise all the payment vouchers relating to the programme expenditures. He will further ensure that all the relevant supporting documents are attached to the payment voucher. He will similarly ensure that all the necessary certificates are signed.
2. The payment vouchers and supporting documentation will be taken to the District Accounts office for examination, vote book control and authorisation.
3. Before the District Treasury makes the payment, the voucher will be taken to the PMU who will:
 - (a) Check whether the incurred expenditure is in accordance with the Plan of Operation.
 - (b) If satisfied, endorse the payment voucher
 - (c) Extract all the relevant payment documents that will facilitate the donor to reimburse the Government of the expenses incurred through AIEs.
 - (d) Prepare and submit reimbursement claims to the office of the Vice President and Ministry of Finance, through the Ministry of Reclamation of Arid, Semi-Arid Areas and Wastelands.
 - (e) The Office of the Vice President and Ministry of Finance will request the donors to reimburse the exchequer.
 - (f) Once the donor concurs with the submitted expenditures, he will reimburse the exchequer. He will inform the MRDASAW, the Treasury (ERD) and the programme.

These measures have been put in place in order to harmonise the procurement, accounting and reimbursement procedures in all the programmes. They are not meant to conflict with the already existing procedures.

Programme Officers should ensure that these procedures are complied with.

Permanent Secretary
MRDASH

APPENDIX V

NAKURU WORKSHOP

19-20 SEPTEMBER, 1990

<u>Name</u>	<u>Ministry</u>	<u>Designation</u>
1. Prof. Karega Mutahi	Ministry of Reclamation & Dev. of Arid, Semi-Arid Areas and Wastelands	Permanent Secretary
2. J.S. Omambia	"	Deputy Secretary/DC
3. D.M. Kirori	"	Director/Tech. Services
4. Nellie Gitau	"	Senior Asst. Sec./DC
5. B.M. Wairegi	"	Chief Accountant
6. Grace Okonji	"	Senior Planning Officer
7. Chweya	"	Planning Officer
8. Maureen Orlale	"	Planning Officer
9. J.I. Gichigi	"	Asst. Sec./DC
10. William Sakataka	"	Under Sec./DC
11. Fatma Mohammed	"	Secretary
12. Mary Gitonga	"	Secretary
13. Kadenge	"	Driver
14. Ogolla	"	"
15. Ngomonge	"	"
16. M.W. Makunda	"	"
17. Mrs. P.W. Naiterra	"	Programme Coordinator
18. Paul Mungai	"	Asst. Director/Enviro. Con.
19. Muturi Wa Kanyora	E.A. Finance Consultants	
20. Willis Akinga	Environment & Nat. Res.	P/A/AF
21. Phoebe Mukiria	KETRI	
22. Bernard M. Chege	Regional Development	Planning Officer
23. Peter Kusewa	KARI	Centre Director
24. John Kabutha	Min. Of Planning and National Development	Senior Economist
25. Kinyanjui Ngugi	Regional Development	Senior Economist
26. Sammy Samoey	Health	Public Health Officer
27. J.S.M. Otieno	"	Economist/Statistician
28. J.B. Musyoka	Eduation	
29. B.P. Mjambili	Cooperatives	Deputy Chief Economist
30. Peter Odundo	Office of the President	Dist. Environ. Officer Kajiado
31. F.E. Chege	Research, Science & Technology	

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32. K.M. Ogega	Commerce	Assistant Secretary
33. A.N. Maiteka	Public Works (Roads)	A.E. Roads
34. F. Mwakisha	Education	Education Officer
35. K.M. Muga	Ministry of Industry	Economist 1
36. W.O. Odhiambo	Planning & Nat. Dev.	P. Planning Assistant
37. Jacob Muli	Culture & Social Services	Senior Soc. Dev. Officer
38. K.I. Mutiga	Tourism & Wildlife	
39. G.T. Kariuki		
40. L.O. Obidha	Plann. & Nat. Dev.	Economist
41. G.G.N. Kamau	Culture & Social Services	Deputy Director
42. Walter Syeunda	"	Accountant
43. Alfred O. Odawa	Environ. & Nat. Res.	Geologist
44. Prof. C.M. Mutiso	Muticon	
45. V.O. Kabita	DDO - Nakuru	
46. K. Tubei	S.E.O. Representing the	P.E.O.
47. Kimalel Arap Rop	Culture & Social Serv.	Provincial Director Social Services R.V.P
48. Odda Nafula	Cooperatives	Prov. Coop. Officer
49. Mosot Andama	Agriculture	Agricultural Officer
50. George N. Mbate	MRDASW	Principal Economist

