REPUBLIC OF KENYA

DROUGHT RECOVERY PROGRAMME

INVESTMENT PROPOSALS

APRIL, 1993
NAIROBI

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PREFACE

This document presents an investment proposal for a Drought Recovery Programme in Kenya. It has been compiled by an Inter-ministerial Task Force chaired by the Office of the President. The United Nations Disaster Management Team (UNDMT) has contributed extensively to the completion of the document through continuous UNDP participation in the Task Force. The total investment proposal amounts to Ksh. 2.6 billion (US$ 73.6 million). This consists of Ksh. 275 million for the Agricultural Sector; Kshs.378 million for the Livestock Sector; Ksh. 479 million for Infrastructure; Kshs. 224 million for the Health Sector; Kshs 485 million for the Water Sector; Kshs 594 million for Rural Services Centres; and Kshs. 215 million for Capacity Building for Drought Management.

It should be noted that the total investment proposal does not cover the entire requirement for drought recovery in Kenya. It reflects only those immediate needs which will have to be put in place to address the devastating impact of the recent drought and to initiate a framework for long term management of drought in the country.

We hope to get positive responses from the various donors on our quest to raise additional resources to tackle the problems identified in this document.

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April, 1993
NAIROBI

1. DEVELOPMENT CONTEXT

1.1 ANALYSIS OF THE DROUGHT SITUATION IN THE COUNTRY

The devastating effects of prolonged drought have resulted in severe food and water shortages in the north and east of Kenya. Government has identified 26 districts as affected by drought of which 15 are seriously affected and 11 have pockets of drought. Worst affected are the arid zones in eight of the northern and north-eastern districts - Turkana, Mandera, Garissa, Marsabit, Tana River, Wajir, Isiolo and Samburu. It is estimated that over 1.5 million drought-affected persons as well as 150,000 people displaced by either drought or tribal conflict are in need of emergency assistance.

The 1992 main season crop was reduced by the late onset of the rains and a prolonged dry spell in eastern and northern areas. Aggregate cereal output for the 1992-93 marketing year, including a tentative estimate for the short rains crop, is estimated at 2.85 million metric tons. This is some 250,000 metric tons below average and the third poor year in succession. It is estimated that the prolonged drought has led to a 70% loss of cattle and a slightly lower loss of small stocks and camels in the most severely affected districts. This has resulted in serious impoverishment of many small scale pastoralists. Surviving livestock are becoming progressively weaker and more susceptible to diseases. Efforts to protect livestock health and to prevent the spread of diseases have been hampered by lack of vaccines, drugs and financial resources. The lowering of the water table and hence the increased reliance on deep waterholes, boreholes and springs has resulted in overgrazing and rangelands degradation in the areas surrounding these more permanent water points.

The drought situation has been aggravated by conflict in neighbouring countries which has resulted in the influx of a large number of refugees to Kenya. As of December 1992, the total refugee population assisted in camps and border sites in Kenya stood at 423,000. Refugees from Ethiopia are currently being repatriated while additional influxes from Somalia are expected given the continued uncertain situation in Somalia.

1.2 NATIONAL POLICY AND STRATEGY FOR ASAL DEVELOPMENT

During the colonial period and the first decade after independence attention of both Government and international organizations concentrated on the high potential areas where economic returns were high. With increased

population pressure in these areas and an out-migration to more marginal areas, the ASAL areas experienced a growing attention in the 1970's.

A "Marginal Lands Pre-Investment Study" project was carried out in 1977 and the results from this study formed the major input to the Policy Paper "The Arid and Semi-Arid lands of Kenya - a Framework for Implementation, Planning and Evaluation" which was published in 1979. This document formed the basic policy framework for ASAL areas during the 1980's. It spelled out the Governments commitment to the development activities; (1) resource conservation; (2) exploitation of productive potential; (3) development of human resources; (4) integration of ASAL areas within the national economy. Within these broad objectives, twelve district based development programmes were initiated.

Based on the experiences gained through these first initiatives, commonly referred to as the First Generation ASAL programme and in view of the new strategy emphasizing renewed growth as spelled out in Sessional Paper No.1 of 1986, the approach to ASAL development has been restructured as indicated in the 1989-93 National Development Plan. The Plan identifies the need for a Second Generation ASAL Programme with the following objectives; (1) making available the means of exploiting the important production potentials of ASAL resources, thereby contributing significantly to incomes, employment and food security goals of this plan; (2) reclaiming where damaged and protecting valuable and fragile natural environment; (3) generating opportunities for improving the quality of life of present and future populations on a sustainable basis and (4) determining ways and means of effecting symbiotic exchange of resources and products between ASAL and the high potential areas.

On the basis of lessons learnt from the last three decades and with a view to providing an updated framework for planning and implementing projects and programmes in ASAL, a new policy document "Development Policy for the Arid and Semi-Arid Lands" was produced in 1992. According to this document, the long-term objective of the ASAL Development Policy is to improve the standard of living of the ASAL population by integrating ASAL into the mainstream of the national economy and social development in an environmentally sustainable manner. This development objective will be achieved through efforts directed towards; human resources and institutional capacity development, community participation, low-cost and appropriate technologies, protecting the fragile environment, diversifying

production, improving the delivery of services, improving the infrastructure, intensifying research linked to sustainable development and finally strengthening district capacities and facilities in terms of drought prevention, drought intervention and drought recovery.

The Policy Paper devotes one full chapter to drought management and identifies a number of strategies to be considered before, during or after the occurrence of a drought situation; (1) releasing food to the market; (2) emergency livestock purchase;(3) food relief; (4) food for work; (5) food for recovery among nomadic pastoralists; (6) accelerated restocking of nomadic pastoralists and (7) replacement seeds for farmers.

The subject is further spelled out in the Environmental Action Plan for Arid and Semi-Arid Areas in Kenya (1992) which identifies drought contingency planning with the objective of adequately preparing for future droughts and possible famine as a priority activity. Some of the required actions according to this document are; (1) preparation of Master Plan for drought contingency intervention; (2) preparation of designs and definition of priorities for public works to be completed; (3) setting up institutional framework; (4) strengthening the districts to enable them to cope with drought (5) defining roles for the various donors and NGO's for activities in case of drought and (6) setting up of early warning systems, computerized systems for data collection and additional meteorological stations.

1.3 PRIOR AND ONGOING DEVELOPMENT ACTIVITIES IN ASAL AREAS

A number of development project are currently under implementation especially in the semi-arid districts but also in the arid north and north-east of the country. Most of the projects cover one or more divisions in a district while a limited number are cross-district projects. The majority of the projects are integrated rural development projects including activities within several of the following sectors; livestock agriculture, water, health, education, environment, infrastructure, marketing and small enterprise development. Cross-district projects are generally sector specific; water, livestock, small enterprise development. A few ASAL projects concentrate on human resource development and on institutional capacity building in Government at HQs level. Most of the integrated development projects are funded through grants from bilateral donors, while a few are funded through grants and loans from multilateral organisations. The ASAL Team has prepared a catalogue of arid and semi-arid lands development programmes.

1.4 DEVELOPMENT ASSISTANCE UNDER CONSIDERATION

Government of Kenya is currently together with the ASAL Team and the World Bank preparing a long-term Development programme for ASAL areas. The programme which is the major ASAL activity under preparation is planned to have an overall duration of 15 years. At this stage the first phase of 5 years is being designed. The long-term objective of the programme is to improve the standard of living of ASAL population by integrating ASAL into the mainstream of the national economy in a socially acceptable and environmentally sustainable manner.

The first phase will according to current plans focus on: human resource development and capacity building, food security, drought management, roads, water supply and sanitation and small enterprise development. The World Bank plans to provide Kshs.1,800 million (US$ 50 million) for the first phase, and it is anticipated that other donor institutions will provide additional resources. The total budget as well as geographical coverage have yet to be determined.

A Drought Preparedness Intervention and Recovery Programme is another project under preparation. In the first phase the project is planned to cover the four districts Turkana, Isiolo, Samburu and Marsabit with the possibility of expanding to other ASAL districts after this. The overall objective is to strengthen district-level capacity to monitor and predict the development of droughts and mitigate their impact by triggering timely and effective responses to early warning information. The project will in its implementation build on experiences from an earlier project within the same field in Turkana. The main programme components are drought contingency planning, drought intervention, drought recovery and research with a focus on human resource development and institutional capacity building within all components. Funding is planned to come from WFP, EEC and the Netherlands Embassy together with contributions from Government.

District integrated development projects covering the ASAL districts: Garissa, Makueni, Narok and Laikipia are currently under consideration or planning by donors and Government. Mandera is the only arid district where no major development project or programme has been implemented or is being planned.

Some of the districts in the North and especially in the North Eastern part of the country have only a very few development NGOs based or working in the districts. The

capacity in agriculture and livestock production, and improve water supply, basic health services and access to and within specific arid districts; and (ii) assist in enhancing future institutional capacity at the district level to deal with drought.

The interventions proposed under EDRP would support a package of interventions in agriculture and livestock which covers a number of ASAL districts and a further package of interventions in water supply, rural road rehabilitation, health services and drought management/environment, targeted primarily to the three districts Mandera, Marsabit and Turkana. In addition, the proposed IDA Credit would finance the institutional structure for implementation of the proposed project.

This revised DRP excludes the interventions funded by the World Bank and outlines components that are yet unfunded indicating proposed arrangements for its implementation. The programme is expected to cover a period of 24 months beginning April 1993 and will lay the foundation for the longer term development of ASAL areas.

2.2 TARGET BENEFICIARIES

The target beneficiaries of the Programme are an estimated population of about five million people in fifteen (15) arid and semi-arid districts located in the Northern and Eastern parts of Kenya. The priority one districts located in the arid zones are Mandera, Wajir, Garissa, Marsabit, Isiolo, Samburu, Turkana and Tana River while the priority two districts which are in the semi-arid zones are Laikipia, Machakos, Makueni, Kitui, Baringo, Tharaka-Nithi and West Pokot. The agricultural sector will also benefit an additional one million people in famine affected pockets in eleven other districts.

The short-term expected benefit of the programme is to restore the ability of the ASAL population to regain their economic livelihood through the rapid recovery of agriculture and livestock production. The rehabilitation of water and health facilities would relieve suffering not only from the lack of drinking water, but also from diseases resulting from polluted water supplies and other main illnesses. The rehabilitation of roads will restore access from the districts to high potential areas of the country by improving marketing routes for the inflow and outflow of goods and services as well as connecting major population centres for transport of food, farm inputs and other services. The long-term benefits would be to increase the resilience of human and livestock population to cope with drought, to strengthen the capacity to deal

emergency situation has attracted a large number of NGOs to the northern areas. Some of these are both emergency and development NGOs and there are indications that a few of them may stay on after the emergency situation.

2. DROUGHT RECOVERY PROGRAMME

2.1 DEVELOPMENT AND PRESENT SITUATION

As a result of the prolonged drought situation in the country, the Government of Kenya prepared a Drought Recovery Programme (DRP) to address the immediate and short term needs of the affected areas as an emergency measure to alleviate the impact of the current drought and assist the drought stricken population regenerate the capacity to regain their livelihoods. The programme was prepared on the basis of returns of questionnaire sent to all districts affected by the drought. The information was analyzed and updated by respective line ministries under the co-ordination of the Office of the President.

The first draft of the Drought Recovery Programme (DRP) was presented to the donors in mid-October 1992. The views of the donor community were taken into consideration during the preparation of this programme. specifically, UNDP, FAO, WHO, UNICEF, GTZ, EC, HABITAT and World Bank were closely involved in th discussions. The DRP then focused on the four main sectors of livestock, water, agriculture and health. Sectoral working groups composed of technical staff from UN agencies, donors and Government of Kenya were set up to further fine-tune the sectoral submissions and prepare a project design document which would highlight priority districts and projects within various sectors. The second draft of the DRP was then produced with the assistance of UNDP. Certain cross-cutting concerns like infrastructure, environmental management and urban management are also incorporated.

Due to the onset of the short rains of 1992, the crop sector was given immediate attention. A total of KShs 27 million was provided by the GOK, EC, UK, Canada and Germany (through GTZ) for the procurement of seeds for the short rains season.

A World Bank Appraisal Mission visited Kenya between November 22nd and December 10th, 1992 in response to the Kenya Government request for assistance with an Emergency Drought Recovery Project (EDRP) as part of the overall donor assistance to provide relief and recovery to those most affected by the drought.

The Mission considered the funding of some specific components of the DRP through an IDA Credit of 29.55 million US dollars. The objectives of the EDRP are to: (i) alleviate the impact of the current drought through measures which will start to regenerate productive

with drought and to lay the foundation for longer term development in the targeted districts.

Specific efforts will be undertaken to orient the various componets of the recovery programme; agriculture, livestock, environment, health/sanitation, community development, etc. so as to facilitate the involvement of women.

2.3 MANAGEMENT AND ORGANIZATION

A special institutional arrangement, separate from the existing government structures, has been formulated for the management and implementation of the Drought Recovery Programme both at the National and District level.

2.3.1 NATIONAL LEVEL

The Programme will be implemented under the National Famine Relief Coordinating Committee (NFRCC) of the Office of the President. A Special Recovery Team (SRT) has been established. SRT consists of Office of the President, Treasury, Office of the Vice President and Ministry of Planning and National Development and the United Nations Disaster Management Team (UNDMT) represented by its Chairman, the Resident Representative of UNDP. The SRT will be responsible for setting out the broad priorities including sequencing and ensuring project complementarity. The team will also secure donor funding for the programme and be responsible for overall planning and coordination of the planned activities under the programme.

A Programme Management Unit (PMU) has also been established. The PMU is composed of the Directors of Water, Medical Services, Veterinary Services and Agriculture, the Chief Superintending Engineer (Gravelling, Bridging and Culverting Programme), District Focus Section of Office of the President and representatives of participating donors. The PMU will have the overall responsibility for realising the planned programme objectives and outputs. It will also provide technical advisory services to the Special Recovery Team on matters related to coordination of the implementation of the programme activities at national level.

The PMU will have a Secretariat to be headed by a National Programme Coordinator (NPC) with a core staff of five including the NPC. The core staff will consist of the National Progamme Co-ordinator a Special Advisor, a Deputy National Programme Coordinator, a Finance Officer and a Supplies and Procurement Officer. Specific terms

of reference have been drawn for each of the key experts in the PMU Secretariat who will be recruited locally, except the Special Advisor who may be recruited locally or internationally. The NPC will be a person with a wide knowledge of drought relief operations and with sound experience of the working of the Government systems.

In addition to the core staff, the PMU Secretariat will also be provided with support staff such as secretaries, clerks, drivers and messengers by the government. The support staff will be paid a special allowance as incentive in addition to their normal salaries.

2.3.2 DISTRICT LEVEL

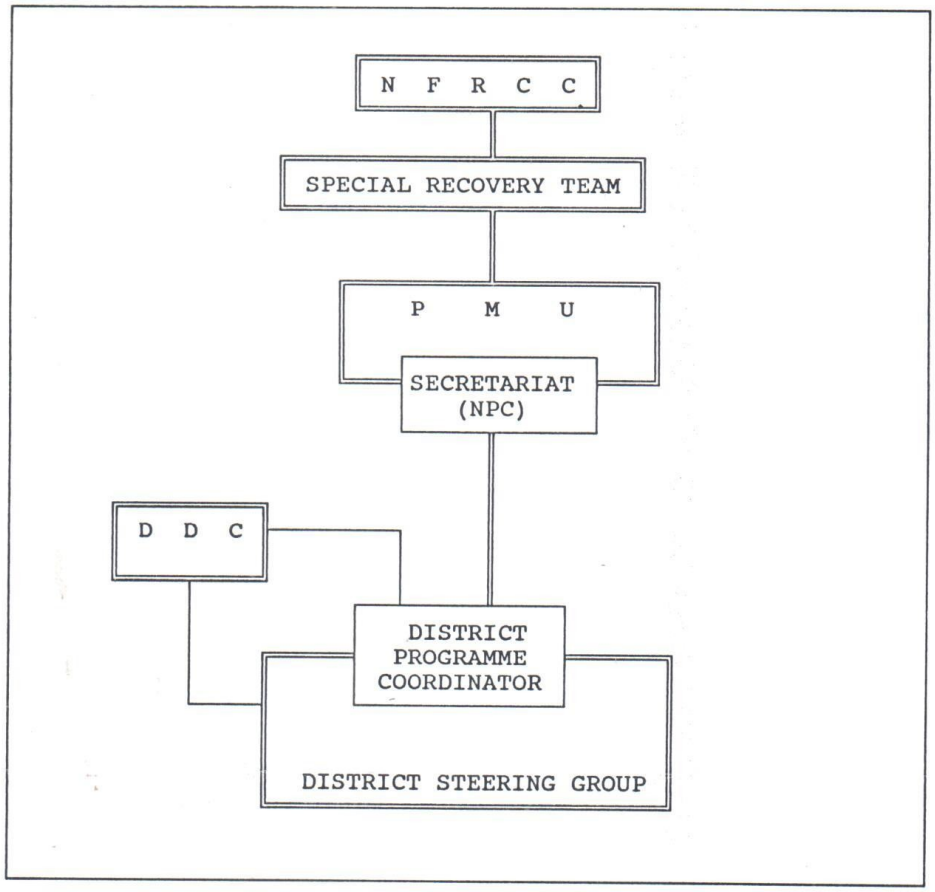
In line with the government policy of District Focus for Rural Development Strategy, the DRP will be district focused. At the district level, there shall be a District Programme Coordinator (DPC) and a District Steering Group (DSG). The DPC will be responsible to the National Programme Coordinator and answerable to the District Development Committee (DDC) for the implementation of the DRP. The DPC will ensure the operationalization of financial, budgetary and procurement procedures at the district level and mobilize the participating institutions. The DPC will also coordinate the agreed programme activities and ensure that district level resource utilization is followed according to planned activities.

The DSG will be composed of representative from participating line ministries, relevant district based donors, NGOs and community representatives. The DSG will review the progress of programme implementation, consider proposals submitted by divisional development committees, NGOs and community groups. The DSGs will also establish priorities for the programme sub-components, endorse programme proposals for implementation and financial disbursement.

A direct communication link between the PMU and DSG is envisaged to ensure that there is immediate feedback mechanism by facsimile telephone or radio call. A continuous and effective participation in decision making by all participating agents will be ensured. Participating donors will have their representatives both in the PMU at the national level and in the DSG at district level.

The Diagram 1.1 indicates the set up of the programme implementation structure.

DIAGRAM 1.1: PROGRAMME IMPLEMENTATION STRUCTURE



2.3.3 **PAYMENT MECHANISM**

The following disbursement mechanism has been agreed with the World Bank for the IDA funded part of the Drought Recovery Programme. The disbursement mechanism is in addition to the direct payment system already operating for other IDA-funded projects and deals primarily with district level payments.

The project would be costed under a separate Account Head in the OOP and funds would be administered by the

Accounting Officer (AO) in the OOP. An off-shore Special Dollar Account (SDA) would be established, to be used for overseas payments and reimbursement of local expenses. A separate Paymaster General (PMG) Account would also be opened to facilitate remittances to the districts.

The district coordinators would incur expenditures against Authorizations to Incur Expenditure issued to them and submit original documents to the district treasury for payment (retaining a copy for records). The district accountant would arrange payment, analyze the expenditure under Budget Heads and submit weekly reimbursement claims to the PMG along with copies of paid vouchers and supporting documents. The PMG would process the claims and forward them to the External Resources Division (ERD) in Treasury who would arrange to transfer the amount payable from the PMG account to the exchequer account every week. ERD would also arrange for replenishment of the PMG account from the off-shore SDA every two weeks. This system would ensure payments to districts immediately on receipt of weekly claims by the PMG. At the OOP, the AO would incur expenditures as per normal GOK procedures and submit special exchequer requisitions through ERD to seek transfer from the PMG account. District coordinators would send copies of paid vouchers and supporting documents to the PMU along with monthly summary of accounts. The PMU would maintain books of accounts and prepare reports for GOK and donors, certification of statements of expenditure.

The same mechanism can be adopted for other donors. However there is flexibility in discussing other disbursement mechanism with respective donors.

2.4 GENERAL STRATEGY FOR THE PROGRAMME

The Project will address poverty alleviation by assisting communities that are severely affected by drought in the ASAL areas to regain their livelihood. Provision of agricultural inputs, drugs and vaccines, together with improved drinking water sources for humans and animals, is expected to improve the food security and health status of the communities. The infrastructure component is to ensure ease of communications within these areas and enable the other services to be provided without undue interruptions. The urban management input is expected to improve the local capacity to plan and manage urban settlements in ASAL areas and in the long run create appropriate income generating activities for the inhabitants. The project is further expected to contribute to the environmentally sustainable use of ASAL areas by structuring recovery programme to ensure

community awareness and laying the foundation for future interventions.

The programme has also sought to move away from drought relief by introducing a drought management programme. The aim of this will be to establish a drought management system capable of providing data on the various key indicators of an impending drought.

The above strategy will have long term benefits of increasing the resilience of human and livestock populations to cope with drought, it will also strengthen the Government's capacity to deal with drought and lay the foundation for longer term development in the ASAL areas.

2.5 COMMUNITY PARTICIPATION

Community participation can be loosely defined as a grand alliance between people, policy-makers and development workers for a common purpose. The true measure of success of policies and programmes, indeed the determinant of that success, are the people. Experience has shown that, whether in the most sophisticated cities or in the most remote village, when people act in pursuit of goals they deem essential, they achieve success. Resources are mobilised and previously insoluble problems are resolved.

An insight can be gained of non-participation deficiencies by looking at the case of community water sanitation projects. These have more often than not been developed by agencies from outside the communities they are intended to serve. Programme activities have similarly been implemented by people from outside the community who come and go with little effort to involve the community members. The net result is that the community members fail to own and identify with the programmes, view them as foreign and in some cases even destroy the systems through vandalism. Community mobilization, organization and involvement is therefore a pre-requisite to the implementation of any sustainable development programme. While it is recognized that achieving community participation requires a long-term investment in training and re-orientation, a substantial start is made during formulation of the Recovery Programme.

The above being the case therefore, community members will be viewed as partners with the Government in the development process of their areas. Consequently, it is the intention of the Drought Recovery Programme to put in

place institutional mechanisms to facilitate communities taking over, full responsibility for their own development.

3. PROGRAMME COMPONENTS

3.1 AGRICULTURE SECTOR

3.1.1 BACKGROUND

Kenya has experienced drastic dry weather conditions in both 1991 and 1992 due to unreliable rainfall in most parts of the country. This has resulted in disruption of agricultural practices and activities leading to total or poor crop harvests. Twenty six (26) districts have been totally or partially affected by drought and two (2) million Nationals have been on famine relief.

To assist the families in the drought stricken areas revert back to their normal food crop production and supply the Agricultural Sector merits, the highest priority for quicker solutions since its recovery is pegged to rainfall distribution peaks (seasons) - The short rains season 1992 and the long rains season March/April 1993 could effectively be utilized by assisting the affected farmers with farm inputs comprising of seeds, hand tools and fertilizer to enhance a certain degree of food self sufficiency in the short run. However, it is the feeling of the Agricultural Working Committee that total food self sufficiency might not be accomplished by the end of 1993 long rains season by all the families within the drought prone areas and there would be a strong need to extend the programme to the year 1994.

The World Bank (IDA) has taken up the challenge by provinding US$ 5.2 million to the D.R.P during the long rains season March/April 1993 for the purchase of fertilizer and hand tools, and for transport costs.

3.1.2 OBJECTIVES

i) To assist 65% (550,000) of the total 840,000 farm families affected by 1991/92 drought with basic farm inputs to revert back to self-sufficiency vis-a-vis normal living.

ii) To enhance foreign savings from food commodity imports by directly involving the drought affected farm families in local food production during 1992 (October/November) and 1993 (March/April) short rain and long rains seasons respectively.

iii) To institutionalize early warning systems for future drought mitigation and intervention.

the short-rains season - The Government of Kenya (GOK) opened the way by releasing Kshs.10,000,000 followed by four members of the international donor community who contributed as shown hereunder:-

EEC	-	Ksh.10,000,000
UK	-	Kshs 5,420,000 (100,000 pound Sterling)
Canada	-	Kshs. 475,000 (25,000 Canadian dollars)
G.T.Z	-	Ksh. 300,000 (In Kind to Wajir, Marsabit and Samburu).

The total amount raised of Kshs.26,195,000 reflected a fraction of 6% (requirement) and due to late release, the funds could not all be put into use as initially intended. It is anticipated that the uncommitted balance of approximately Kshs.16,000,000 under the co-ordination of the UNDP would be used during the long-rains in 1993 (March/April) with the intervention of MOA, UNDMT and the Office of the President - for the purchase of seeds or pesticides.

3.1.6 AGRICULTURAL INPUT NEEDS FOR THE LONG RAINS 1993 (MARCH/APRIL)

The short rain season is most unreliable for crop production basically due to uncertainty in rainfall reliability and distribution, hence in order to achieve a sustainable level of success in drought recovery, the agricultural working committee strongly recommends the inclusion of the long rain season (March/April) 1993 for assistance to 550,000 farm families (65%) out of the total affected farm families of 840,000 in the twenty six (26) districts. The farm input package would consist of: seeds, handtools and fertilizers - which would be free for distribution to the affected farm families.

It is envisaged that each farm family benefitting from the DRP would get a full package of seeds, pesticides and fertilizers to facilitate the planting of 0.4 ha. of either maize or sorghum while a set of hand tools (hoes & pangas) would benefit farm families known to have lost their tools. Secondary distribution among the affected farm families will be the responsibility of the District Famine Relief Committees DFRCs) in collaboration with NGO's. The farm input package is estimated to cost US$ 15 million which will meet the procurement of:-

- 11,500 tons of various seed types (maize, beans, sorghum, cowpeas and vegetables).
- 27,500 tons of NPK fertilizer (20:20:0)

- 600 tons of pesticides

- 80,000 sets of both hoes and pangas and transport cost (fertilizer and hand tools).

Following fruitful discussion by the GOK with the IDA appraisal mission to Kenya between 22nd November and 10th December, 1992, the GOK raised a proposal to use US$ 4.5 million of IDA funds held under the Rural Services Design and Second National Agricultural Projects for procurement and transportation of a portion 55% (15,000 MT) of 20:20:0 fertilizer and 80,000 set of hoes and pangas. The proposal was accepted by the appraisal mission and the necessary preparation arrangement to procure and transport the farm input package (fertilizer and hand tools) have been undertaken.

The GOK is committed to allocate US$ 2.3 million equivalent in local currency to Kshs. 80 million for financing the purchasing of part of the required seed component budgeted at US$ 7.1 million. The GOK would place a firm order with the Kenya Seed Company or any other recommended institutions or source for immediate supply of seeds. The balance of US $4.8 million for meeting the total seed component would be solicitated from donor community as shown in table 3.1.1.

The total cost for agricultural sector requirements is US$15.1. IDA and GOK commitments together amount to US$ 7.5 million leaving a balance gap of US$ 7.6. The GOK will put firm request for financial assistance to donors to help in facilitating resources to bridge up the balance gap of US$7.6 million for the success of the total programme which will benefit the 550,000 affected farm families in enhancing self food sustaince at a modest investment of US$ 29 per family.

The procurement and transportation net works for fertilizer been done following the World Bank tendering and procurement procedures. The opening of ICB and awarding has been accomplished and it is anticipated that the commodity will be in the country in time to effect viable use by farmers - seeds and hand tools are available in the country and local tendering system will facilitate quicker procurement and distribution to the affected areas. The District Famine Relief Committees (DFRCs) will be accountable for the farm input package whereas the MOA, the user Ministry, through the District Agricultural Officers (DAOs) shall be re-insured with the same to facilitate faster distribution and planting implementation at the household level.

Monitoring and evaluation will continue to be done by the Programme Management Unit (PMU) in the Office of the President which is composed of members from the key involved sectoral

line ministries with active participation of donors and NGO's. Technical appraisal reports shall be compiled and made available to the World Bank and other contributing donors.

The US$7.5 million under the World Bank (IDA) and GOK funding are for hand tools, fertilizer plus the transport costs, both primary and secondary, to sixteen ASAL districts as shown in table 3.1.1 while the remaining ten (10) pocket districts would benefit from funds coming from other members of the international donor community plus the uncommitted balances being held by the UNDP.

The level of financial support to the pocket districts as reflected in Table 3.1.2 requires immediate attention in order to make use of the long rains season. The overall initial farm inputs e.g. seeds, fertilizers (20:20:0) and agro-chemicals requirements for the long rains season is tabulated in Table 3.1.3. The three (3) categories I, II and III are based on the priorities needing support, and the World Bank has considered the first sixteen (16) districts. Table 3.1.1 shows the level of both GOK and IDA funding to both seeds and fertilizers as 32% and 54.5% respectively, this leaves a gap of 68% and 45.5% which requires funding in seeds and fertilizer while the agro-chemical component requires 100% support.

TABLE 3.1.1: FARM INPUTS FUNDED (BY GOK AND IDA)

DISTRICTS	GOK SEED COMPONENT (MTS & KGS)										
	MAIZE	BEANS	COWPEAS	SORGHUM	VEGETABLES	UPLAND RICE	FERTILIZER (BAGS)	HAND TOOLS (NOs)	TRANSPORT	GOK (US$M)	IDA (USM$)
TANA RIVER	15	8	1	73	100	10		5,000			
GARISSA	5	-	1	2	50	-	30,430	3,000			
ISIOLO	5	1	-	20	50	-	2,170	3,500			
MANDERA	5	-	2	1	50	-	8,140	4,500			
WAJIR	5	2	1	5	50	-	1,750	8,000	Fertilizer		
MARSABIT	5	5	1	1	50	-	3,160	6,080	&		
SAMBURU	20	2	-	3	50	-	1,750	6,300	Hand		
TURKANA	5	1	-	25	50	-	3,990	16,000	tools		
MACHAKOS	10	40	2	100	400	-	9,800	30,620			
MAKUENI	10	40	2	100	400	-	44,750	31,660			
KITUI	10	30	2	100	400	-	42,200	10,200			
THARAKA NITHI	5	15	1	50	400	-	25,100	6,600			
LAIKIPIA	120	15	-	10	200	-	19,150	6,240			
BARINGO	120	20	1	5	200	-	17,600	8,750			
WEST POKOT	120	8	-	5	100	-	18,660	8,050			
MERU	100	20	1	50	200	-	29,140	2,500			
TOTAL QUANTITY (MTS)	500	200/ 1100	15	550	3,000	10	300,000	160,000		2.3	5.2

NB: i) Level of G.O.K. funding to seed - 32%

ii) Level of IDA funding to fertilizer - 54.5%

iii) RICE - Special request by Tana River District

TABLE 3.1.2 POCKET DISTRICTS (10) IN D.R.P. NOT UNDER WORLD BANK (IDA) CREDIT PROGRAMME

DISTRICTS	FUNDING REQUIREMENT FOR FARM INPUT COMPONENT						OTHER INPUTS			TOTAL FUND
	MAIZE	BEANS	COWPEAS	SORGHUM	VEGETABLES (KGS)	UPLAND RICE	FERTILIZER (20:20:0)	HAND TOOLS (HOES & PANGAS)	PESTICIDES	UNDER APPEAL KSHS
E. MARAKWET	60	60	2	5	125	-	1,000	2,530		
TAITA TAVETA	40	20	5	1	250	-	890	1,650		
LAMU	6	-	8	1	100	-	290	260	100%	
KWALE	5	4	20	1	125	5	350	260		
KAJIADO	100	160	2	5	250	-	750	3,750		
KIAMBU	150	160	-	4	200	-	2,900	1,700		
NYERI	25	40	-	1	125	-	190	260		
MURANG'A	37	20	10	2	125	-	750	380		
EMBU	175	200	80	15	200	-	4,130	2,500		
NYANDARUA	12	8	-	-	200	-	70	350		
TOTAL QUANTITY (MTS)	610	672	127	35	1,700	-	11,320	13,740	586MTS 12,320 Litres	-
REQUIRED FUNDING (KSHS)	17,080,000	13,440,00	2,540,000	910,000	3,740,000	54,000	81,700,000	1,400,000	15,420,000	136,284,000

NB: i) Grand total of the immediate funds required to cover the pocket districts and 100% pesticides component in Kshs.136,284,000

i) Seeds - 37,764,000
ii) Fertilizers 81,700,000
iii) Hand Tools 1,400,000
iv) Pesticides 15,420,000

TABLE 3.1.3 OVERALL LONG RAINS PLANNING (SEED AND AGRO-CHEMICAL) REQUIREMENTS FOR DROUGHT AFFECTED DISTRICTS

Category 1	Maize	Beans	Cow Peas	Sorgh.	Veg.	Fert.	Dipt.	Cyper.
Tana River	25	8	68	2	50	175	3	200
Garissa	5	-	2	0.5	25	43.7	0.6	100
Isiolo	25	2.5	1	0.5	50	156	3	200
Mandera	20	-	2	0.5	25	118.75	2.4	100
Wajir	25	7.5	24	9	12.5	243.75	3	50
Marsabit	55	40	6	1	25	302	6.6	100
Samburu	40	12	-	0.4	25	217.5	4.8	100
Turkana	7.5	-	4	24	7.5	341	0.9	30
Sub-total	202.5	70	45	37.9	220	1,598	24.5	880
Category II								
Machakos	870	840	696	6.5	200	5,620	130	800
Makueni	1,078	850	840	31	200	5,878	129	800
Kitui	490	245	750	10	200	2,676	58.8	800
Tharaka/N	70	335	25	10	200	1,075	20.4	800
Laikipia	390	180	-	1	100	2,012	47	400
Baringo	286	132	3	1	200	1,506	34	500
West Pokot	325	-	-	4	100	1,725	40	400
Sub-total	3,509	3,142	2,314	63.5	1,200	20,492	459	4,500
Category III								
E/Marakwet	62.5	60	2	5	125	438	7.5	500
T/Taveta	40	20	5	1	250	387	6	1,000
Lamu	6	-	8	0.5	10	42.5	0.9	40
Kwale	5	4	20	0.5	125	100	0.75	500
Meru	100	160	2	-	250	750	15	1,000
Kiambu	150	160	-	4	200	900	30	800
Nyeri	25.25	40	-	-	125	189	3	500
Murang'a	37.5	20	10	1	125	253	4.5	500
Embu	175	200	80	15	200	1,163	25.5	800
Kajiado	200	276	40	-	125	1,063	24	500
Nyandarua	11.25	8	-	-	200	72	1.4	800
Sub-total	812	984	167	27	1,735	5,357	118	6,940
Total quantity/Est. cost Kshs(000)	4,525 121,500	4,160 79,040	2,526 43,401	128.4 3,525	3,155 3,468	27,500 275,260	601.9 11,720	12,320 3,696

The overall seed and agro-chemical component cost US$15.1m (Ksh.528,500,000)

Apart from:
Vegetables and cypermethrin which are expressed in kgs and litres respectively, all the other items are in metric tons.

2. **IMMEDIATE T.C.P. FOR A PERIOD OF 18 MONTHS**

i) **Project title** - Rapid Multiplication and Distribution of Cassava and Sweet Potato Planting Materials:

ii) Project Area - Four ASAL districts would be involved in the project (Embu, Kitui, Machakos and Kilifi), and the materials multiplied would further be made available to other ASAL districts.

iii) Cost of the project would be US$138,000 equivalent to Kshs.4,968,000.

iv) Objectives - To supplement the Governments efforts to attain food security by making available good quality planting materials for increased production of sweet potatoes and cassava.

v) Work plan and time scheduling of activities - Identification of multiplication and propagation sites. The sites will be located in four (4) districts refer the project area above (ii).

- Acquisition of elite materials from Research Centres and farmers plots.

- On farm (site) multiplication and propagation of planting materials.

- Harvesting of cuttings and planting materials and distribution to farmers in the ASAL districts.

- Training staff/farmers on appropriate sanitary multiplication and production techniques.

- Study tour or a specialized course for one officer for a period of two months:

vi) Project budget (US$)

a)	Project personnel for two missions of 10 man days each	20,000
	Resource person for training	10,000
	local seasonal labour	8,000
b)	Official Duty travel	20,000
c)	General Operating expenses	17,000
d)	Supplies and Materials	15,000
e)	Equipment (4 water pumps and accessories)	13,000
f)	Training (20 staff, 200 farmers)	25,000
g)	Fellowship for one officer	10,000
	T O T A L	138,000

3. **Project title** - Promotion of Yams and Cocoyams for Increased Food Security.

i) Objective - To assist Government of Kenya to assess the potential of yams and cocoyams so as to develop appropriate technology packages for their promotion.

ii) Workplan & Scheduling of activities

i) Acquisition and collection of elite clones from IITA and from farmers.

ii) Locational on farm trials in ASAL districts situated in Eastern province, Central, Rift Valley and Coast provinces - The operational centre situated at the REGIONAL RESEARCH STATION at Embu.

iii) Development of agronomic packages.

iv) Training of farmers/staff on sanitary production, utilization and technological transfer.

v) Multiplication of planting materials.

vi) Study tours to IITA by one local official for 8 weeks.

iii) Project cost - US$152,000

Equivalent to Kshs.5,472,000

iv) Project Budget

		Kshs
a)	Project personnel for two missions of 10 man days each	20,000
	Resource person for training	11,000
	Local seasonal labour	7,000
b)	Official duty travel	17,000
c)	General operating expenses	15,000
d)	Supplies and materials	14,000
e)	Equipment (4 water pumps and accessories)	13,000
f)	Training (20 staff, 100 farmers)	15,000
g)	Fellowship for one	15,000
h)	Picking truck	15,000
i)	Purchase of initial planting materials	10,000
	T O T A L	152,000

The two projects would cost US$ 0.3 million equivalent to Kshs.10,440,000 and for their success, collaboration between the Ministry of Agriculture, Livestock and Marketing (MOAL&M) and Kenya Agricultural Research Institute (KARI) would be needed. FAO is requested to look into the possibility of funding the two projects as per the two draft project proposals made available to them by MOAL&M. FAO will further be requested to assist with an international consultant for two project evaluation missions and one resource person to assist in the training of staff and farmers for a period of 5 weeks.

TABLE 3.1.4 FUNDS ALLOCATION AND REQUIREMENT SUMMARY IN MILLION US$

	TOTAL FUNDS REQUIRED M US$	SOURCE OF FUNDING IN M US$				TOTAL BALANCES FOR FUNDING
		GOK	EEC	IDA	OTHER DONORS N/S	
SEED PROCUREMENT & DISTRIBUTION	7.1	2.3	0.3	NONE	4.8	4.8
FERTILIZER, HAND TOOLS & DISTRIBUTION	7.5	-	-	5.2	2.2	2.2
AGRO-CHEMICALS	0.3	-	-	-	0.3	0.3
2 SHORT TERM PROJECTS (TCPS)	0.3	-	-	-	0.3	0.3
MISCELLANEOUS	0.05	-	-	-	0.05	0.05
TOTAL M US$	15.15	2.3	0.3	5.2	7.65	7.65

NB/ N/S -Other donors not yet specified.

3.2 LIVESTOCK SECTOR

3.2.1 PROJECT OBJECTIVES

(1) To assist the affected pastoralists and other households to resume their normal pastoral activities and gradually reduce their dependence on food relief supplies.

(2) To facilitate speedy recovery of the pastoral livestock industry through measures or interventions that would enable the pastoralists rebuild their livestock herds.

(3) Provide interventions that would facilitate environmental protection and grazing resource recovery.

3.2.2 PROJECT COMPONENTS

3.2.2.1 Restocking

The restocking component aims at assisting 200-500 destitute households in each of the arid districts of Wajir, Mandera, Garissa, Tana River, Samburu, Turkana, Laikipia, Isiolo, Marsabit and Baringo. Sheep and goats multiply faster than the larger species of livestock and will therefore, be used in the restocking programme. Draught animals will also be provided to 300 selected households hard hit by drought in each of the semi arid districts of Taita Taveta, Makueni, Machakos, Kitui, Embu, Meru, Laikipia, Baringo, West Pokot, Elgeyo Marakwet, Kajiado and Narok.

3.2.2.2 Implementation Framework

The programme which will entail close supervision and monitoring to ensure that the packages reach the intended beneficiaries will be implemented by the District Famine Relief Committees, local NGOs, local communities and the donor agencies.

3.2.2.3 Cost Estimates

	Kshs.
Purchase of 120,000 sheep and goats @Ksh400/=	- 48,000,000
Purchase of 6000 draught animals @ksh3000/=	- 18,000,000
Purchase of 3000 pack animals @ksh4000/=	- 12,000,000
Drugs for six months	- 3,000,000
Supplementary food for six months	- 30,000,000
Training for six months	- 600,000
Operational Costs	- 3,900,000
Contingency (10%)	- 11,650,000
	KSHS 128,150,000

(Rounded to Kshs.130,000,000)

NB: The continued good weather since November 1992 has resulted in considerable improvement in environmental condition in ASAL areas. The livestock body condition as well as grazing and water availability have also improved. The restocking programme should, therefore, take advantage of the prevailing good weather so as to enable poor households rebuild their livestock herds and reduce their dependence on food relief supplies. Unless there are undue delays due to lack of donor support, the restocking programme is implementable within the 24 months period of the Drought Recovery Project.

3.2.2.4 **Livestock Marketing:** To facilitate speedy recovery of the livestock sector, it is important that various areas related to livestock marketing are addressed by the Drought Recovery Programme. The livestock marketing component involves:

i) Rehabilitation of five strategic holding grounds, that is, Bargoni, Wenje, Kurawa, Muritini and Boming Range.

ii) Rehabilitation of Kenya Meat Commission Cold-room.

iii) Establishment of revolving fund for direct purchase of weak and dying livestock, slaughter them on site and use the meat to feed the starving community and refugees whenever necessary. The same revolving fund would be used to purchase hides and skins from the slaughtered animals.

iv) A feasibility study on a mobile meat and bone meal processing and packing plant.

The rehabilitation of holding grounds and cold storage facilities will be implemented through private contractors either under contract with MALDM or the Programme Management Unit.

The Livestock Marketing Component is estimated to cost some KSh 24 million over a period of two years. Financial support is, sought from donors like EEC and GTZ who are already involved in livestock development activities in drought affected areas.

3.2.2.5 **Animal health (Category II):** The program is expected to cover, in addition to the 10 districts being assisted by the World Bank (IDA), the following districts in Category II; Elgeyo Marakwet, West Pokot, Kitui, Machakos, Makueni and Tharaka-Nithi.

In the original 10 districts, a second campaign covering LSD, Rinderpest, CBPP and CCPP will be carried out during the months of April-June, 1994. Trypanocidal and clinical drugs will be supplied as in the first phase. These districts will be expected to use vaccination equipment supplied under the first phase but two kerosene or solar

refrigerators will be required to ease the congestion in the existing cold chain.

In the next 6 districts, in addition to the diseases mentioned before, rabies is rampant and its control is of paramount importance. Trypanosomiasis has a lower incidence and therefore, approximately half the quantities supplied to the 10 districts will be required.

Transportation will be needed in all the 16 districts and rehabilitation of 4 vehicles per district will enable the campaigns to be carried out effectively.

Fuel, maintenance and minor repairs will be expected to be carried out.

Field allowance will be required for the campaign period in all the 16 districts.

Laboratory teams will be deployed in the 16 districts to carry out disease investigations, diagnosis and collection of samples to monitor immunity status of the herds in the districts. Fuel, field allowances and laboratory reagents and consumables will be required. A one-week investigation and sampling trip per district is anticipated.

Field Allowance:

	Kshs		
2 VOs	- Kshs.200 x 7	=	2,800
2 Technologists	x Kshs.150 x 7	=	2,100
1 Driver	x Kshs.150 X 7	=	1,050
Per district		Kshs.	5,950

Transport 1 vehicle to transport the laboratory team and their equipment. 40 litres per day and KSh. 10,000 for maintenance of the vehicle. Total component = Ksh. 15,000 per district.

Laboratory reagents, glassware, chemicals and media and other consumables will be required.

1.	Laboratory glassware	- Kshs.	200,000
2.	Diagnostic reagents	- Kshs.	200,000
3.	Biologicals	- Kshs.	50,000
4.	Lab chemicals	- Kshs.	200,000
5.	Media	- Kshs.	150,000
6.	Laboratory animals	- Kshs.	100,000
	TOTAL	Kshs.	900,000

Total for the component - for 16 districts

Transport KSh. 15,000 x 16	= Kshs.	240,000
Reagents	= Kshs	900,000
Field allowance 6,000 x 16	= Kshs	96,000
	Kshs	1,236,000

Staff Costs: (Vaccinations)

As in the previous campaign, 4 teams each comprising of one VO, 4 vaccinators will be deployed in each district for the 60-day campaign period.

VO 60 x 200	= Kshs	12,000
4 vaccinators 60 x 150	= Kshs	36,000
1 driver 1 x 150	= Kshs	9,000
	Kshs	57,000
4 teams	= Kshs	228,000

Transport Each district will Rehabilitate 4 vehicles grounded in the districts. Approximately 200,000 tocover majorrepairs, tyres, tubes and canvas. Total Kshs.800,000 per district.

Fuel Each of the teams will require 50 litres per working day at Kshs.17.00

= 50 x 60 x 17 = Kshs 204,000 per district

Each team will require 200 litres for running the refrigerators and sterilizers for the campaign period. Approximately KSh. 8,000 per district.

Total transport and fuel = Kshs 1,012,000 per district.

Training

Training seminars with implementing officers in the districts will be held at provincial and where necessary, district levels to impress the importance of the program.

A team from headquarters will require to travel to the districts to coordinate the whole implementation process. A total sum of KSh. 1.5 million to cater for transport, per diem and seminars will be required.

TABLE 3.2.1: COST OF VACCINES FOR LIVESTOCK (KSHS.'000)

	Cattle	Shoats	R/Pest	CCPP	CBPP	Rabies	SD	Total Vaccines
E/Marakwet	90	120	270	180	180	300	225	1,155
W/Pokot	70	100	210	150	140	300	175	975
Kitui	150	120	450	180	300	600	375	1,905
Machakos	200	150	600	225	400	750	500	2,475
Makueni	130	100	390	150	260	300	325	1,424
T/Nithi	70	50	210	75	140	300	175	900
TOTAL	710	600	2130	960	1420	2550	1775	8,835

TABLE 3.2.2: TRYPANOCIDAL CLINICAL DRUGS (KSHS. '000)

	Homidium	Berenil	Clinical Drugs	Totals
K/Marakwet	1,100	100	300	1,500
W/Pokot	1,100	100	300	1,500
Kitui	1,100	100	300	1,700
Machakos	1,100	100	300	1,700
Makueni	1,100	100	300	1,500
T/Nithi	1,100	100	300	1,500
TOTAL	6,600	600	2,200	9,400

TABLE 3.2.3: COST OF ACCESSORIES FOR LIVESTOCK SECTOR (KSHS.'000)

	Refrigerators (2)	Syringes		Needles		Disposable	Barrel		Total Equipment
		50ml	10ml	G14x1	G16x1	10ml	50ml	50ml	
E/Marakwet	120	15	15	5	5	2	10	10	182
W/Pokot	120	15	15	5	5	2	10	10	182
Kitui	120	15	15	5	5	2	10	10	182
Machakos	120	15	15	5	5	2	10	10	182
Makueni	120	15	15	5	5	2	10	10	182
T/Nithi	120	15	15	5	5	2	10	10	182
(10 phase I)	1200	-	-	-	-	-	-	-	-
TOTAL	1920	90	90	30	30	12	60	60	2292

TABLE 3.2.4: SUMMARY COSTS (KSHS '000)

Total	Vaccine	Trypanocidal & Clinical drugs	Equipment	Staff	Transport	Surveil lance	Training + HQ
E/Marakwet	1,155	1,500	182	228	1,012	-	
W/Pokot	975	1,500	182	228	1,012	-	
Kitui	1,905	1,700	182	228	1,012		
Machakos	2,475	1,700	182	228	1,012		
Makueni	1,425	1,500	182	228	1,012		
T/Nithi	900	1,500	182	228	1,012		
Rehabilitation of 10 districts	-		1,200	-	8,000	1,236	1,500
TOTAL	8,835	9,400	9,400	3,640	14,072	1,236	1,500

Grand Total 40,975

NB: Two campaigns will be carried out in these districts, and the cost will therefore be the double of the amount mentioned.

A total of KShs 81,950,000 will be required over the 18-month period.

Implementation: All vaccinations and treatment will be done by the DVS.

Category I - 10 Districts

1st vaccination campaign - April - June 1993. (IDA)

2nd vaccination campaign - April - June 1994.

Category II - 6 Districts

1st campaign - July - October 1993.

2nd campaign - July - October 1994.

3.2.2. ANIMAL HEALTH (CATEGORY I) 2nd CAMPAIGN

The first campaign funded by World Bank is expected to be implemented in the 10 districts between april and June 1993. A second campaign is scheduled for April - June 1994.

Clinical services and treatment of Trypanosomiasis will continue through the project period.

It is for this second campaign that donor funds are being sought. The operations and costs are similar to the first campaign. Costs may, however, vary due to fluctuations in currency rates.

The Department of Veterinary Services will initiate the second emergency vaccination programs to control the most common diseases namely:- Contagious Bovine Pleuropneumonia CBPP, Rinderpest, Lumpy Skin Disease and also provide drugs for control and treatment of trypanosomiasis. Contagious Caprine pleuropneumonia (CCPP) is the most prevalent disease in the district and its control by vaccination will be intensified.

A small package containing clinical drugs for treatment of animals that fall sick will be required.

For implementing this program, the Director of Veterinary Services will require support in the procurement of vaccines, vaccination equipment, fuel and field allowances for the staff. The GoK contribution will be staff and salaries for the personnel, camping equipment, cold chain and the vehicles to be used in the campaign as well as being responsible for the overall implementations of the program. Financial contribution to the District

Veterinary Services will be made in the normal budgetary allocations for the second half of the year.

3.2.3 **VACCINES**

(CBPP rinderpest LSD CCPP)

All vaccines are locally available from the Kenya Veterinary Vaccine Production Institute. A total of Kshs.15,100,000 will be required for this item.

TRANSPORT AND EQUIPMENT FOR VACCINATION

Fuel and Vehicle Maintenance

Due to the poor infrastructure, maintenance costs of the vehicles are very high. Tyre tubes, other spares and accessories will require Kshs.200,000 per district. Fuel for each vehicle at an average of 50 litres per day for 60 working days will require Kshs.204,000.00.

Kerosene for running of the refrigerators and sterilisers will be required i.e. 200 litres per team - Kshs 10,000.00

Vaccination Equipment (Consumables)

Syringes both 50ml and 10ml PP, spare barrels, needles (G14 x 1/2, G14 x 1/4) cotton wool and lubricants Kshs.100,000 will be sufficient.

Staff Costs:

Each of the 10 districts will be expected to work with 4 teams over a 60 days campaign period.

Each Team will be composed of:-

1 Veterinary Officer	- 200 x 60	= 12,000
4 Vaccinators	- 4 x 150 x 60	= 36,000
1 Driver	- 150 x 60	= 9,000
		57,000
4 teams		= 228,000

Trypanocidals:

Each district will require:-

1. Homidium - 2,000 tons
2. Berenil - 2,000 sachets
3. Samorin - 1,000 grams
4. T/Sulphate - 2,000 sachets.

Clinical Drugs:

For treating individual animals that may fall sick, a basic kit containing the underlisted drugs would suffice:-

Oxytetracycline, Penstrep, Imizol, Catasol, Wound Spray, Multivitamin, Fruaxol.

Consumables e.g. disposables syringes and needles, cotton wool and disinfectants are necessary.

REVENUE:

All vaccines are given free of charge in accordance with the Animal Disease Act. No revenue will therefore accrue from the vaccinations.

TRYPANOCIDALS: are sold to pastoralists. The current price is Kshs.2,200.00 per 100 tablet tin of the Homidiums, Kshs.290.00 per gram of Samorin and Kshs.122.00 per sachet of Trypacide.

Since the people have lost large portion of their herds and are currently on famine relief, they are not in a position to pay.

TABLE 3.2.5: ANIMAL HEALTH REQUIREMENTS PER DISTRICT FOR 1994

COST IN KSHS '000

DISTRICT	LIVESTOCK (000)			C.C.P.P.			RINDERPEST			C.C.P.P.			L.S.D			SUB-TOTAL			TRYPANOCIDALS & CLINICAL DRUGS						TOTAL COSTS
	SHOATS	CATTLE	CAMELS	VACCINES	EQUIP. TRANSP.	STAFF COST	VACCINES	EQUIP. TRANSP.	STAFF COST	VACCINES	EQUIP. TRANSP	STAFF COST	VACCINES	EQUIP. TRANSP	STAFF COST	VACCINES	EQUIP. TRANSP	STAFF COST	HOMIDIUM (TINS)	BERENIL (SAT.)	SAMORIN GRAMS	TRYPACIDE SULPHATE (SACHETS)	CLINICAL DRUGS	SUB-TOTAL	
MANDERA	250	70	40	140	504	228	210	-	-	100	200	100	175	-	250	625	704	578	4400	800	300	200	300	6000	7907
MARSABIT	400	250	50	500	504	228	750	-	-	200	250	150	625	-	250	2075	754	628	4400	800	300	200	500	6200	9657
WAJIR	400	160	50	320	504	228	480	-	-	200	250	150	400	-	250	1400	754	628	4400	800	300	200	400	6100	8882
TURKANA	250	100	30	200	504	228	300	-	-	120	250	150	250	-	250	870	754	628	4400	800	300	150	300	5950	8202
GARISSA	400	280	80	540	504	228	840	-	-	200	200	150	700	-	250	2280	704	628	4400	800	300	300	500	6300	9912
SAMBURU	300	120	30	240	504	228	360	-	-	150	200	150	300	-	150	1050	704	528	4400	800	300	150	300	6300	8232
T/RIVER	400	180	30	360	504	228	540	-	-	200	250	150	450	-	150	1550	754	528	4400	800	300	150	400	5950	8882
LAIKIPIA	100	300	5	-	504	-	900	100	150	50	100	100	750	-	150	1700	400	400	4400	800	300	50	500	6050	8550
ISIOLO	300	120	25	240	504	228	360	-	-	150	150	100	300	-	150	1050	654	478	4400	800	300	100	300	5900	8082
BARINGO	300	180	5	360	504	228	540	-	-	150	100	100	450	-	150	1500	604	478	4400	800	300	50	400	5950	8532
TOTALS	3100	1760	345	2900	5280	2052	5280	100	150	1520	1950	1300	4400	-	2000	14100	6786	5502	44000	8000	3000	1550	3900	60450	86838

Range Management/Environment: The Range Management/Environment component involves the preservation of rangeland resource and other environment support activities in ASAL areas. The main components of the range management/environment strategy are:

Water Point Protection: This activity entails protection of selected temporary surface water dams/pans. An average area of one hectare would be fenced at six (6) selected water pans/dams in a number of ASAL district. Fencing would prevent or limit livestock access and thus minimise the process of silting up of the pans/dams. Water draw off facilities (troughs, piping, etc.) would be provided for water use outside the protected dams/pans.

Grass Seed Bulking Plots: Ten (10) degraded sites would be selected for establishing grass seed bulking and propagation plots in a number of ASAL district. Approximately one hectare would be fenced and sown with indigenous perennial grass species such as Enteropogon Sp Sporobolus Sp Cenchrus sp. The fenced plot would be located on the windward site of the open graded area.

Mini-spate Diversion: Mini-spate diversions would be constructed in selected sites in each ASAL district to help increase rangeland productivity and fodder for livestock. These fodder plots would provide alternative source of feed for livestock thus relieving pressure on range resource. Mini-spate diversion technology has successfully been tried in Turkana District and replication is feasible in other similar ASAL districts.

Support to Livestock Extension: In order to make livestock extension staff more mobile, two 4WD vehicles in each ASAL district would be rehabilitated and operating costs provided.

Revegetation and Woodlots: In ASAL districts, communities would be assisted to regenerate trees and shrubs through planting of fast growing trees and shrubs in degraded areas surrounding towns and water points. In consultation with the community and under the guidance of District Environment Officer, three (3) water points and one town community from a number of ASAL district would be selected to have areas fenced and allowed to naturally regenerate. Three (3) town communities per district would also be selected for support to fence areas close to towns for the establishment of woodlots.

Environmental Education: Training Seminars/Workshops in environmental issues for government officers and community leaders in 16 ASAL districts would be held.

Each seminar lasting two days would be conducted by the National Environment Secretariat and the District Environment Officers. Training of participants in Participatory Rural Appraisal (PRA) methodologies would be encouraged.

TABLE 3.2.6: RANGE MANAGEMENT/ENVIRONMENT INTERVENTIONS FOR DROUGHT RECOVERY

INTERVENTION	UNIT COST (KSHS)	NO. OF UNITS	TOTAL COST (KSHS)
1. Water Points Protection (1 ha each)		36	
- Fencing materials	32,240		
- Hand pump, piping water troughs	28,000		
- Transportation	10,000		
- Labour (200 man days)	10,000		
	80,240		2,900,000
2. Establishment of grass seeds bulking plots (1 ha each)		60	
- 13 rolls of wire 160m	8,840		
- 204 fencing posts (2.3m long)	20,400		
- Nails, cement	3,000		
- Labour for fencing (200m days)	10,000		
- Transportation	6,000		
- Chemicals and grass seed (300kg)	1,000		3,000,000
- Grass seeding and revegetation (6700ha)	49,240		5,200,000
			8,200,000
3. Mini-spate diversion/irrigation (60 ha each)		12	
- Tools and equipment (cement, shovels)	300,000		
- Labour (3,800 man days)	1,300,000		
- Consultancy service (local) and supervision	300,000		
	1,900,000		22,800,000
4. Revegetation around water points and woodlots		16	
- Water supply	25,000		
- Nursery/woodlot fencing material	220,000		
- Transportation	40,000		
- Labour for fencing and seedling production (3800 man days)	95,000		
	380,000		6,840,000

Table 3.2.6 (Cont'd)

INTERVENTION	UNIT COST (KSHS)	NO. OF UNITS	TOTAL COST (KSHS)
5. Enclosures and protected areas (100 ha)		6	
- 100 rolls of wire	68,000		
- 1320 fencing posts	132,000		
- Nails and cement	20,000		
- Transportation	40,000		
- labour (1500 man days)	75,000		
	335,000		2,010,000
6. Environment Education			
- Workshops for community leaders and District Staff	70,000	32	2,200,000
- Training of district Staff in Participating Rural Appraisal	200,000	16	3,200,000
7. Support to livestock extension			
- Rehabilitation of 4WD vehicles	350,000	12	
- Operational costs	825,000		
	1,175,000		7,000,000
T O T A L			55,150,000

NB: The World Bank has provided about KShs 30 million for support to the Range Management/Environmental Interventions in Turkana, Marsabit, Mandera and Tana River districts. Financial support estimated at KShs 55.15 million for similar interventions in the remaining ASAL districts of Wajir, Garissa, Isiolo, Samburu, Laikipia, West Pokot and Baringo is sought from other donors/NGOs who are already involved in the development of ASAL areas. Except mini-spate diversion/irrigation interventions which may take longer than two years to implement, the rest of the interventions are implementable within the 24 months period of the emergency Drought Recovery Programme.

Interventions which involve control over access to water and range resources will only work with high levels of community involvement. Communities must be mobilized and involved at all stages of the environmental projects - project design, site selection, implementation, monitoring and evaluation. Technical inputs in project implementation, design and training will be provided by district and sub-district officers of Ministry of Agriculture, Livestock Development and Marketing (MALDM), the National Environment Secretariat, Ministry of Environment and Natural Resources, and the District Environment Officers. Final approval of the projects will be given by the DDC and DFRC.

3.3 INFRASTRUCTURE

3.3.1 PROJECT OBJECTIVE

Kenya's present road network comprises about 63,000 Km of classified roads with a density of about 11.2 Km of roads per 100 sq.km area. Of this, about 86% are earth or gravel roads. The density varies considerably in different parts of the country. The 16 drought affected districts have only 5.6 Km of roads per 100 sq.km (over 91% are gravel and earth roads). Due to financial constraints, road maintenance operations have been limited and most earth/gravel roads become inaccessible during wet conditions. The project therefore proposes to rehabilitate selected roads upgrading them to gravel standard and regravelling others in order to make them motorable at all times. The component will also propose to build up the capacity of the districts to restore their road maintenance capacity.

3.3.2 BASIS OF PROPOSAL

During the last few years, various factors have accelerated the deterioration process of earth and gravel roads in the drought affected areas. The existing capacities at the districts have been unable to cope with the increasing volume of road maintenance. As a consequence, most earth and gravel roads (which constitutes about 91% of the network) are inaccessible during rainy season, isolating most districts from the rest of the country. Field visits have confirmed that over 70% of the classified roads in the arid districts are in need of repairs and rehabilitation. In response to the specific requests made to selected districts, the various District works Officers submitted a list of roads and other needs that had been identified as requiring immediate attention.

3.3.3 INSTITUTIONAL ASPECTS

MOPW & H has been responsible for the construction and maintenance of all classified roads in the country through their District Works Officers (DWOs) and the District Development Committees (DDCs). Owing to financial constraints, GOK has relied upon external donors for major rehabilitation works which have been limited to high potential areas only. Various donors; WB, CIDA, SIDA, KFW,ADB, EEC, DANIDA, NETHERLANDS, USAID etc. - are currently funding the rehabilitation of both bitumen and gravel roads, but in the arid areas no road development work of any significance is in progress nor in the pipeline.

Currently, budget allocations for road maintenance have been far from adequate and covers as per MOPW & H estimates, only 14% of the benchmark requirements for the most essential road maintenance activities - including labour. The low level of budget allocation and their increasing overheads have restricted the optimal maintenance of the road network (an

average of KShs 10,000 per km per annum of all classified roads of which over 60% is utilized for District and HQ administration). This has resulted in the need for heavy investments periodically for rehabilitation works. Maintenance equipment at district level have been depleted owing to inadequate funds for repairs. Hence with the limited operating costs that does become available, the road maintenance units may not have the necessary compliment of equipment to carry out any significant road maintenance work to the required standards.

3.3.4 **PROJECT COMPONENTS**

The infrastructure component of the proposed project would fund limited critical road rehabilitation of earth and gravel roads in the 13 arid and semi-arid districts of Baringo, Garissa, Isiolo, Kitui, Laikipia, Lamu, Machakos, Makueni, Samburu, Tana River, Tharaka/Nithi, Wajir and West Pokot to facilitate recovery from the effects of the recent drought. The main focus would be on (i) restoring access from the districts to high potential areas of the country by improving marketing routes for trucking for the inflow and outflow of goods and services, (ii) selected district roads connecting major population centres, for transport of food, farm inputs and other services, (iii) roads providing easier access to better range lands with a hope of reducing pressures on poor and marginal range condition - linkage with the water component of the project would be established.

To assist in restoring road maintenance capacity at the district level, the project will include the rehabilitation of selected equipment, purchase of spare parts including tyres and tubes. This would reduce pressures on the already low level of funding and could result in a larger proportion of the allocation being utilized for the operations of the road maintenance equipment. Owing to long distances, the road maintenance units have to travel, provision has been made for the purchase of basic camping materials so that travel time and costs could be reduced to a minimum.

The project does not call for the construction of prime new roads and neither any major realignment would be necessary. However, new gravel pits would have to be established, and where eroded condition of the existing roads call for diversion, mitigatory actions will be taken to prevent further erosion in the abandoned portions, to restore the site in the long run. In collaboration with the water resources component, the gravel pits would be restored to water-pans or reservoirs. Where road sections have to be raised, the sides would be planted with grass to prevent erosion. Adequate side-ditches and cut-off drains would be constructed with scour-checks where necessary. Provisions for drainage structures has also been made to restore natural water courses.

Table 3.3.1 shows the list of selected road projects as submitted by the respective District Works Officers. The proposed projects total 1520.2 kilometres. The estimated cost for the rehabilitation of these projects is KShs 934,877,000. These are existing classified roads under the jurisdiction of the Ministry of Public Works and Housing and it is only rehabilitation-periodic maintenance works that are proposed.

The balance of funds from the initial estimate of the infrastructure component in the US $ 85 million Drought Recovery Programme Package was US $ 11.5 million. This is about KShs 414.0 million (at the exchange rate of US$ 1 = kshs.36.00). Therefore the estimated cost for the rehabilitation of the proposed projects is well above the available funds. In order to cut down on the estimated cost, the proposed projects have been reduced.

This reduction of projects has been done on the basis of district priorities, continuity of all-weather network, and also on the importance of the individual roads in each district. Due to the reduced length of roads that will be rehabilitated with the available funds, it has not been possible to tie any priority to any one or group of districts.

3.3.5 COVERAGE AND DONOR INVOLVEMENT

Most of the districts' headquarters are well served by all-weather bitumen and gravel roads.

The following district headquarters are connected by bitumen roads to the major centres of the country:

i) Nanyuki-Laikipia District
ii) Kabarnet-Baringo District
iii) Isiolo-Isiolo District
iv) Machakos-Machakos District
v) Chuka-Tharaka/Nithi
vi) Garissa-Garissa District
vii) Kitui-Kitui District
viii) Kapenguria-West Pokot District

For three districts, plans are under way to construct bitumen roads to the district headquarters. These are:

i) Maralal-Samburu District:

A feasibility study under the funding of the African Development Bank is ongoing for the Rumuruti-Maralal Road (C77).

ii) Hola-Tana River District:

The road from Garissa to Hola is currently being

improved to bitumen standard, albeit financial constraints, under direct labour. The works started in November 1991. The section from Hola to Garsen is currently under design to bitumen standard. For the section from Garsen to Malindi, design to bitumen standard is complete, and tender documents have been forwarded to OECF (Japan) for approval, and award of contract is expected in June 1993.

iii) Makueni-Boma-Makueni District:

A feasibility report on the section of the road from Katumani to Makueni Boma has already been prepared. A donor is being sought for this project.

For two districts, Wajir and Lamu, no immediate plans exist for the improvement to bitumen standard of the roads leading to the district headquarter. These roads are being improved and maintained to all-weather gravel standard. These are:

i) Wajir-Wajir District:

B9 is to gravel standard. Rehabilitation of some sections proposed under Drought Recovery Programme.

ii) Lamu-Lamu District:

Part of C112 is to gravel standard.

3.3.6 **COST ESTIMATES**

Table 3.3.2 shows the recommended roads projects and the anticipated costs. A total of 647 kilometres of roads is recommended for rehabilitation at a total cost of KShs 427,150,000. The kilometres allocated to each district range from 39 kilometres in Machakos to 60 kilometres in Wajir.

Table 3.3.3 below shows the various sub-components and the respective costs proposed for the infrastructure component. A comparison is also given with respect to the initial estimates of the Drought Recovery Programme Package.

3.3.7 **IMPLEMENTATION FRAMEWORK**

Due to the diverse distribution of the roads and the short lengths, it is proposed that they be locally tendered and supervised by the District Works Officers. Projects in each district should be implemented within a period not exceeding two years. In order for the District Works Officers to effectively supervise the projects, it is recommended that 2 per cent of the total cost i.e. KShs 9,000,000 be allocated for supervision. If carried out through a Consultant(s), the cost would be 6 per cent of the total cost of projects costs, hence a great saving.

1. **Road Maintenance Sustainability:** Maintenance of roads in the ASAL districts is itself unique due to the prevailing climatic conditions. One of the main problem is the lack of moisture leading to minimal cohesion of road material for most of the year. During the dry season, the wearing surface material becomes very loose and is swept to the road side drains. When it rains, most of this material is carried away by the storm water. This would therefore call for the sealing of gravel roads after construction. However, due to costs involved in sealing, it would be appropriate to identify the particular needs for roads maintenance in the ASAL districts.

The Ministry of Public Works and Housing is currently addressing this subject, although not specific for ASAL, through pilot project, Roads 2000, which is being implemented in South Nyanza and Kericho districts and completion date is June 1993. It is therefore very opportune to recommend that a similar pilot project be initiated in one or several of the ASAL districts. This would involve identification of characteristics of roads to be maintained using:

i) Mechanized graders
ii) Towed grader/tractor combination; and
iii) Manual labour.

It is therefore proposed to allocate about KShs 10,000,000 for such a project.

2. **Rehabilitation of Equipment:** In order to enhance maintenance, it is proposed to rehabilitate various equipment in the project districts. These equipment include graders, shovels, dozers, water and fuel bowsers, tractor trailer combinations, supervisory vehicles and tippers. In addition, procurement of fast moving spare parts and tyres and tubes would be done.

An allocation of about KShs 2,500,000 per district would be the optimum, hence a total allocation of KShs 32,500,000.

TABLE 3.3.1: PROPOSED ROAD REHABILITATION/REGRAVELLING PROJECTS

DISTRICT	ROAD CLASS	ROAD NAME	TYPE OF REHABILITATION	LENGTH (Km)	COST KSHS '000
1. Samburu	C77 C78	Poro-Mar Korante	Gravelling Bridge Drift	117	76,050
2. Laikipia	D464	Nanyuki-Doldol	Gravelling	68.9	34,450
	E839	Hethi-Lolgai	Gravelling	14.9	7,450
	E808	Timau-E839	Gravelling	12.0	6,000
	E469	Lolgai-Adamuro	Gravelling	32	16,000
	E466	Doldol-Tula	Gravelling	28	16,250
				160.3	80,150
3. Baringo	D364	Kapkelewa-Cheploch	Drainage		342
	E332	Kipsaraman-Kinyach	Grading	10	400 35,000
	E333	Barwesa-Kolowa	Gravelling	70	6,000
	B4	Maron-Kolowa	Re-alignment	10	
				90	41,742
4. Tana River	B8	Hola-Garsen	Gravelling	100	65,000
	E869	Hola-Tana River	Gravelling	10	6,500
	E874	Hola-Wenje	Gravelling	10	6,500
				120	78,000
5. Lamu	D565	Mkunumbi-Hongwe	Regravelling	2.3	1,495
	D565	Mapenya-Tewe	Regravelling	10.3	6,630
	D565	Mapenya-Bomani	Regravelling	9.2	5,980
	D565	Mpeketoni-Lake Kenyatta	Regravelling	2.6	1,690
	E865	Dar es S.-Bodhei	Gravelling	121.6	79,040
				145.9	94,835
6. Wajir	C80	Wajir-Ratsul	Regravelling	25	16,250
	E851	Buna-Ajawa-Gural	Construction & Gravelling	64	64,000
					80,250
7. Isiolo	E822	Merti-Korbesa	Regravelling	22	14,300
	E855	Malkadaka-Elsa Boru	Regravelling	78	50,700
				100	65,000

TABLE 3.3.1 (Cont'd)

DISTRICT	ROAD CLASS	ROAD NAME	TYPE OF REHABILITATION	LENGTH (Km)	COST KSHS '000
8. Machakos	D520	Tala-Matungulu G.S.	Regravelling	10	6,500
	C100	Kithimani-Mwala	Regravelling	25	16,250
	E626	A2-Ndela	Regravelling	13	8,450
	C98	Kangundo-Kivani	Regravelling	11	7,150
	D519	Kamuthanga-Lukenya	Regravelling	15	9,750
	D519	C97-E484	Regravelling	16	10,400
	D512	Matuu-Katangi	Regravelling	10	6,500
				100	65,000
9. Tharaka/ Nithi	C92	Tunyai-Chiakariga	Regravelling	14	9,100
	D472	Junction B6-Chuka	Regravelling	26	16,900
	D473	Junction B6 (Muthambi)-Junction C92	Regravelling	30	19,500
	D471	Junction B6 (Kagumo)-Junction C92	Regravelling	30	19,500
				100	65,000
10. Garissa	B9	Isi Mado-Habasein	Regravelling	52	33,800
	C81	Bilifu-Madogashi	Regravelling	32	20,800
	E864	Galma Galla Ijara River	Regravelling	100	65,000
				90	119,600
11. Kitui	C94	Kabati-Mbondoni	Regravelling	100	37,000
	E745	Mutuang'ombe-Mutito	Regravelling	10	27,300
				10	
				120	65,000
12. West Pokot	D344	Matambur-Makutano	Regravelling	15	7,500
	D344	Matambur-Kongolai	Regravelling	16	8,000
	E364	Konyao-Amakurict	Regravelling	69	31,050
	B4	Marich-Lomut	Regravelling	24	12,000
	B4	Paskiro	Bridge		1,000
	B4	Lomut	Bridge	20	12,000
	B4	Lomut-Kesogon	Gravelling		
				144	71,750
13. Makueni	D513	Tawa-Nduluku	Regravelling	16.0	10,400
	C101	Nduluku-Kilala	Regravelling	34.0	22,100
			Bridge at Kaiti near Kilala		
				50	32,500

TABLE 3.3.2: RECOMMENDED ROAD PROJECTS

DISTRICT	ROAD CLASS & NAME	TYPE OF REHABILITATION WORKS	LENGTH (KM)	COST ESTIMATED KSHS '000
Samburu	C77 Poro-Merti	Gravelling	45.0	29,250
Laikipia	D464 Nanyuki-Doldol E839 Hethi-Lolgai E808 Timau-E839	Gravelling (Part) Gravelling Gravelling	20.0 15.0 12.0	13,000 9,750 7,800
			47.0	30,550*
Baringo	B4 Maron-Kolowa E333 Barwesa-Kinyach	Regravelling/ Re-alignment Gravelling	10.0 45.0	6,500 29,250
			55.0	35,750*
Tana River	B8 Hola-Garsen	Gravelling (Part)	50.0	32,500*
Lamu	D565 Mkumbi-Hongwe E865 Bodhei-Milimani	Gravelling Gravelling	23.0 20.0	14,950 13,000
			43.0	27,950*
Wajir	C80 Wajir-Ratsul E851 Buna-Ajawa	Gravelling (Part) Construction/Gravelling	25.0 35.0	16,250 35,000
			60.0	51,250*

TABLE 3.3.2 (Cont'd)

DISTRICT	ROAD CLASS & NAME	TYPE OF REHABILITATION WORKS	LENGTH (KM)	COST ESTIMATED KSHS '000
Isiolo	E822 Merti-Korbesa E855 Malkadaka-Galana Gaha River	Regravelling Regravelling	22.0 35.0	14,300 22,750
			57.0	37,050*
Machakos	D250 Tala-Matungulu .GS. E626 Ndela-A2 D519 C97-E484	Regravelling Regravelling Regravelling	10.0 13.0 16.0	6,500 8,450 10,400
			39.0	25,350*
Tharaka/ Nithi	C92 Tunyai-Chiakariga D472 Junction B6-Chuka	Regravelling Regravelling	14.0 26.0	9,100 16,900
			40.0	26,000*
Garissa	B9 Isi Mado-Habasweni	Regravelling	52.0	33,800*
Kitui	C94 Kabatini-Mbondoni	Regravelling	58.0	37,700*
West Pokot	D344 Matambur-Makutano D344 Matambur-Kongolai B4 Lomur-Kesogon	Regravelling Regravelling Regravelling	15.0 16.0 20.0	7,500 8,000 12,000
			51.0	27,500*
Makueni	D513 Tawa-Nduluku C101 Nduluku-Kilala	Regravelling Regravelling/ Bridge at Kaiti near Kilala	16.0 34.0	10,400 22,100
			50	32,500*

* Total for every district

TABLE 3.3.3: COST ESTIMATES OF INFRASTRUCTURE COMPONENT

(KSHS 000)

	TOTAL AS PER INITIAL	WORLD BANK COMPONENT	BALANCE	CURRENT PROPOSAL	DEFICIT
A. Vehicles and Equipment	28,888	16,200	12,688	32,500	
B. Civil Works	584,600	235,800	348,800	427,150	
C. Technical Assistance					
i) Supervision/ Project Eng.	43,476			9,000	
ii) Consul- tancies/ Studies	3,060			10,000	
TOTAL	46,536	18,000	29,536	19,000	
D. Recurrent Costs	1,000	(Inc.)	Nil	-	
TOTAL KSHS '000	661,025	270,000	391,204	478,650	
(US $ '000)	18,995	7,500	11,495	13,296	

3.4 HEALTH SECTOR

3.4.1 PROJECT OBJECTIVES

Drought in agriculture or pastoral based economy is a natural disaster leading to inadequate and often total lack of food and water resulting in starvation and hunger, a famine situation. When famine strikes nutritional status of the affected population deteriorates unless corrective measures are quickly instituted. Malnourished people become susceptible to infective and other nutritional illnesses whose results put extra strain on the curative services in the districts concerned. The main objective of the project is to deal with main illnesses in the affected districts.

While it is of highest priority to enable the drought affected population access to basic needs necessary for survival i.e. food, water and shelter, it is important to make curative services more readily available, accessible and acceptable. In this proposal the MOH in addition to providing curative care, will focus on preventive and promotive aspect of health. Much of this promotive aspect of health is already being provided by other ministries. The Ministry makes no attempt to duplicate these activities.

3.4.2 BASIS OF PROPOSAL

A Drought Recovery Programme, needs to have a method of monitoring and evaluating the programme. The Ministry of Health (MOH) will work closely with other ministries and agencies in developing an information system building on what already exists on the ground. This proposal therefore includes improvement of epidemiology units both at the district level and at the headquarters.

Contained herein is an action plan for 11 out of the 15 districts which have been adversely affected by the drought. The three districts, Mandera, Turkana and Marsabit have been funded by the World Bank which has also partly funded Tana River district. However, some aspects of the drought recovery program for Tana River district have been included in this proposal as its World Bank component was inadequate. This action plan will be implemented over a period of 24 months.

Category I	Category II
Samburu	Makueni
Garissa	Laikipia
Wajir	Tharaka Nithi
Isiolo	Machakos
Kitui	West Pokot
Tana River	Baringo

3.4.3 **STRATEGY**

i) Renovate and expand some of the health facilities to increase capacity and accessibility.

ii) Replenish depleted drugs and other medical supplies and improve on the availability of essential medical supplies.

iii) Rehabilitate existing equipments and purchase of some essential equipments for the health facilities to enhance their capabilities and capacities.

iv) Rehabilitate vehicles and purchase of new vehicles and motorcycles to enhance transport capabilities of health facilities.

v) Reduce communicable diseases through an improvement of sanitation and control of vectors in the facilities, markets and communities.

vi) Support and strengthen the Primary Health Care activities in the district through:

- Provision of health education to communities.
- Increase and improvement on immunizations.
- Improvement of nutritional status of communities through nutritional education and facilitation of supplementary feeding of the malnourished. Community based growth monitoring will be institutionalized.
- support and strengthening of the treatment and control of diarrhoeal diseases.
- Support and strengthening of the MCH/FP activities.
- Support and strengthening the AIDS control through increased awareness and promotion of home based care etc., through health education program.
- Support and strengthening of the data collection (this includes growth monitoring) and analysis.

For the above to be realized, each district has come up with a district health sector drought recovery action plan. The plans are district specific and were drawn up by the district Health Management Teams in conjunctions with NGOs who are interested or are active in the health sector.

The plans gave the details of what is to be done, when, where, by who and at what cost.

3.4.4 **IMPLEMENTATION ARRANGEMENT**

1. **Central Level:** The drought recovery steering committee at the Ministry of Health HQs will oversee the performance of the health sector part of the program. A senior Ministry representative would be the Ministry's representative to assist the Programme Management Unit (PMU) in the monitoring of the programme, project implementation, linkage with

participating institutions and formulation of policy options. All procurements of goods and services will be implemented by the PMU.

2. **District level:** The health sector part of the program will be implemented primarily by the District Health Management Team (DHMT) headed by the District Medical Officer in liaison with NGOs active in the district under the District Steering Group (DSG).

3.4.5 PROJECT COMPONENTS

1. **Improvement of Physical Facilities:** The health facilities in the drought affected districts need some improvement in order to be able to give good health services to the people. The identified needs include renovation of existing buildings which include the wards, kitchens, mortuaries and staff houses. The required renovations and repairs once carried out will improve the quality of health services provided to the people and will also meet the increased demand for the services.

These improvements are required both at the hospitals and in the rural health facilities (health centers and dispensaries). The tables below summarises requirements at various facilities and the estimated costs of carrying out the improvements. It is important to note that these requests are to supplement the GOK contributions in the districts in the fiscal year 1993/94 as reflected in the proposal for the 1993/94 forward budget. Due to tuberculosis endemicity and the likelihood of an increase in the population affected as a result of poor nutrition and subsequent reduction of resistance to disease, an increment of TB manyattas and putting up new ones where they do not exist[1] has been included in this proposal. Each structure can accommodate four patients. The budget for manyattas is indicated under the section "physical facilities".

[1]TB manyattas are small villages where patients are accommodated while receiving anti-TB treatment, usually located near a hospital or health centre. Only ambulatory patients are admitted into such centers; the more sick patients are treated under closer observation in isolation wards in hospitals.

TABLE 3.4.1:

IMPROVEMENT OF FACILITIES - SUMMARY OF GROUP (I) DISTRICTS

	DISTRICTS	ESTIMATED COST IN KSHS x 1000
1.	Samburu District	760
2.	Garissa District	3920
3.	Wajir District	910
4.	Isiolo District	592
5.	Kitui District	1655
	TOTAL KSHS x1000	7837

TABLE 3.4.2:

IMPROVEMENT OF FACILITIES - SUMMARY OF GROUP II DISTRICTS

DISTRICT	ESTIMATED COST IN KSHS x1000
Makueni district	2300
Laikipia District	1400
Tharaka Nithi District	770
Machakos district	3850
West Pokot District	1440
Baringo District	1860
TOTAL KSHS. x 1000	11620

Group I Districts	=	7,837,000
Group II Districts	=	11,620,000
Total Group I & II	=	19,457,000

2. **Transport Needs:** One of the identified constraints in the health sector in the drought affected districts is the inadequacy of transport. While all the hospitals have vehicles, the majority of the vehicles would need major rehabilitation to bring them back to good form so that they can offer good services to the hospitals. The hospitals are also in need of good ambulances and hence the request for the purchase of new vehicles. If the situation of transport is improved through the rehabilitation of existing vehicles and purchase of a few new vehicles and motor cycles, the facilities would be well placed to serve the communities better as health personnel can be able to move into rural health facilities to carry out supervision work and also help in the distribution of medical supplies, vaccines and family planning commodities to these

facilities. An improvement of transport in general would assist the facilities to improve the health services to the people and meet the challenge of increased demand. The issue of sustainability would not be a main problem in the future as the facilities are expected to raise funds for their services through the cost sharing strategy.

Transport needs can be categorised into two groups.

i) Rehabilitation and repair of existing vehicles and
ii) The purchase of new vehicles to replace old ones or for new health facilities which have been put up but have had no vehicles purchased for them due to lack of funds.

The 11 districts included in this proposal can be divided into two groups I & II as has already been mentioned above. Group I includes 5 districts, which have been severely affected by the drought and whose malnutrition rate is higher than that of group B and hence should be given preference.

TABLE 3.4.3: IMPROVEMENT OF TRANSPORT - GROUP "I" DISTRICTS

DISTRICT	REHABILITATION AND REPAIRS		NEW VEHICLES			
	NO. OF VEHICLES	COST IN KSHS x1000	NO. OF VEHICLES	COST IN KSHS x1000	M/COST	TOTAL COST KSHS x1000
Samburu	3	120	1	1000	112	1232
Garissa	3	370	1	1000	137	1507
Wajir	2	300	3	3000	300	3600
Isiolo	5	590	1	1600	219	2409
Kitui	11	650	2	1850	250	2750
TOTAL	24	2030	8	8450	1018	11498

TABLE 3.4.4 IMPROVEMENT OF TRANSPORT - GROUP "II" DISTRICTS

DISTRICT	REHABILITATION AND REPAIRS		NEW VEHICLES			
	NO. OF VEHICLES	COST KSHS x1000	NO. OF VEHICLES	COST KSHS x1000	M/COST	TOTAL COST KSHS x1000
Makueni	3	240	4	4000	424	4,664
Laikipia	3	130	1	1000	113	1,243
Tharaka Nithi	3	360	3	2850	321	3,531
Machakos	4	330	7	6250	658	7,238
West Pokot	2	300	2	1850	215	2,365
Baringo	5	530	4	3850	438	4,818
Tana River*			2	2000		2,000
TOTAL	20	1890	21	21800	2169	25,859

TOTAL FOR THE 12 DISTRICTS IS KSHS 37,357,000

* Not belonging to the group but needs to be assisted to supplement what has already been provided for by the World Bank loan.

3. **Equipment:**

The assistance needed here is mainly to repair/rehabilitate existing medical and other equipment which are available but are defective due to lack of servicing. However, the facilities also need some new equipment, which would improve the health care given to the patients. Furthermore, the improvements and purchase of essential items that are in short supply, would improve the health care services, the facilities offer to the people and would also enable the facilities to meet the challenge brought about by the increased demand for health service due to the drought situation, and influx of refugees in some areas.

Equipments for the 11 districts, which have been most affected by the drought can be divided into two categories;

(i) Assistance needed to repair and service of defective equipment.
(ii) Purchase of new equipment to replace old ones, or to cater for a new need.

The districts have submitted a list of defective but serviceable and repairable equipment from their health facilities which they want repaired and serviced to bring them back into use. Rough estimates of the repairs and servicing have been given in the table below.

The list gives the equipment needed for the health facilities. This list however excludes laboratory equipment which has been requested under laboratory services in a different section of this proposal. The lists are in following the earlier classification of the districts group I & II.

GROUP I

TABLE 3.4.5: SUMMARY ON EQUIPMENT REQUIREMENT

DISTRICT	REPAIRS	PURCHASE OF NEW EQUIPMENT	TOTAL IN KSHS.x1000
SAMBURU		710	710
GARISSA		566	566
WAJIR	200	730	930
ISIOLO	150	300	450
KITUI	244	549.5	793.5
	SUB TOTAL		3449.5
MAKUENI	260	480	760
LAIKIPIA	80	1350	1430
THARAKA NITHI		2056	2056
MACHAKOS	300	1960	2260
WEST POKOT		472	472
BARINGO		1228	1228
	SUB TOTAL		8206
	GRAND TOTAL		KSHS.11,655,500

4. **Nutrition and Growth Monitoring: Purpose: (1)** To improve nutritional status of pre-school children through closer attention to growth patterns; **(2)** To produce information on nutritional status of children which will be useful for local district and national decision making relevant to nutritional needs.

The programme has utilized the growth chart to monitor the pattern of growth of each individual child. The primary focus of the programme has been on training staff in the concepts of growth monitoring and to implement the programme in facilities throughout the country. It has been recognized that facility based growth monitoring leaves out the majority of children (mostly apparently healthy children) in the community, therefore Community Based Growth Monitoring (CBGM) will be emphasized. A village health committee will oversee the implementation and analysis of nutrition and health related information.

Child Health and Nutrition Information System (CHANIS) provides adequate data for health workers, and managers. The DHMT in each of the eight districts will have responsibility for the implementation. A sub-set of the team was identified to actively participate. This include:-

- The District Medical Officer of Health (Supervisor)
- District Nutritionist
- District Public Health Nurse
- District Clinical Officer
- District Health Information Officer

Implementation is planned to take three months. Follow-up and support visits to those health facilities and districts will be done from district Hqs. and Ministry Hqs. respectively.

An evaluation seminar will be held to allow the participating districts to present their observations on the implementation.

TABLE 3.4.6: PLANNED ACTIVITIES

ACTIVITY **Growth monitoring and vitamin A deficiency control**	**BUDGET**	**REMARKS**
Production of training materials and data collection forms	Shs. 350,000	
Training of TOT's Group 1 Group 2	 Shs. 300,000 Shs. 250,000	Two workshops **Group 1** district- West pokot, Laikipia, Isiolo, Wajir, Garissa, Samburu. **Group 2** - Machakos, Makueni, Kitui, Baringo.
Support to the Implementing districts training and follow-up	Shs. 320,000 Shs.1.1 million	Fuel expenses, maintenance of vehicles, per-diem, for officers and drivers. Shs.100,000 for each district training and implementation.
Review meetings on progress in the districts.	Shs. 300,000 Shs. 250,000	Two meetings.
Vehicles 1 - four wheel drive. 100 bicycles Vitamin A capsules for 11 districts and weighing scales 500 Infant beams 150 Salter scales Seedlings for kitchen gardens.	Shs. 1,000,000 Shs. 40,000 Shs. 750,000 Shs. 5,000,000 Shs. 750,000 Shs. 175,000	Vehicles to facilitate monitoring visits to the districts. Districts with suitable climatic conditions for kitchen gardens.
Support and monitor the implementing districts.	Shs. 400,000	Monitor visits to the districts.
Evaluation	Shs. 500,000 Shs. 300,000	2 Workshops to disseminate findings, production of reports..
TOTAL	KShs.11,785,000	

The information obtained from CHANIS will be a useful indication of the nutritional status of the population in those districts. Information only on children under five is included because it is the most sensitive age group to changes in the quantity and quality of nutrients available to the family. This information is also useful to the famine early warning system and the drought management units.

Growth monitoring identifies children that may need follow up. Education of these mothers identified by the system as high risk, is usually given by nutrition field workers. Mothers recognised as needy will be assisted with extra rations from relief agencies.

5. Pharmaceutical Supplies:

The information gathered from the four districts covered by the World Bank loan, for the same programme, indicated that the districts, were still able to cope with the drugs supplied through the kit system, however, they needed the kits to be supplemented by a few but critical medicines which would enable them to meet the challenges brought about by the increased demand for health services by the drought situation.

With the Government's constant supply of drug kits to the health facilities and the provision of the below selected medicines, the health facilities should be able to cater adequately for the increased patient load due to the drought.

The DHMT's in the four districts visited agreed unanimously that they did not need any extra supplies of drug kits, but would prefer the following drugs which are in short supply, to be utilized in the RHFs and the hospitals. Hence, in addition to the normal drug supply kits, the following medicines are needed over the 18 months period of the programme. As it was not feasible to visit all the 15 drought effected district, the lessons gathered in the four district were used to estimate the requirement for the remaining 11.

Table 3.4.7: Pharmaceutical Supplies

Item	Quantity	Estimated cost Kshs. '000
1. Caps chloramphenicol	200 Tins	200
2. Tetracycline Caps	100 Tins	100
3. Ampicillin caps	100 Tins	100
4. Amoxicillin	50 Tins	50
5. Erythromycin	20 Tins	40
6. Cloxacillin	10 Tins	20
7. Lincomycin	10 Tins	20
8. Gentamicin	2000 Amps	30
9. Metronidazole	4000 Bottles	120
10. Tinidazole	800 Tabs	18
11. Nystatin cream	2000 Tabs	28
12. Viskaldix	6000 Tabs	54
13. Nifedipine	2000 Tabs	32
14. Insulin Lente	200 vials	70
15. 50% Dextrose	800 Bottles	19.2
16. Sodium Bicarbonate	100 Bottles	24
17. Pethidine	400 vials	8
18. Morphine	400 vials	8
19. Halothane	20 Bottles	20
20. Syrup Chloramphenicol	800 Bottles	64
21. Syrup Ampicillin	1600 Bottles	128
22. Syrup Co-trimoxazole	1600 Bottles	128
23. Syrup Multivite	200 Bottles	4
24. Chloroquine syrup	100 x 5 litres	50
25. Chloroquine injection	-	86.4
26. Other antimalarial		100
Sub-Total		1500

lessening the burden of looking for vegetables or spending part of their scarce resources on the purchase of the same especially during dry periods, when there are no vegetables, or they are expensive.

(iv) Supply of Essential Drugs

Most of the essential drugs are kept in some of the shops and kiosks. The communities may run into the risk of taking wrong drugs or wrong doses. There are some shop/kiosk owners who sell antibiotics behind the counters and if the communities could be made aware of the risks of this practice, the habit might stop. Instead of the communities getting drugs from the shop and kiosks it is much better for them to be trained on community drug supply.

(v) **Maternal/Child Health and Family Planning**

The Kenyan community has always taken care of the weaker members of their society, and this means that a mother who is expectant or who is sick is taken care of by the community, a child whose mother is unable to look after him/her properly and may require some kind of special attention, may be taken to a relative for the necessary care. It is in this context that TBAs and herbalists exist in the communities to assist the mothers and children and the sick ones. TBAs play an essential role in assisting mothers during pregnancy and parturition. The budget for training of TBAs include a delivery kit for each attendant; the kits will be replaced by mothers who have been assisted.

Medical personnel have always tried to give health talks or advice to mothers on family planning, ante natal care, use of health facilities, immunization and generally about all the services offered at MCH/FP clinics, but the response has not been encouraging in some areas; especially in the drought affected districts. Therefore, it is hoped that TBAs and community health workers may be more effective than the health workers because they are part of the community.

(vi) **Treatment of Endemic Diseases**

In some districts, community health workers have been trained in identifying common conditions and treating them. There is also a list of drugs which has been made available for use by the community health workers. The budget for the training of community health workers and TBAs includes a drug kit. The drugs will be sold by the community health workers and the revenue used in replenishing the kits.

(vii) **AIDS Control and Management**

AIDS control in the communities will be given special attention. Through community health workers and TBAs, lifestyles that does not favour the spread of HIV, especially abstinence and safe sex, will be encouraged. Promiscuity and cultural practises that favour the spread of HIV will be discouraged. It will be

stressed that there is no known cure for AIDS at present and therefore the only hope for survival of mankind against this dreaded disease is prevention.

There is a growing number of people with HIV/AIDS, and this is a challenging task for everyone. It is therefore important to teach the community health workers and TBAs the following:-

a. Create awareness that there is need to emphasize safe delivery and other procedures e.g. female circumcision will be discouraged.

b. To provide support and service to the patients with AIDS instead of neglecting them.

c. Home base care is very important and especially for the terminally ill patients and more so for those with Aids. Community health workers will be instrumental in supporting unfortunate families that have to care of terminally ill patients.

(viii) **Water and Sanitation**

Women and children spend a lot of time fetching water, instead of engaging in other activities, and due to difficulties in getting water, families tend to economize use of water and this may lead to poor hygiene. It is hoped that water jars may assist the women and children with the safe drinking water.

The community health workers and traditional birth attendants will be trained on how to make water jugs. The trainers will be Public Health Officers, Health Education Officers and Public Health Technicians.

Training is an important component fo the health education. It is through raising awareness of both lay workers and individuals in the community that members of the society will change their attitudes and behaviour for the better. Whereas it is understood that the Government has the responsibility for the health of its citizens it will be emphasized that ultimately maintenance of good health will depend on the individual person's behaviour and practices. Towards this end, training of 374 members of district inter-sectoral teams (facilitators), 374 divisional inter-sectoral trainers, 2200 community health workers and 2400 traditional birth attendants will be undertaken.

Hydrogen peroxide,	
Hibitane, Savlon	360
Sub-Total	1860

Total in KSh. per district is 1,860,000 hence for 11 districts this would amount to KShs 20,460,000.

6. **Non-pharmaceuticals:** A health care system cannot provide quality care without adequate supplies of non-pharmaceutical supplies eg. needles, syringes, suture material, etc. The use of antiseptics is important in preventing hospital infection while protecting health workers against diseases like Aids that they may be exposed to during the course of their work. Provision of services like immunization and family planning depends on the availability of these items.

The items, their quantities and estimated costs are given in annexes. The total cost is **Ksh 2,010,000** per district, this would amount to **KSH.24,120,000** for the 12 districts.

7. Improvement of Laboratory Diagnostic Services: Government of Kenya funding for purchase of laboratory equipment and consumable materials e.g. reagents, chemicals, etc. is inadequate as a result of increased demand. In order to improve these services in the short term, there is need to purchase equipment urgently to replace unserviceable equipment, especially in drought affected areas because laboratory investigations are increasing due to a variety of reasons.

Of the consumable materials, bacterial culture media is in high demand due to diarrhoeal diseases in the drought affected areas. Basic media e.g. P/3, DCA, MacConkey Agar and Broth are required in such district hospitals at the rate of 500gm each per month.

TABLE 3.4.8: DISTRIBUTION OF EQUIPMENT PER DISTRICT

LAB EQUIPMENTS PRICE TOTAL COST (KSHS.)	WAJIR	GARI-SSA	SAM-BURU	ISIOLO	LAIKIPIA	MACHA-KOS	KITUI	MAKUENI	BARINGO	W/POKOT	T/NITHI	TOTAL	(EQUIP. IN UNIT
Microscope 3,120,000	3+2HC	2+4HC	4+3HC	3+2HC	4+2HC	5+4HC	6+10HC	2+4HC	2+6HC	2+3HC	2+3HC	78	40,000
Centrifuge Electrical 360,000	1	2	1	0	1	2	1	1	1	1	1	12	30,000
Refrigerators 440,000	1	2	1	0	1	2	1	1	1	1	0	11	40,000
Mamesty water Distiller 660,000	1	1	1	1	1	1	1	1	1	1	1	11	60,000
Portable Autoclave 180,000	1	1	1	0	1	1	1	1	1	0	1	9	20,000
Water bath 220,000	1	1	1	1	1	1	1	1	1	1	1	11	20,000
Single pan Analy. Bal. 220,000	1	1	1	1	1	1	1	1	1	1	1	11	20,000
Colorimeter, Chemistry 352,000	1	1	1	1	1	1	1	1	1	1	1	11	32,000
Flame Photometer 1,100,000	1	1	1	1	1	1	1	1	1	1	1	11	100,000
Consumable, Reagents chemicals and glassware 783,750													
Incubator Bacteriology 319,000	1	1	1	1	1	1	1	1	1	1	1	11	29,000
Tally Counter 7,150	1	1	1	1	1	1	1	1	1	1	1	11	650
WBC counter 7,200	1	1	1	2	1	1	1	1	1	1	1	12	600
Clock Timer 3,500	1	1	1	0	1	1	1	1	1	1	1	10	350
DISTRICT TOTAL IN KShs	623.85	733.85	703.85	534.1	663.85	853.85	1063.85	663.85	743.85	603.85	583.85	7772.6	

8. Community Based Health Care Activities

TOTAL IN KSH 7,772,600

Health Education activities will be carried out in the 11 drought prone districts through training members of district inter-sectorial teams, divisional inter-sectoral trainers, community health workers and traditional birth attendants. Sensitization and mobilization of the community in the following areas will take place.

(i) EPI - Education on immunization of six immunizable diseases

(ii) Safe drinking water - Encourage the communities to have water jugs where possible.

(iii) Emphasize on keeping compounds clean and improvement of general hygiene; encouraging the community to dig and use compost pits; use of waste water in watering kitchen gardens instead of wasting, (putting into good use). This helps mothers who often have to fetch water and fire-wood from distant places in

TABLE 3.4.9. COMMUNITY BASED H. WORKERS AND TRADITIONAL BIRTH ATTENDANTS TRAINING

Training	No. of Participants	Cost per course	No. of Courses	Total in K.Shs:
District Inter-Sectoral Team Facilitators	34	264,210	11	2,906,310
Divisional Inter-sectoral trainers (TOTS)	34	264,210	11	2,906,310
Community Health workers, village health committes	25 (Phase1-3)	463,560	22	10,198,320
Traditional birth attendants	15 (Phase1-3)	495,100	24	11,882,400
Total K.Shs:				**27,893,340**

The supervision and follow-up of TBAs and CHWs will be done by the DHMTs. The budget for this purpose is included under 'training and supervision' below, and offices involved in the exercise will utilize transport already provided for under 'improvement of transport' above.

a) **Water Supply:** District hospitals receive piped water as they are located in the larger commercial centres.

The supply in some areas is irregular and during drought periods, shortages are experienced. Increased storage capacity to store water for energy when the supply is reduced or absent would ensure continuity of services in the health facilities.

In the rural health facilities the problem is even more pronounced and hence the need to provide water facilities e.g boreholes and roof catchments. These measures should improve the health care.

Bringing water to these facilities will assist in enhancing work performance and will boost the morale of the staff.

b) **Sanitation:** Sanitation coverage in the affected districts has been very low, ranging between 10 to 20%. This has been worsened by the drought, where sanitation does not feature as a priority for some people who have moved to areas of rescue which are even worse off in sanitation.

Incidences of diarrhoeal disease and gastric intestinal infections have been on the increase. This would mainly be attributed to poor sanitation. Provision of food,

water and other facilities will not solve the problems of these people without addressing sanitation.

c) **Vector Control:** Malaria has been one of the highest causes of morbidity and mortality in the drought affected districts. The major disease vectors identified in these areas are mosquitoes, sandflies, houseflies, cockroaches and rodents. The problem of vector multiplication is enhanced by poor sanitation and housing and poor environmental management. For short term measures, chemical control would be a method of choice combined with physical and environmental measures.

SANITATION

TABLE 3.4.12: ESTIMATED COSTS PER DISTRICT FOR WATER, AND VECTOR CONTROL

CATEGORY "I" DISTRICTS

1.	Samburu	Kshs 680,000
2.	Garissa	Kshs 510,000
3.	Wajir	Kshs 1,397,000
4.	Isiolo	Kshs 1,403,000
5.	Kitui	Kshs 1,490,000
SUB-TOTAL		**Kshs 5,480,000**

CATEGORY "II" DISTRICTS

1.	Laikipia	Kshs 1,220,000
2.	Tharaka-Nithi	Kshs 1,025,000
3.	Machakos	Kshs 668,000
4.	Makueni	Kshs 637,000
5.	Baringo	Kshs 1,364,000
6.	West Pokot	Kshs 914,000
SUB-TOTAL		**Kshs 5,828,000**
TOTAL		**Kshs 11,308,000**

10. **Sterile Preparation Units (SPU):** The drought affected districts are considerable distances from the central part of the country, and as a results experience a lot of difficulties in transportation of supplies. As part of cost saving, in terms of transport and direct costs, SPU's are recommended for all 12 districts at an estimated cost of **Kshs.40,000** per district, a total of **(KSHS.9,600,000).**

11. **Immunization Services:** All the drought stricken districts offer immunization services in at least 50% of their health facilities. The coverage for fully immunized children in these districts are comparatively low with the rest of the districts. Wajir, Mandera and Garissa are still very low - less than 20% for the fully

immunized. Some of the attributes for the low coverage are:-

i) Inadequate health facilities offering immunization
ii) Unequitable distribution of the health facilities
iii) Regular shortage of gas due to transport and national gas shortage
iv) District Health Management Team managerial problems
v) Community mode of life (nomadism)
vi) Very low community involvement in immunization services at grassroots level.
vii) Lack of continuity of mobile and outreach services due to transport and funds problems

TABLE 3.4.13: BACKGROUND INFORMATION

IMMUNIZATION COVERAGE - FIGURES EXTRACTED FROM 1992 COVERAGE SURVEYS

DISTRICT	POL 0	POL 1	POL 2	POL 3	DPT 1	DPT 2	DPT 3	BCG	MEASLES	FULLY IMM.	FULLY IMM. AT 1 YEAR
KITUI	84.6	98.1	95.4	91.9	99.2	95.8	96.1	98.8	87.6	71.4	65.3
WAJIR	18.8	71.9	59.6	37.5	76.1	55.2	37.5	75.0	73.0	16.0	14.0
GARISSA	20.6	30.3	17.9	17.9	33.0	19.6	18.8	38.4	21.4	16.1	16.1
SAMBURU	64.3	95.5	94.6	91.96	89.3	88.4	91.9	91.1	72.3	70	N/A
ISIOLO	N/A										
T. RIVER	50.0	80.0	77.0	82.0	77.0	77.0	75.0	82.0	75.0	43.0	33.0
LAIKIPIA	97.0	98.0	97.0	95.0	98.0	97.0	96.0	98.0	89.0	86.0	80.0
MACHAKOS	85.0	94.0	95.0	95.0	96.0	95.0	92.0	95.0	88.0	73.0	76.0
BARINGO	96.0	97.8	94.4	92.7	97.8	98.0	92.7	97.8	85.8	83.6	91.9
W. POKOT	76.9	86.1	76.3	69.9	90.8	78.0	72.3	94.8	70.5	60.7	57.2
MERU	93.3	97.6	95.3	91.7	98.0	95.7	92.1	98.4	83.4	82.3	80.3

NB: Tharaka & Makueni - these two districts were covered in their parent districts Meru and Machakos respectively.

TABLE 3.4.14: GROUP "I" DISTRICTS

GROUP A	HOSP	H/C	DISP	TOTAL	NO. OFFERING IMMUNIZATION	WORKING ON SOLAR	PROPOSED CENTRES FOR SOLAR REFRIGERATION	TOTAL INCLUDING INSTALLATION KSHS '000
Samburu	2	4	23	29	15(52%)	22	1	170
Garissa	1	4	18	23	15(65.2%)	11	4	340
Wajir	1	2	12	16	10(62.5%)	8	2	170
Isiolo	1	2	26	29	15(52%)	15	2	170
Kitui	3	12	44	59	25(42.3%)	20	5	850
Tana River	2	3	44	49	23(47%)	17	3	510
TOTAL							TOTAL IN KSHS	2,890

TABLE 3.4.15: GROUP "II" DISTRICTS

	HOS	H/C	DISP	TOTAL	NO. OFFE-RING IMM-UNIZATION	WORK ON SOLAR	PRO-POSED CENTRES FOR SOLAR	TOTAL COST PLUS INSTAL-LATION Kshs '000
Makueni	2	12	20	34	20(58.8%)	Nil	10	1700
Laikipia	2	9	15	26	15(58%)	6	5	850
Tharaka Nithi	1	4	12	17	12 (71%)	5	5	850
Machakos	8	21	86	115	46(40%)	6	5	850
West Pokot	2	3	32	37	26(70.2%)	6	4	680
Baringo	3	10	53	66	35(53%)	10	10	1700
								6630

TOTAL FOR I & II IN KSHS 9,520,000

The rest of the facilities are depending on gas for the cold chain maintenance and sterilization. The long term plan is to convert all gas dependant health facilities to solar by the end of 1998 particularly for Mandera, Garissa, Wajir, Isiolo, Turkana, Marsabit and Tana River due to long distances and inaccessibility during the rainy season. An alternative could be kerosene for sterilization when there is gas shortage.

Kerosene could be used as an alternative means of sterilizing needles and syringes for immunization. It is suggested that, each district could be considered on its own merit to meet its gas/kerosene expenses depending on the number of facilities.

TABLE 3.4.16: DISTRICT HEALTH FACILITIES AND ESTIMATED COSTS OF KEROSENE

DISTRICT	HEALTH FACILITIES	COST PER YEAR IN KSHS x 1000
GROUP I		
SAMBURU	29	35
GARISSA	23	25
WAJIR	16	60
ISIOLO	29	35
KITUI	25	40
SUB-TOTAL	122	195
GROUP II		
MAKUENI	34	30
LAIKIPIA	26	31
THARAKA NITHI	17	17
MACHAKOS	46	40
WEST POKOT	37	39.6
BARINGO	35	38
SUB-TOTAL	195	198.6
TOTAL		**390.6**

This will cover gas and kerosene for sterilization and running the cold chain in one year. Transport and collection expenses have been included in this budget.

12. **Control of Diarrhoeal Diseases:** Diarrhoeal diseases, especially in children, is a major course of morbidity and mortality. It has been shown that mortality due to diarrhoea can be reduced significantly by use of oral rehydration solutions. While we shall continue to encourage the use of home made solutions there is a need for procurement of oral rehydration salts as a supplement

TABLE 3.4.19: ORAL REHYDRATION SALTS REQUIREMENTS

	NUMBER OF SACHETS AT A UNIT PRICE OF KSH.8/-	TOTAL ESTIMATED COST KSHS '000
WAJIR	150,000	1200
GARISSA	150,000	1200
SAMBURU	100,000	800
ISIOLO	100,000	800
LAIKIPIA	160,000	1280
MACHAKOS	550,000	4400
KITUI	200,000	1600
MAKUENI	360,000	2880
BARINGO	200,000	1600
THARAKA NITHI	350,000	2800
WEST POKOT	200,000	1600
TANA RIVER	100,000	800
TOTAL	2,520,000	20,960

13. **Data Collection and Analysis:** Alongside provision of curative, preventive, and promotive services, the Ministry includes in this proposal a component for the improvement in the information system for the affected districts. This is intended to beef up monitoring capability both at the district level and the headquarters. This will be achieved by improving the data collection machinery in the drought affected districts and the capacity to compute and analyze data and generate reports at the district level.

High quality, relevant and timely information is critical for the optimum operation and management of any programme. The Ministry's Health Information Systems (HIS) Department is the primary source of information. Improvements in HIS have been achieved through various efforts by governmental and non-governmental agencies both at the district and at the Hqs. level.

Information gathered would be useful in the general management of health services in the district, surveillance, monitoring and evaluation. The data will be useful in predicting events that are potentially stressful to the population eg. disease outbreaks and deteriorating nutritional status.

The Ministry has made a commitment of improving the Information Systems Department by using modern information

TABLE 3.4.17: IMMUNIZATION KITS (SYRINGES NEEDLES) REQUIREMENT

DISTRICT CATEGORY I	NO.IMMUNIZING FACILITIES	TOTAL KITS NEEDED	TOTAL COST IN KSHS x 1000
SAMBURU	16	80	105.6
GARISSA	19	95	125.4
WAJIR	12	60	79.2
ISIOLO	17	85	112.2
KITUI	30	150	198.0
SUB-TOTAL			620.4
CATEGORY II			
MAKUENI	30	150	198
LAIKIPIA	20	100	132
THARAKA			
NITHI	22	110	145
MACHAKOS	51	255	336.6
WEST POKOT	30	150	198
BARINGO	45	225	297
SUB-TOTAL			1,306.8
		TOTAL	**1,927.2**

TABLE 3.4.18 SUMMARY OF IMMUNIZATION

DISTRICT	SOLAR REFRIGERATORS	KEROSINE/ GAS	IMMUNI-ZATION KITS	TOTAL
Samburu	170	35	105.6	311
Garissa	340	25	125.4	490
Wajir	170	60	79.2	309
Isiolo	170	35	112.2	317
Kitui	850	40	198.0	1088
Makueni	1700	30	198.0	1928
Laikipia	850	31	132.0	1013
Tharaka Nithi	850	17	145.2	1012
Machakos	850	40	336.6	1227
W. Pokot	680	39.6	198.0	1088
Baringo	1700	38	297.0	2035
T. River	510			510
TOTAL				11,328

technology as a way to strengthen its management. In every district, **HIS** has a district officer in charge who is a medical records officer or technician. It is these officers who are responsible for the collection of data from all GOK and NGO health facilities within the district.

District HIS officers in the field have in the past suffered from some neglect. It is only now that district teams are beginning to recognise the important role played by these officers. It will certainly take some time to correct the inequity that existed before. Therefore, these officers will need support so that they can operate independently. This proposal includes an item to support the district HIS officers with office stationery, office space, and office equipment and supplies. Subsistence allowances for these officers during their field trips is also included.

Strategy,

1. Health workers in the drought affected districts, will receive training on data collection in order to improve accuracy, timeliness and completeness of information.

2. Orientation of DHMTs on utilisation of data at the district level for better decision making in management of health service in the district. The team training emphasizes the importance of good quality data, and that it is the responsibility of all the members of the team to ensure this.

3. Retraining of Medical records officers on whom the responsibility of data collection, analysis and dissemination lies.

4. Availability of data collection forms needs to be improved.

5. A review of the availability of office space, and office equipment at the district level in a view to improving them. About half of the district do not have adequate space.

6. Provision of offices equipment.

Specific Activities and estimated costs.

1. Training of health workers on data collection and simple analysis of how to utilise the data at facility level (30 participants x 3 days x 12 districts x Ksh700) Ksh.756,000

2. Training of DHMTs in the affected districts, sharing experiences and improving skills on collection of quality data simple analysis and how it can be utilised in district in bettering the management of health services. (10participants x 5 days x 12

districts x Ksh700) Ksh.420,000

3. Ensure the availability of office space, shelving, archiving and other office equipment at the district level by renovation of provision of shelves (Ksh60,000 x 12) Ksh720,000

4. Provision of office equipment (excluding Tana River District).

To enhance the collection of data and process it at the district level, each district would require the below items:-

Item	Quantity	Estimated cost KSHS
Electrical typewriter	1	60,000
Photocopier	1	96,000
Stationery	(Assorted)	60,000
	TOTAL IN KSHS	216,000

Total for 11 districts in K.Shs (216,000 x 11) = **2,376,000**

5. Provide funds to the district HIS officers to enable them to function as focal pointS for health information at the district level including purchase of stationery (Ksh30,000 x 12 district) Ksh360,000.

6. Improve the availability of HIS specific stationery by supplying adequate supplies from the headquarters. To be funded from other sources.

TOTAL FOR 12 DISTRICTS KSHS.4,632,000

14. **Training and Supervision:** There is a need for refresher courses and seminars for field staff in order to improve their skills and performance. Seminars and workshops will therefore be conducted in all the affected districts, focusing mainly on immunization, family planning general patient management, preventive maintenance of equipments and buildings, general management and cost reduction measures.

For the district staff to implement the programme, they should be able to carry out supervisory and support visits to the rural health facilities.

Towards this end a budget of Kshs.400,000 has been put forward for each district.

Similarly the Headquarters would need to give backup support to the districts and hence the budget of Kshs 1 million for both supervision and training for personnel involved in the implementation of the programme.

TABLE 3.4.20: SUMMARY AND BUDGET OF ACTION PLAN IN (KSHS. '000)

	SAMBURU	GARISSA	WAJIR	ISIOLO	KITUI	MAKUENI	LAIKIPIA	THARAKA NITHI	MACHAKOS	WEST POKOT	BARINGO	TANA RIVER	TOTAL
Transport	1232	1507	3600	2409	2750	4664	1243	3531	7238	2365	4818	2000	37,357.00
Improvement of physical Facil.	760	3920	910	592	1655	2300	1400	770	3850	1440	1860		19,457.00
Equipments	710	566	930	450	793.5	760	1430	2056	2260	472	1228		11,655.50
Nutrition	1071.4	1071.4	1071.4	1071.4	1071.4	1071.4	1071.4	1071.4	1071.4	1071.4	1071.4		11,785.40
Pharm. Supplies	1860	1860	1860	1860	1860	1860	1860	1860	1860	1860	1860		20,460.00
Non-Pharm.Supls	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010	24,120.00
Laboratory Ser.	623.85	733.85	703.85	534.1	663.85	855.85	1063.9	663.85	743.85	603.85	583.85		7,772.60
Information, Education & Communication	2536	2536	2536	2536	2536	2536	2536	2536	2536	2536	2536		27,893.34
Water,San.& Vector Control	680	510	1397	1403	1490	637	1220	1025	668	914	1364		11,308.00
SPU	800	800	800	800	800	800	800	800	800	800	800	800	9,600.00
Immunization	311	490	309	317	1088	1928	1013	1012	1227	1088	2035	510	11,328.00
CDD	800	1200	1200	800	1600	2880	1280	2800	4400	1600	1600	800	20,960.00
Data Collection and Analysis	404	404	404	404	404	404	404	404	404	404	404	188	4,632.00
Training and Supervision at District Level	400	400	400	400	400	400	400	400	400	400	400	400	4,800.00
Hqs.Training Monitoring & supervision													1,000
TOTAL	14,198.25	18,008.25	18,131.25	15,586.5	19,121.75	23,106.25	17,731.3	20,939.25	29,468.25	17,564.25	22,570.25	6,708	224,128.8

3.5 WATER SECTOR

3.5.1 PROJECT OBJECTIVES

The focus of the Project is initially to alleviate the water shortage by rehabilitating existing water facilities in the drought affected areas. Although there will be an emphasis on these short term objectives, due to the fragile environmental balances and the risks that they imply, it is imperative to consider and incorporate the longer objectives, i.e. sustainable water supply services and use in the project area.

3.5.2 BASIS OF PROPOSAL

This proposal is based on information gathered from Water Department (WD) staff, NGOs and other agencies active in the water sector at district level who have assisted in identifying and assessing the required interventions. The status of WD plants and equipment, drilling and dam construction units and repair needs, have been assessed and addressed. Project proposals from various NGOs have also served as a useful source of information when identifying the needs.

3.5.3 INSTITUTIONAL ASPECTS

Although the proposal comprises construction of a few new water supply facilities, the highest priority has been given to rehabilitation of existing facilities. The aim has been to formulate a realistic program which is sustainable in the long run, can be implemented using existing resources to the highest extent possible, and is manageable within the short duration of the DRP.

Due to the vast project area the implementation and management of the DRP/Water will be largely decentralised to the district.

As a general rule, the existing appropriate implementation and management structures in the districts will be utilized. This implies a lead role by WD in the districts with strong involvement of line Ministries, NGOs and other organisations with management capacity in water programmes. The already established coordinating bodies for the sector in Garissa and Wajir will serve as a model for coordination of project activities at the district level. These will include representative from the line Ministries, NGOs and other donors.

In districts where existing activities, actors and structures are not so strong a district coordinating body will be put in place to work closely with NGOs, donors and communities under the guidance of the WD.

Although the district based approach is to be followed, certain elements will have to be managed across districts. This includes activities by dam construction units, certain training support and back-up, etc. This type of input will be coordinated from a zonal level.

3.5.4 PROJECT COMPONENTS

The Water Sector proposal aims at:-

(1) Rehabilitation of existing water facilities and development of new water supplies where necessary in the 15 districts, including the construction and upgrading of traditional shallow wells, roof and rock catchment systems.

(2) Improving management of water sources in the fifteen districts through the training of community groups in operation and maintenance.

(3) Addressing the environmental and health aspects of the communities in relationship to the water supply.

(4) Strengthening the operational capacity of MLRRWD through purchase and rehabilitation of vehicles and equipment where available for the 15 districts.

3.5.5. COMMUNITY PARTICIPATION AND TRAINING

Promotion and support to community groups to manage and maintain water supply facilities will be a key factor to long term sustainability of the Drought Recovery Project. Numerous people have testified the commitment and willingness both to physically take care of the preventative maintenance of the facilities, as well as to contribute financially to the O&M, assuming appropriate training is provided. It would be inadvisable, in spite of the difficult situation for many people, not to appreciate from the very beginning this commitment. Community groups will be given assistance to form Users Association and to open bank accounts for collection of funds for maintenance, fuel and replacement costs. It is important that strict financial accounting is included in the set-up of the Users Associations. The nomadic communities and range management officers will be consulted and involved in the siting of any new water points for livestock use.

3.5.5.1 Training Components.

From what has been noted above, the training needs that have to be addressed can be divided into two categories:

(1) Technical Training for pump and engine mechanics and attendants etc;

(2) Managerial/Administrative Training for Water Users Associations, including simple accounting and book keeping etc.

Due to the immediate nature of the DRP, the training component will have to be viewed in a short and long term

perspective. It is imperative that the short term training needs are met. Recently rehabilitated water facilities (mainly boreholes) are already reported to be suffering from lack of maintenance. Therefore it is suggested that the training capacities of Government institutions and NGOs be assessed immediately. Initially there should be a focus on basic maintenance skills for boreholes.

The above mentioned support for community based management will need follow-up training. Furthermore, in order to map out the requirements, in terms of training for long-term sustainability of community based O&M, further studies will be necessary, especially considering the nomadic nature of the communities.

3.5.5.2 Training Objectives

The Government of Kenya recognizes that one of the key factors ensuring long term sustainability of water supply facilities is promotion and support to community groups empowering them to manage and maintain the facilities.

Towards achieving substantiality therefore efforts will be made to ensure that the following specific objectives form part of the training component.

(1) Train community members on each project's objectives, implementation procedures and their role.

(2) Train community members on project management including establishing bank accounts, simple accounting and book keeping.

(3) Educate members on the need to have and use adequate sanitation facilities, emphasis being put on the relationship between dirty water and diseases.

(4) Train local teams of artisans as pump caretakers and mechanics for operation and maintenance of installations.

(5) Create awareness and impress upon the district-based Ministry's staff on the importance of community based approach to project implementation.

In order to achieve these goals and objectives, the role of NGOs and the Private Sector will be crucial and hence will be enlisted.

In order to enlist all the potential partners, the water sector group will facilitate a 3/4 day workshop to:-

(1) assess current capacity at all levels to implement the proposed strategy for community participation.

(2) put in place a collaborative implementation structure which clarifies the roles of each partner and enables the programme to achieve its objectives.

3.5.5.3 Environment

As has been stated earlier any interventions aiming at development of sustainable water supply facilities in these arid and semi-arid lands constituting the project area have to be fundamentally inter-linked with the preservation of its environment and the range lands. It is essential to realize the balance between water resources and graze/browse resources. Inadequacy of one of the components puts pressure on the other one. Equally important is to understand the dynamic character of this balance, i.e. the seasonal movements of nomads/cattle between dry and wet season (permanent/temporary) water resources.

The following three criteria should serve as a guidance in respect of siting of any new water points:-

(i) Preferential development of pans/dams over permanent water sources, where possible.

(ii) Maximum care to be taken when considering construction of new boreholes in areas presently recognised as being of poor rangelands condition.

(iii) Consideration of minimum distance to apply to the siting of new boreholes from other permanent water sources.

Proper siting, design and maintenance of pans and dams and their catchment areas are furthermore important environmental components of the DRP. This will, for example, include protection of run-off areas (grass seeding, tree planting etc) and other conservation measures like silt traps in in-flow channels/gullies, maintenance and rehabilitation of overgrazed and badly eroded areas.

In some areas (e.g. N-E Province) there are strong interdistrict links which have significant ecological implications. In these areas there needs to be a regional perspective on implementation of water activities.

3.5.5.4 Health/Sanitation

Health and environmental health aspects will be addressed through the following interventions:

(1) Latrine building projects with food for work incentives and supply of tools and materials in urban areas along the lines of the ongoing activities in Mandera.

(2) Provide sanitation facilities for schools and health institutions.

(3) Review and improve water supply situation at health institutions.

(4) Construction of roof catchment systems, as a complementary water supply at schools and health institutions.

(5) Coordinate and link training on Operation & Maintenance to health education training.

(6) Upgrading of traditional wells as a means of enhancing hygiene and health conditions.

(7) Fencing off pans and dams and directing water from the pans separately for human and livestock use respectively.

3.5.6 PROGRAMME AREAS AND DONOR INVOLVEMENT

The water working group has focused its DRP plans on 8 priority 1 districts and 7 priority 2 districts. The priority 1 districts belong to the arid zone and these are Wajir, Isiolo, Mandera, Garissa, Samburu, Marsabit, Turkana and Tana River districts. The priority 2 districts are located in the semi-arid zone and are namely Machakos, Laikipia, Kitui, West Pokot, Tharaka-Nithi, Makueni and Baringo Districts.

The water sectoral working committee has further identified a number of bilateral and multi-lateral agencies, and NGOs already involved in the water sector in ASAL areas. Table 1 outlines this involvement on a district basis with respect to 7 of the arid zone districts.

Table 3.5.1 Key Bilateral and Multilateral Agencies and NGOs in the Water Sector

District	NGOs	Bilateral Agencies	Multilateral Agencies
Wajir	World Vision Inter-AID (WVI) Oxfam African Inland Church	GTZ	UNICEF EEC
Mandera	----	---	UNICEF EEC
Marsabit	Food for the Hungry (FHI) Inter-Aid WVI	GTZ	EEC
Garissa	---	---	EEC

Isiolo	Oxfam	GTZ	EEC
Turkana	Catholic Diocese of Lodwar	---	---
Samburu	Farm Africa Maralal Camel Derby Catholic Church FHI	---	---
Tana River	----	----	---

This table shows that some districts are better endowed in terms of support from donor agencies and NGOs, and this facilitates potential donors in deciding where to invest in the water sector.

In light of the complexity and environmental sensitivity of the affected areas there is need to harmonize all the various action plans at national and district level. In order to do this, a small working group should be formed at the national level.

3.5.7 COST ESTIMATES

For the 8 priority 1 districts that are located in the arid zone, the estimate is Kshs 311 million; and for the 7 priority 2 districts the estimate is Kshs 173.8 million. This gives a total of Kshs 484.8 million (for details see Tables). The World Bank has undertaken to finance the 3 districts of Marsabit, Mandera and Turkana and to carry out capacity building in Tana River all at a cost of US $ 5.1 million. However, in these three focus districts, only the priority 1 projects and a few priority 2 projects will be financed. The items to be financed by the World Bank for these districts have therefore not been considered when preparing the cost tables.

A summary of the proposed interventions is attached.

More support therefore is still required for the drought recovery programme

3.5.8 IMPLEMENTATION FRAMEWORK

The programme is expected to cover the 24 months period in line with other drought recovery activities. However, certain aspects of the programme depending on the district and finances available might go beyond the 24 months so that they are incorporated in the other ASAL development programmes within these areas.

3.5.8.1 Implementation Schedule

Once a commitment from the donors to finance activities has been made for a particular district, the District Water Committees as noted under section 3.5.3, will prepare detailed action plans including the implementing Water Department for the proposed interventions with the assistance of Water Department Headquarters based personnel.

TABLE 3.5.2 SUMMARY OF INTERVENTIONS CATEGORY "I" DISTRICTS

Figures in Kshs. ,000,000

INTERVENTION	MANDERA	MARSABIT	TURKANA	TANA-RIVER	SAMBURU	ISIOLO	GARISSA	WAJIR	TOTALS
REHAB. OF B/H & W/S	2.0	8.0	1.0	7.0	14.0	8.0	24.0	25.0	89.0
NEW B/H & W/S	3.0	2.0	2.0	6.0	4.0	2.0	6.0	10.0	35.0
REHAB. OF PANS & DAMS	-	-	-	3.0	2.8	3.2	9.0	1.8	19.8
NEW PANS/DAMS	-	-	-	3.0	2.0	3.2	5.6	.6	14.4
EARTH MOVING REPAIR/SERVICE	2.0	.2	-	1.0	2.4	3.2	3.2	1.2	13.2
REHAB. OF GOK VEHICLES	.6	2.4	2.4	8.0	1.2	1.2	1.2	1.0	18.0
UPGRADING OF DUG WELLS	2.0	2.0	2.0	6.0	2.0	2.0	4.0	4.0	24.0
ROOF/ROCK CATCH. CONSTRUCTION	1.0	.5	1.0	1.0	1.0	1.0	2.0	2.0	9.5
COMMUNITY BASED O+M TRAINING	-	.8	1.0	1.0	2.0	2.0	4.0	1.8	12.6
MONITORING & EVALUATION	1.0	1.0	.7	1.0	1.0	1.0	1.0	.6	7.3
PERSN/TECHNICAL ASSIST/TRAINING	1.0	1.0	1.0	2.6	6.2	5.0	7.0	5.2	29.0
TRANSPORT AND OPERATING EXPENSES	.4	.8	.6	2.4	1.6	2.4	1.2	.4	9.8
SANITATION	2.0	2.8	2.6	1.6	2.0	1.8	4.8	3.2	20.8
ENVIRONMENT PROTECTION	1.0	.8	1.0	1.0	.8	1.2	2.0	.8	8.6
TOTALS	16.0	22.3	15.3	44.6	43.0	37.2	75.0	57.6	311.0

B/H = Borehole W/S = Water Supply 1 US $ = 36 KHS.

TABLE 3.5.3 SUMMARY OF INTERVENTIONS CATEGORY "II" DISTRICTS

Figures in KShs.,000,000

INTERVENTION	KITUI	WEST POKOT	BARINGO	LAIKIPIA	THARAKA NITHI	MACHAKOS	MAKUENI	TOTALS
REHAB. OF B/H& W/S	12.0	6.2	2.5	3.5	6.0	4.0	5.0	39.2
NEW B/H & W/S	6.0	4.0	5.0	6.0	6.0	4.0	4.0	35.0
REHAB. OF PANS & DAMS	5.0	1.0	1.5	5.0	-	1.0	2.0	15.5
NEW PANS/DAMS	4.0	2.0	-	3.0	2.0	2.0	2.0	15.0
EARTH MOVING REPAIR/SERVICE	-	-	4.0	-	-	-	-	4.0
REHAB. OF GOK VEHICLES	.6	.6	.6	.6	.6	.6	.6	4.2
UPGRADING OF DUG WELLS	7.0	4.0	2.0	2.0	4.0	1.0	3.0	23.0
ROOF/ROCK CATCH. CONSTRUCTION	1.0	1.0	1.0	.7	.5	1.0	1.0	6.2
COMMUNITY BASED O+M TRAINING	.5	.3	.3	.3	.3	.5	.3	2.5
MONITORING & EVALUATION	.5	.3	.3	.3	.3	.3	.5	2.5
PERSN/TECHNICAL ASSIST/TRAINING	2.5	2.0	1.5	1.5	1.5	1.5	2.0	12.5
TRANSPORT & OPERATING EXPENSES	.5	.3	.3	.3	.3	.3	.5	2.5
SANITATION	1.8	1.0	1.0	1.0	1.0	.1	1.0	7.8
ENVIRONMENT PROTECTION	.7	.5	.5	.5	.5	.5	7.0	3.9
TOTALS	42.1	23.2	20.5	24.7	23.0	17.7	22.6	173.8

B/H = Borehole W/S = Water Supply 1 US $ = 36 KHS.

3.6 RURAL SERVICES CENTRES

3.6.1 PROJECT OBJECTIVES

The focus of the project is geared towards improving environmental management and the overall standard of living of the people living in the arid and semi-arid (ASAL) rural centres. Even though most of the proposed interventions have short-term objectives due to the short project cycle, it is imperative that longer-term considerations are taken into account given the fragile environmental balances in the arid and semi-arid lands. For example, key aims of the Rural Services Centres (R.S.C.) strategy should include the alleviation of poverty and unemployment in the ASAL rural centres by enabling a conducive socio-economic environment. Provisionally, about 23 urban centres in over 20 districts will participate in the Drought Recovery Programme. A final assessment of the participating towns will be done once the R.S.C. programme of action is accepted. The Ministry of Local Government (MLG) in cooperation with relevant line ministries, departments and agencies will assist the Local Authorities in the implementation of the proposed projects.

3.6.2 BASIS OF PROPOSAL

This proposal is based on information gathered during consultation with various technical units in the Ministry of Local Government. Project proposals submitted by Multi- and Bilateral Donors, NGOs and Local Authorities have also been a useful source of information when identifying the needs.

3.6.3 INSTITUTIONAL STRATEGY

The Rural Services Centres (R.S.C.) strategy for the Drought Recovery Programme will concentrate on five main components, i.e.,

i) Water Supply (Training)
ii) Sanitation
iii) Rehabilitation of Town Roads and Drainage Network
iv) Low Income Housing
v) Environmental Education and Training.

3.6.4 PROJECT COMPONENTS

1. **Water Supply:** A clean and adequate water supply benefits urban health and the urban poor, especially in ASAL areas where water is a scarce resource. Water is perhaps the single most important intervention to improve the quality of life in towns hit by drought. Water is also an important resource in terms of environmental conservation.

The Water Development Department in the Ministry of Lands Reclamation, Regional and Water Development (MLRRWD) has

proposed an extensive programme of action covering most ASAL areas. MLRRWD's efforts will be complemented by an RSC intervention in two towns, Garissa and Rumuruti. In order to minimize costs, the RSC water supply component will emphasize the training of water supply operators. Complete details are provided in the cost estimates. The Ministry of Local Government and the WDD will assist the relevant Local Authorities in the implementation of the training package.

2. **Sanitation:** Poor sanitation systems can lead to pollution of water sources and the environment. Most urban centres in the ASAL areas do not have effective solid and liquid water disposal systems. Four towns, i.e., Mandera, Chuka, Lamu and Marsabit will participate in the solid waste management programme. Liquid waste disposal schemes will be implemented in Wajir and Rumuruti. Once more, the emphasis will be on participatory approaches to sanitation. On-site sanitation technologies such as septic tanks and ventilated improved pit latrines (VIPs) which are simple to implement and maintain and are less costly than other alternatives will be utilized. The specific interventions are listed under the cost estimates.

3. **Rehabilitation of Road and Drainage Works:** Local Authorities can hardly cope with the increasing cost of road maintenance. Most roads in the ASAL urban centres are in a state of disrepair. As a result most earth and gravel roads are inaccessible during the rainy season. Tarmac roads are often in a poor state and they need to be improved. Stormwater drainage networks should be rehabilitated in order to curb erosion and to protect natural water sources. Roads and drainage networks rehabilitation are proposed for six towns, Wajir, Taveta, Hola, Kapenguria, Makuyu and Naro Moru.

4. **Low Income Housing:** The provision of shelter is a basic need in any society. Providing this basic need, however, is a difficult task for most local authorities. This is more so if one considers the influx of pastoralists and refugees from drought stricken and unstable neighbouring countries into the ASAL rural centres. In the long run this in-migration may lead to the mushrooming of slums in these urban centres. The RSC strategy considers the provision of decent shelter as one of its prime concerns for helping alleviate socio-economic malaise in the drought-stricken areas. In future, slum-upgrading schemes may be included in the project design.

The shelter intervention is envisaged in two forms:

i) 20 Tenant Purchase Units: The project will provide the basic infrastructure on the sites and construction of the housing substructure;

ii) 30 Rental Units: These units will be managed by the respective Local Authorities.

Low income housing units will be constructed in the following urban centres: Makueni, Lodwar, Garissa, Isiolo

and Kitui. Further details are provided in the cost estimates.

5. **Environmental Education and Training:** Most of the interventions enumerated above will only be successful if complemented with aggressive environmental education and training measures. There are various environmental problems in the ASAL areas such as:

- The surroundings of the urban centres are quickly devegetated by the human and animal population while in search of firewood, building materials, pasture, etc.

- The barren environment in and around the towns, particularly in the dry season, gives rise to dust storms which cause respiratory infections and eye diseases.

- This dust is often contaminated with faecal residues because of a lack of proper sanitation. The dry river beds are often used as public toilets.

- The water that is extracted from sub-surface rivers (laggas) is often contaminated.

- The urban sprawl takes place in an uncontrolled way. In many cases, growth follows natural or man-made infrastructure, such as roads and rivers. This makes environmental planning difficult.

The environmental integration in the RSC strategy will strive to concentrate on tackling the above problems by providing short term initiatives which may have desirable long term implications. The Environmental Programme will encompass several towns, Kinango, Marigat, Lokitaung, Oloitokitok, Ishiara, Maralal and Kimwarer. Under the environmental aspect, it is proposed that intensive revegetation schemes will take place. This will require a certain degree of fencing, micro-catchments, terracing and selective tree planting. Public awareness campaigns will also be stepped up with the active involvement of the communities. The Local Authorities will be assisted in preparing Local Authority Development Programmes (LADPs) which could enable them to incorporate environmental issues into their development efforts. Other details are provided in the cost estimates

3.6.6 COST ESTIMATES

1. **Water Supply**

		KSHS '000
a)	Training of Water supply operators	120
	Total Cost (one town)	120
	Total Cost (two towns)	240
	Donor Commitment	N/A

2. **Sanitation**

i) Solid Waste Disposal

a) Feasibility Study	1,000
b) Tractor and Trailer	1,300
c) Public Awareness and Demonstration of Storage and Transportation	500
d) Improvement of Disposal Facilities	1,000
e) Spare Parts and Maintenance for Vehicles	760
Total Cost (one town)	4,560
Total Cost (four towns)	18,240
Donor Commitment	N/A

ii) Liquid Waste (Sewage) Disposal

a) Feasibility Study	1,000
b) Septic Tanks Demonstration	50
c) Exhauster	800
d) Ventilated Improved Pits Latrines demonstration	100
e) Sewerage System (1 town)	80,000
f) Training of Operators	500
g) Spare Parts and Maintenance of Equipment (20%)	16,490
Total Cost (one town)	98,940
Total Cost (two towns)	197,880
Donor Commitment	N/A

Note: All costs estimates are based on requirements for Garissa town.

3. **Rehabilitation of Town Roads and Drainage Networks**

Town	Type of Rehabilitation	Length	Cost(Kshs '000)
a) Feasibility Study	--		1,000
b) Wajir	Tarmac	1	15,000
	Gravelling/Murram	3	1,800
c) Taveta	Tarmac	2	30,000
	Gravelling/Murram	2	1,200

d)	Garsen	Tarmac	2	30,000
		Gravelling/Murram	1	600
e)	Kapenguria	Tarmac	3	45,000
		Gravelling/Murram	1	600
f)	Makuyu	Tarmac	2	30,000
		Gravelling/Murram	1	600
g)	Naro Moru	Tarmac	2	30,000
		Gravelling	1	600
		Total Cost		186,400
		Donor Commitment		N/A

4. **Housing**

i) Rental Units

a)	Feasibility Study	1,000
b)	Land Acquisition (1 acre of land for the five towns @ 600,000 Kshs/town)	3,000
c)	Cost of the Housing Units and Related infrastructure; 30 units per town; cost per town 20 million Kshs. (20 units - one bedroom; 10 units 2 bedroom).	50,000
d)	Misc. costs related to units; electrical connection, water & sewerage, etc.	5,000
e)	Legal fees and consultancy fees	2,000
f)	Contingencies (price escalations-20%)	12,200
	Total Cost	73,200
	Donor Commitment	N/A

ii) Tenant Purchase Scheme

a)	Feasibility Study	1,000
b)	Land Acquisition; roads, water and electrical connection @ 600,000 Ksh/town)	3,000
c)	Infrastructure; roads, water and electrical connection	10,000
d)	Cost of providing a unit which is 3/4 complete: 20 units per town @ 150,000 Kshs. per unit (Kshs. 3 million per town) with 10 units 1-bedroom; 10 units 2-bedrooms.	15,000
e)	Other indirect costs, i.e., consultancies,	

legal fees plus contingencies (20%)	5,800
Total Cost	34,800
Donor Commitment	N/A

Note: Recurrent Costs Implications. The Ministry of Local Government will co-operate with the National Housing Corporation (N.H.C) in the implementation of the low-income housing schemes. The five respective Local Authorities will meet the recurrent costs for maintaining the rental houses while for the tenant purchase scheme, the legal purchasers will meet the recurrent costs individually. Officers trained in estate administration should run the rental purchase schemes. Both schemes will generate additional revenues to the relevant authorities.

5. **Environmental Education and Training**

Activity	Kshs '000
a) Preparation of Local Authority Development Programmes (LADPs) for seven town @ 700,000/town	4,900
b) Baseline study of environmental problems in seven town (4 weeks)	1,000
c) Public Awareness Campaigns (Posters, Chief's Barazas, seminars) and training programmes @ 1 million Kshs./town	7,000
d) Pilot Projects (e.g., revegetation schemes like selective tree planting, terracing, market gardens, etc.) @ 10 million per town.	70,000
Total Cost	82,900
Donor Commitment	N/A

Note: Local authority officials will play a crucial role in co-ordinating and managing the above mentioned planning approaches. On a central level the Ministry of Local Government and NES (National Environment Secretariat) will provide the necessary support in the planning of an overall environmental programme. The M.A.L.D. will assist the local authorities in the dissemination of techniques such as water conservation through micro-catchments and horticulture. The MENR will provide support in the establishment of rural tree nurseries and the technique of tree planting. NGOs such as KENGO, and CARE-Kenya will assist in the actual implementation of the programme.

Total Investment cost of Rural Services Centres (RSC) intervention	Kshs. = **593,660,000** =$ 16.50 million
Total Donor Commitment	NA

4. CAPACITY BUILDING FOR DROUGHT MANAGEMENT

4.1 PROJECT DESCRIPTION

The programme would extend and convert GOK famine relief activities into drought management activities as part and parcel of the wider Drought Recovery Programme. Extension will be by building capacity for projecting food production and generating necessary food security policy options at national, district and community level.

Implementation and co-operation is sought from all the key GOK agencies with agricultural, livestock, weather, water, health, district development planning and co-ordination, and environmental responsibilities as well as donor agencies with programmes in the 16 districts hit by drought in the past two years.

Financing co-ordination and supervision will be the responsibility of the Special Recovery Team of the OOP. Investment will concentrate on food security data collection, analysis and generation of policy and operational intervention, funded separately as part of the Recovery Programme and other programmes, at the national, district and community level.

4.2 PROJECT OBJECTIVES

To provide local communities, district and national government institutions with an institutional framework and systematic policy making data for managing future droughts and famines in sixteen districts which have suffered drought over the past two years and which, given their ecological circumstances, can be expected to suffer recurrent droughts.

4.3 PROJECT COMPONENTS

1. Training of 16 District Drought Management/Famine Relief Secretaries in Drought Data Analysis.

48 participants will take part in the three week training which will first consist of familiarisation with computing and then training in computer based analysis and local publication of environmental, socio-economic, weather, crop, livestock data as well as familiarisation with GIS. The FAO Early Warning Project can take the lead in this training in conjunction with KIA Computer Training Programme.

2. Development of Early Warning System Indicators for Various Districts.

Essentially this should draw on the Turkana district experience and can be provided by the Staff of Turkana Drought Contingency Planning Unit. The strategy will be to train 3 district level staff initially so that they can act as the trainers/supervisors to the Divisional and Field monitors. 48 participants will participate in the training. The training will be conducted in the field.

3. Training of District Drought Management/Famine Relief Committees.

This should be undertaken by the National Drought Management/Famine Relief Unit and District Focus Staff of OP and with assistance from relevant Ministries staff and a donated facilitator. There will be 16 DDM/FRC and it is estimated that each will have 10 members for a total of 160. There will therefore be need of 4 training sessions at least.

4. Training of National Drought Management/Famine Relief Unit.

This will involve a week's training in drought data management and food security policy generation by GOK staff. Essentially it will be the unit taking time out to plan its methods and procedures with assistance from resource persons external to it. It should be focused on how different data streams available in as different institutions as Central Bureau of Statistics, National Cereals and Produce Board, Agriculture & Livestock, Natural Resources, Planning, Transport, and Treasury can be co-ordinate to generate drought management policy and operational activities.

5. Training of 80 Divisional Drought Monitors

It is estimated that there are 5 divisions each with 5 locations in each of the 16 districts. Thus a total of 80 Divisional monitors, who in turn, together with district staff, will train 400 Field Drought Monitors, will have to be trained in gathering community data, economic data, environmental data and other details. The most efficacious way for them to learn this is to give them an orientation course for a week and to attach them to the experienced field monitors in Turkana for two weeks. The lead organisation for this training could be TDCPU.

6. Training of 400 Field Monitors

This training should be done by the District and Divisional Staff after they are trained. It should be in local venues with each district being responsible for training its field staff as part and parcel of its operations.

7. Community Leaders Drought Seminars

Each district will call community leaders to a seminar of appreciation of the importance of collecting drought data and providing information to the monitors. This training will be undertaken by the District Secretariat after it completes its training. Conceivably, during these training sessions experienced staff from Turkana can be called in to assist in the training. Fifty Community Leaders will be trained in each district.

4.4 COST ESTIMATES

ACTIVITY	COST	SOURCE

1. Training of 16 District Drought Management/Famine Relief Secretaries in Data Analysis.

3 Three Week Training of 16 at a time in Nairobi

Participants Travel 48 x 500	Ksh. 24,000
Boarding/Lodging 48x21x1500	Ksh.1,512,000
Training Venue	Ksh. 42,000
Training Materials	Ksh. 60,000
Honoraria to Facilitators	Ksh. 100,000
Local Transport	Ksh. 45,000
Sub-total	Ksh.1,783,000

US$ 51,000 DONOR

2. Development of EWS Indicators for Various Districts

2 Training of 1 Month in Turkana

Participants travel 48x500	Ksh. 24,000
Boarding/Lodging 55x30x200	Ksh. 330,000
Training Venue	Ksh. 30,000
Training Materials	Ksh. 30,000
Local Transport Costs	Ksh. 20,000
Seven Facilitator Honoraria	Ksh. 50,000
Sub-total	Ksh. 484,000

US$ 14,000 DONOR

3. Training of District Drought Management/Famine Relief Committees.

4 Training of 2 Days each in Selected Districts

Participants Travel 160x200	Ksh. 32,000
Facilitators Travel	Ksh. 10,000
Facilitators Allowances	Ksh. 20,000
Training Venues	Ksh. 8,000
Training Materials Handouts	Ksh. 20,000
Board and Lodging	Ksh. 70,000
Sub-total	Ksh. 160,000

US$ 5,000 DONOR

4. Training of National Drought Management/Famine Relief Unit.

One Week Duration Nairobi

Board and Lodging 20x900x5	Ksh. 90,000
Training Materials	Ksh. 20,000
Venue	Ksh. 5,000
Allowances	Ksh. 20,000
Facilitators	Ksh. 50,000
Sub-total	Ksh. 185,000

US$ 5,300 DONOR

5. Training of 80 Divisional Drought Monitors.

2 Training of 3 weeks each in Turkana

Participants travel 80x500	Ksh. 40,000
Boarding/Lodging 80x21x200	Ksh. 336,000
Training Venue	Ksh. 7,000
Training Materials	Ksh. 20,000
Training Transport Costs	Ksh. 50,000
Seven Facilitators Honoraria	Ksh. 50,000
Sub-total	Ksh. 503,000

US$ 15,000 DONOR

6. Community Leaders Drought Seminars

16 Training of 2 Days each in Districts

Participants Travel 800x100	Ksh. 8,000
Facilitators Travel	Ksh. 16,000
Facilitators Allowance	Ksh. 32,000
Training Venues	Ksh. 32,000
Board and Lodging	Ksh. 20,000
Sub-total	Ksh. 124,000

US$ 3,100 DONOR

7. Project Material Costs

(Lifetime Exceed 18 months)

1. Computing Capacity	
32 Districts	Ksh.6,400,000
7 National	Ksh.1,400,000
Sub-total	Ksh.7,800,000
	US$ 222,900 DONOR
2. Photocopiers	
16 Districts	Ksh.3,200,000
1 National	Ksh. 200,000
Sub-total	Ksh.3,400,000
	US$ 97,000 DONOR
3. Transport	
a. Four Wheel Drive Diesel Vehicles	
1 National	Ksh. 800,000
16 Districts	Ksh.12,800,000
b. Motorcycles	
32 Districts	Ksh. 1,920,000
80 Divisional	Ksh. 4,800,000
Sub-total	Ksh.20,320,000
	US$ 581,000 DONOR
4. 80 Radio Communication Links	
	Ksh. 8,000,000
Sub-total	Ksh. 8,000,000
	US$ 22,900 DONOR
5. Furnished Offices	
7 National	Ksh. 4,200,000
16 Districts	Ksh. 9,600,000
80 Divisional	Ksh. 8,000,000
Sub-total	Ksh.21,800,000
	US$ 623,000 GOK
6. Houses Furnished	
55 Senior	Ksh. 55,000,000
80 Junior	Ksh. 48,000,000
Sub-total	Ksh.103,000,000
	US$ 3,000,000 GOK

8. Staff Costs (18 months)

National Unit	
1. Professional Staff	
Salaries and Emoluments	
7 Staff	Ksh. 2,000,000
Field Allowances	
7 Staff	Ksh. 600,000
2. Secretary/Data Clerks	
Salaries	
8 Staff	Ksh. 900,000
3. Drivers	
Salaries	
2 Staff	Ksh. 100,000
Field Allowances	
2 Staff	Ksh. 60,000
3. Subordinate Staff	

Salaries	
2 Staff	Ksh. 144,000
Sub-total	Ksh. 3,804,000
	US$ 109,000 GOK

District Units

1. District Professional Staff	
Salaries	
48 JGL Staff	Ksh. 8,000,000
Field Allowances	
48 JGL Staff	Ksh. 1,600,000
2. Divisional Monitors	
Salaries	
80 JGH Staff	Ksh. 8,000,000
Field Allowances	
80 JGH Staff	Ksh. 1,600,000
3. Field Monitors	
Salaries	
400 JGD Staff	Ksh. 6,000,000
Field Allowances	
400 JGD Staff	Ksh. 1,200,000
4. Secretary/Data Clerks	
Salaries	
32 JGE Staff	Ksh. 2,100,000
5. Drivers	
Salaries	
16 JGE Staff	Ksh. 1,100,000
Field Allowances	Ksh. 240,000
6. Subordinate Staff	
16 JGB Staff	Ksh. 560,000
Sub-total	Ksh.30,400,000
	US$ 869,000 GOK

Donor Staff	
1 Adviser x 18 months	Ksh. 4,775,000
	US$ 135,000 DONOR

9. Operation and Maintenance Cost (18 months)

Vehicles	Ksh. 2,000,000
Motorcycles	Ksh. 600,000
Communication	Ksh. 800,000
Buildings	Ksh. 1,500,000
Computers	Ksh. 500,000
Office Supplies	Ksh. 1,000,000
Communication	Ksh. 800,000
Sub-total	Ksh. 7,200,000
	US$ 206,000 DONOR

6.4.1 BUDGET SUMMARY

NEEDED INVESTMENT

SOURCE	AMOUNT	KSHS.	PERCENTAGE
GOK	US$ 978,000	35,208,000	42%
DONORS	US$1,359,000	48,924,000	58%
TOTAL	US$2,337,000	84,132,000	100%

PREVIOUS INVESTMENT

GOK	US$3,623,000	130,428,000	100%
DONOR	US$ 0	0	0%
TOTAL	US$3,623,000	130,428,000	100%

TOTAL INPUTS

GOK	US$4,601,000	165,636,000	77%
DONORS	US$1,359,000	48,924,000	23%
TOTAL	US$5,960,000	214,560,000	100%

5 RESOURCE NEEDS AND COST ESTIMATES

TABLE 5.1.1: GLOBAL COST SUMMARY BY SECTOR

Kshs. '000

1 US$ = KSHS.36

SECTOR	YEAR			
	YEAR I	YEAR II	TOTAL	% OF TOTAL
1. AGRICULTURE	206,550	68,850	275,400	10%
2. LIVESTOCK/RAWLE/ENV				
Livestock	159,105	50,045	209,150	8%
Veterinary	40,975	127,813	168,788	6%
3. INFRASTRUCTURE	391,204	87,446	478,650	18%
4. HEALTH	200,000	24,129	224,129	9%
5. WATER	327,200	157,600	484,800	18%
6. RURAL SERVICES	300,000	293,660	593,660	22%
7. CAPACITY BUILDING	115,000	100,000	215,000	8%
TOTAL KSHS.	1,740,034	909,543	2,649,577	100%
US $	48,334	25,265	73,599	100%

NB: These are planning figures estimated based on activities envisaged for the various sectors. Detailed preparation of sector related programmes will result into finer cost estimates for the activities under the sectors.

THE DROUGHT RECOVERY PROGRAMME, KENYA
PROJECT DESIGN

(Second Draft)

December 1992

Prepared for the UN-Disaster Management Team/ Government of Kenya for the World Bank Appraisal Mission, and Multilateral and Bilateral Donors, Nairobi, Kenya.

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PREFACE

In mid-October 1992 the Government of Kenya (GOK) presented to the donors a draft of the Drought Recovery Programme (DRP) (see GOK (OP), 1992). The paper focused on four main sectors: livestock, water, agriculture, and health. The Office of the President (OP) obtained data on the needs of these four sectors through a questionnaire that was circulated to 16 of the arid and semi-arid lands (ASAL) districts. The donors showed interest in funding the DRP; and the World Bank is considering a concessionary loan to the Government of Kenya (GOK) for the DRP. However, there was a request that the design of the DRP be further articulated and refined. With this in mind two steps were taken. The line ministries, namely, the Ministry of Agriculture (MOA), Ministry of Livestock Development (MOLD), Ministry of Health (MOH) and Ministry of Water Development (MOWD) were requested by the joint GOK/ UNDP to form working committees to further fine-tune the sectoral submissions. Technical staff from a variety of bilateral and multilateral agencies have participated in these sectoral working committees. The latter have also been assisted by information provided by district-level officers.

The United Nations Working Group (UNWG) of United Nations Development Programme (UNDP) have prepared a project document on the DRP for Kenya (see UNDP (UNWG), 1992). This document outlines project components for the DRP and possible institutional arrangement for its implementation.

UNDP/ World Bank offered to finance a preparatory mission to assist in the process (for details see Annex I). The mission group has the following expertise: development anthropologist/ economist (& team leader), water & sanitation engineer, roads and communication engineer, agriculture and range management, urban management in arid and semi-arid areas, and drought management.

The task of the sectoral working committees and that of the preparatory mission was to prepare a project design document which would highlight priority districts and projects within sectors. This document serves two main purposes. Firstly, it provides the World Bank Appraisal Mission (which arrived in Nairobi on 21 November 1992) with a costed DRP strategy as a point of departure for its assessment and negotiations with GOK. Secondly, it provides all bilateral and multilateral donors with a presence in Kenya with a framework to assist them on how best they can contribute and participate in the DRP.

The document also serves two time-frames. Firstly, immediate needs are identified (the immediate period refers to October 1992- March 1993). Secondly, intermediary needs are noted (the intermediary period relates to April 1993 - September 1994 when the proposed World Bank loan will be disbursed). Although the time frame of the document ends at September 1994, the drafters did take into account the ASAL Development Programme that begins

in 1994 and it has a 15 year perspective. Some of the short- and medium term projects of the DRP will lay the ground for the longer term ASAL programme.

ACRONYMS

ARI	Acute Respiratory Infection
ASAL	Arid and Semi-Arid Lands
CBPP	Contagious Bovine Pleuro-Pneumonia
CHW	Community Health Worker
CCPP	Contagious Caprine Pluero-Pneumonia
DDC	District Development Committee
DFRC	District Famine Relief Committee
DivFRC	Divisional Famine Relief Committee
DRP	Drought Recovery Programme
EEC	European Economic Community
EWS	Early Warning System
FAO	Food and Agriculture Organization
FHI	Food for the Hungry International
HABITAT	United Nations Centre for Human Settlements
KLDP	Kenya Livestock Development Programme
LFRC	Locational Famine Relief Committee
MENR	Ministry of Environment and Natural Resources
MOA	Ministry of Agriculture
MOH	Ministry of Health
MOLD	Ministry of Livestock Development
MOPW	Ministry of Public Works
MOWD	Ministry of Water Development
MRDASW	Ministry of Reclamation and Development of Arid and Semi-Arid Areas and Wastelands
MSA	Management Services Agreement
NGO	Non-Governmental Organisation
OP	Office of the President
ORS	Oral Rehydration Salts
PHC	Primary Health Care
PMU	Programme Management Unit
PPF	Project Preparation Facility
PRA	Participatory Rural Appraisal
SLFRC	Sub-Locational Famine Relief Committee
UN-DMT	United Nations- Disaster Management Team
UNDP	United Nations Development Programme
UNSO	United Nations Sudano-Sahelian Office
UNWG	United Nations Working Group
WFP	World Food Programme
WVI	World Vision International

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A. OVERALL CONCEPTUAL FRAMEWORK

1 THE DRIER ECOLOGICAL ZONES, THEIR ECONOMIES AND LOCATION

Drought conditions that prevailed in the country over the last two years have had deleterious impact in the districts of the arid and semi-arid lands (ASAL); and this impact varied with agro-ecological zone. Officially ASAL districts belong to four different agro-ecological zones: very arid (Zone VII), arid (Zone VI), semi-arid (Zone V) and semi-humid (Zone IV).

For the purpose of this report two agro-ecological zones are used: arid and semi-arid. In arid zones, population densities are low and nomadic pastoralism is the mainstay of the local economy. This form of production depends on utilizing scarce water and range resources. In wet seasons livestock are moved to rangelands not usually used in dry seasons and that depend only on ephemeral waterpoints -ponds and waterpans- that dry up as the dry season approaches. In the dry season animals are watered from more permanent waterpoints -springs, dug-waterholes and boreholes. The danger is that when the dry season turns into a long drought rangelands surrounding these waterpoints become degraded from over-grazing. The situation is further exacerbated with the arrival of livestock belonging to refugees from Somalia and Ethiopia as has occurred along the border districts of Marsabit, Madera, Wajir and Garissa.

The following northern and north eastern districts belong predominantly to the arid zones: Mandera, Wajir, Garissa, Marsabit, Turkana, Isiolo, Tana River and Samburu. However in some of these districts small semi-arid/ semi-humid ecological niches occur on mountain tops (viz. Marsabit Mountain in Marsabit District) or limited irrigated agriculture is a possibility (viz. irrigation from the Tana River in Garissa District) (see Table 1 below).

In the semi-arid ecological zones population densities are higher; and agro-pastoralism (ie livestock and crop production) is the dominant mode of local production. Livestock herding practices are more sedentarised, and at most follow a transhumant form of pastoralism (ie livestock are moved away from their homes to distant rangelands during the wet season, to be returned home during the dry season to utilize the home wells and adjacent rangelands). The local economies of agro-pastoral districts are frequently bolstered by remittances from numerous labour migrants, an important survival strategy in times of drought.

The following districts in northern and eastern Kenya belong predominantly to the semi-arid zone: Baringo, Laikipia, West Pokot, Tharaka Nithi, Kitui, Machakos, and Makueni.

Table 1 Population Size and Growth Rates in the 15 Districts

Arid Zone Districts	Pop 1989* (000)	Pop 1979 (000)	Av.Annual Growth Rate (1979-89)	Av.Annual** Growth Rate (1969-79)
Wajir	125	139	-1.06%	4.80%
Mandera	123	106	1.49%	1.10%
Garissa	124	129	-0.40%	6.85%
Marsabit	125	96	2.64%	6.13%
Isiolo	70	43	4.87%	3.60%
Samburu	114	77	3.92%	0.95%
Turkana	179	143	2.25%	-1.43%
Tana River	129	92	3.38%	5.90%
Sub-Total	989	825	1.83%	
Semi-Arid Zone Districts				
Laikipia	213	135	4.56%	7.01%
Machakos & Makueni	1393	1023	3.09%	3.68%
Kitui	640	464	3.22%	3.92%
Baringo	286	204	3.38%	2.31%
Tharaka-Nithi	1138	830	3.16%	3.30%
West Pokot	231	159	3.74%	6.62%
Sub-Total	3901	2815	3.32%	

* 1989 Population Census Provisional Results (Economic Survey)
** Based on actual census results for 1969 & 1979.

Source: GOK 1992 c.

2. *IMPACT OF THE DROUGHT: ARID ZONES*

The recent drought had its most severe impact in the arid zone districts. As a measure of the drought in the hot plains of North and North-Eastern Kenya, Lodwar in Turkana District had annual rainfall figures of 267 mm, 80 mm and 147 mm between 1989-1991. The impact of drought in North and North-Eastern Kenya was further exacerbated by the influx of an estimated over 400,000 refugees from Somalia, Ethiopia and Sudan.

The recent drought in the arid districts had the following deleterious impact:

- 70% loss of cattle and slightly less for small stock and camel herds and the total impoverishment of a large number of poor resource pastoral households and herders (livestock losses)

-the lowering of the water table and the drying up of waterholes, and hence an increasing reliance on more permanent waterpoints - deep waterholes, boreholes and springs. This in turn leads to overgrazing and rangeland degradation surrounding these more permanent water points (rangeland degradation)

- drop in livestock prices as the livestock market becomes flooded with an oversupply of poor conditioned animals thus denying pastoral households income and hence diminishing their purchasing power. This results in the slowing down of all sectors of the local economy (viz. commercial) for lack of cash flows (impoverishment of pastoral households and the local economies).

- drastic drop in the nutrition status of pastoralists denied easy access to milk and meat and power to purchase non-pastoral sources of food and hence becoming dependent on relief food. This in turn leads to the swelling of the populations of towns and trading centres and long term dependency on relief (malnutrition and dependency on relief)

-increase in diarrhoeal diseases, acute respiratory infection (ARI), tuberculosis, and eye infections and an increasing pressure on the local health services (health).

In some areas insecurity has been and continues to be an added problem.

3. *IMPACT OF DROUGHT: SEMI-ARID ZONES*

Although the districts of the semi-arid zone were less affected by the drought, the following realities occurred:

- poor or non-existent crop harvests

- loss of livestock

- lowering of the water table and increasing pressure on permanent water holes -springs, deep waterholes and boreholes- with the subsequent degradation of rangeland surrounding these water sources

-drop in livestock prices

-drop in nutrition status (this is particularly true in Kitui District).

4. *DROUGHT RECOVERY INTERVENTIONS: ARID ZONES*

4.1 Introduction

Five main sectors have been identified for the 18 month rehabilitation programme beginning in April 1993. These are water & sanitation (W & S), health and nutrition, livestock, agriculture and roads/ communication.

Certain cross-cutting concerns -environmental management, drought management and urban management- are also incorporated in the project design.

4.2 Livestock Sector

In the arid zone districts the livestock sector is the mainstay of the economy and hence is accorded high priority in efforts to revive the local economies. The main interventions that are being recommended are: improved livestock health based on vaccination control campaigns with respect to contagious bovine pleuro-pneumonia (CBPP), rinderpest and contagious caprine pleuro-pneumonia (CCPP); rehabilitating and enhancing the water network system (waterholes, waterpans and boreholes) for livestock; and rehabilitating market stock routes and their holding grounds.

It is important that the water interventions are managed in such a way that rangelands that have been heavily over-grazed during the drought are allowed to regenerate. This involves giving equal importance to upgrading waterholes (this involves lining them and building neck walls above them sufficiently high to avoid flooding during the wet season) and desilting waterpans in wet season rangeland to delay the return of livestock to dry season rangeland units particularly if these have been over-grazed during the recent drought.

Rehabilitating waterpoints that serve degraded range units will only accelerate range degradation and should at all costs be avoided.

Livestock herds particularly small stock (that have a five month gestation period) flocks have the ability of rebuilding quickly. To meet their demand for cash livestock producers need to have access to livestock auctions (particularly in January/ February 1993 and July/ August 1993 when animals are in good condition after the wet season grazing), and the buyers need holding grounds to move livestock down country. The above measures will not necessarily improve livestock prices unless some consideration is given to liberalizing the livestock export market. In the medium -term 1993-1994 this latter issue should be a topic of an applied study in order to incorporate this aspect into long-term planning for the arid areas. This work is best left with development agencies that have long-term commitments to the development of the livestock sector in North and North-East Kenya such as European Economic Communities (EEC), GTZ, and the World Bank ASAL Team.

The above interventions are aimed at economic growth of the livestock sector. Consideration will also be given to livestock redistribution within the livestock sector. The drought has reduced the herds of the poorer households to non-viable levels. This has pushed a large number of them out of the pastoral system resulting in greater dependency on famine relief and crowding of town populations.

To reduce this dependency on famine relief and to ease the pressure on towns poor pastoral households will be given extra animals either as gifts, loans or livestock-for-work to enable them to rebuild their herds to economically viable units. While these poorer households are rebuilding their herds they will continue to receive food either free, or on a food-for-work basis.

4.3 Agriculture

Agriculture is a minor sector in arid zone districts and confined to mountain tops and small-scale irrigation. Nevertheless all sectors need to be primed, and seeds, hand tools, fertilizers, and agro-chemicals will be provided to crop producers in the arid zones.

4.4 Water Sector

Due to the work of the Range Management Division (Ministry of Livestock Development)/ German Agricultural Team, and Ministry of Water Development/ Water Resources Assessment and Planning Project (WRAP) much is known about the network of water points (comprising of springs, waterpans, wells or water holes, boreholes, dams, and water supply from rivers) in the arid zones. The Range Management Handbook of the Range Management Division/

German Agricultural Team also provides essential information on the status of rangeland in the following districts: Samburu, Marsabit, Mandera, and Wajir. Work continues in order to provide data on the majority of the other districts in the arid zone.

This rich database can play an important role at district level and in collaboration with the communities themselves in decisions about which waterpoints need to be improved immediately. As mentioned above, every step must be taken to ensure that degraded rangelands will be rested and not provided with water for livestock until they have been renewed.

Given due concern for this environmental principle, the following types of waterpoints need to be rehabilitated or enhanced: water holes, waterpans and boreholes. A three-prong approach will be adopted in the water sector. District vehicles and equipment of the Ministry of Water Development will be repaired to strengthen their capability to rehabilitate and upgrade water points, and where necessary private contractors will be contracted to do the same. It is recommended that all operations be conducted with high levels of community consultation and participation through Water/ Range User Associations. It is government policy to hand over the ownership and management of water points to the local communities.

4.5 Health Sector

A primary health care (PHC) perspective is to be adopted. There is need to strengthen delivery of the PHC system in the arid zones in terms of rehabilitation of buildings, improved water supplies for health facilities, the construction of tuberculosis manyattas, increase in the number of health facilities in some districts, rehabilitation of transport, strengthening of certain cadre of staff (paediatricians, obstetricians/ gynaecologist, epidemiologists), strengthening of the cold chain through the use of solar energy refrigeration, ensuring the supply of vaccines, drugs and contraceptives, and greater emphasis on the role of community health workers (CHWs) particularly in the nomadic communities.
Growth monitoring and nutrition surveillance will continue to monitor nutrition status.

Finally, sanitation is a major concern in the towns and refugee camps to avoid outbreaks of typhoid, dysentery and cholera.

4.6 Road/ Communication Network

The recovery of the economy and delivery of services in the arid zones depends greatly on having a good road and communication network.

The main concern will be linkages of district headquarters with the national road network, and intra-district linkages between district and divisional headquarters, as well as linkages with important rangeland areas.

4.7 Education

Education -apart from the repair of school buildings- has not been identified by the authorities as a priority area in the short-term. This position needs to be re-considered. In normal times when herds are large the pastoral system relies heavily on children for herding labour. Household herds are divided into species specific herding units; and calves, kids and lambs are herded separately. The division of household herds into several separate herding or grazing units generates a great demand for labour including child labour. However droughts decimate herds and the demand for labour declines. This is the time that poorer households consider releasing their children to school particularly if the school also provides supplementary food.

Enrolment rates in the pastoral areas are away below the national average. Suitable campaigns could encourage more pastoral households to release children not required for herding to go to school. Another question relates to the suitability of the school curricula that are more appropriate for children with a sedentarised background of agriculture.

The pastoral system needs a whole range of skills: improved veterinary practices, water and range management skills (including skills to maintain pumps and boreholes, and to line waterholes, livestock marketing skills and knowledge of the wider market etc). It is necessary to examine how these skills can be provided through the local primary, village polytechnics, secondary school and non-formal systems, and what changes in the curricula are required to make this possible.

In the short-term there is a need to commission a study to assess the extent to which the current formal and non-formal education system of the pastoral areas serve current and future manpower needs of the local pastoral-based economies; and to make recommendations where change is required. This work is best left with the World Bank ASAL Team / MRDASW. Preliminary work in the field of training and manpower has been initiated by the World Bank ASAL Team (see World Bank Asal Team 1992 a & b); and human resource development will be a major component of the ASAL Development Programme which starts in 1994.

4.8 Urban Management

As the human growth rate in pastoral areas outstrips the growth rates of herds, more and more pastoral households are pushed out of the pastoral system. Many of these marginalized pastoral households take up residence in the trading centres and towns of the arid districts. They are attracted there by relief food, and the availability of schools and health facilities while some of the male members of the household remain in the pastoral system as herders (of their own stock or those of others). The rich pastoral households also establish residence in the trading centres and towns as they diversify their household economies towards trade, limited agriculture and dairy farming etc.

The above processes have contributed to enlarging the urban sector of the arid zones that nevertheless remain closely linked with the pastoral hinterland. The revenue of the local authorities is based on livestock sources and is limited; and much of the urban development is unplanned.

Urban centres in resource poor regions can play a key role in initiating and sustaining economic and social development but to ensure this, it is essential that resources are committed to building up the urban infrastructure and to human resource training (for details on what can be done in urban management in the short to medium term see Section C.4 below and Annex X).

B. STRATEGIES/ RECOMMENDATIONS OF THE SECTORAL WORKING COMMITTEES

1. Livestock Sector

1.1 Components of the Livestock Strategy

The livestock working committee decided to focus on 10 districts. These include all the eight arid zone districts identified above (see Section A.1 above), and two of the semi-arid zone districts, namely, Baringo and Laikipia Districts.

There are three main components to the livestock sector strategy for DRP: animal health, restocking, and livestock marketing. The animal health component consists in vaccination campaigns to control CBPP, CCPP and Rinderpest. Assistance is sought from donors to finance the vaccines, equipment, travel allowances for MOLD staff involved in the campaigns, maintenance and fuel costs for vehicles.

The restocking component in the arid zone districts aims at assisting 200-500 poor resource livestock owners per arid district to rebuild their flocks/ herds. Each of the selected

pastoral households will be provided with 40 head of small stock, food for six months to prevent them from having to sell female animals (before the household herd has been rebuilt), extension service and access to drugs.

The restocking component in the semi-arid zones -where agriculture is a major component of local economies- aims at providing households (in Taita Taveta, Makueni, Machakos, Kitui, Embu, Meru, Laikipia, Baringo, West Pokot and Keiyo Marakwet Districts) with draught animals to assist in ploughing, harrowing and weeding.

The third component of the livestock strategy consists in rehabilitating five strategic holding grounds (at Bargoni, Wenje, Kurawa, Miritini, and Boming Range), rehabilitation of Kenya Meat Commission cold room, revolving fund for hides and skins purchases, and a feasibility study on mobile facilities for the production of meat and bone meal.

Two major donors are involved in livestock development in the ASAL districts, namely, GTZ and EEC. GTZ operates an integrated food security programme involving a livestock development component in three districts - Samburu, Wajir and Marsabit. While EEC supports livestock development through the Kenya Livestock Development Programme (KLDP). It also supports vaccination programmes against rinderpest and CBPP in all of the 8 arid zone districts. EEC through KLDP is already rehabilitating key holding grounds apart from those mentioned above.

1.2 Institutional Arrangements

The staff of MOLD will implement the vaccination campaigns with the assistance of the District Development Committees (DDCs) and District Famine Relief Committees (DFRCs).

The restocking component will be financed by donors that have a presence in ASAL districts, and will be implemented by a number of players:DFRC, MOLD, local NGOs, local communities and the donor agency.

The rehabilitation of holding grounds and cold storage facilities are best implemented through private contractors either under contract with the MOLD or the Programme Management Unit (PMU).

1.3 Cost Estimates

Details of the cost estimates for the livestock sector are given in Annex III. Table 2 outlines costs by main components.

Table 2 Cost Estimates: DRP Livestock Sector
(K Shs 000)

		GOK Contribution
Animal Health	57,000	1,301
Livestock Marketing	24,000	
Restocking	130,000	
Total	211,000	

(Source: Annex III)

2. Agricultural Component

2.1 Introduction

The agricultural working committee under the chairmanship of FAO and with representation from the OP, MOA, MRDASW, bilateral and multi-lateral agencies and NGOs have already identified planting seed requirements with respect to maize, beans, cowpeas, vegetables and sorghum for 25 districts for the short-rains of 1992. The committee's estimates were based on those of the OP (see GOK (OP) 1992). To finance the agricultural inputs project GOK has provided K shs 10 m. and the following donors have also contributed: EEC (K.shs 10 m), GTZ (in the districts of Wajir, Marsabit and Samburu -approximately K shs 300,000), UK (100,000 pd sterling), and Canada (Canadian $ 25,00). USAID is using NGO outlets for this exercise.

The purchase and transport of seed to the districts is coordinated by OP in collaboration with UNDP's Emergency Relief Coordinator and with the assistance of a WFP officer seconded for the purpose. There are plans to replace the WFP officer with a government officer. Within districts the DFRC is responsible for distribution to the household level. UNDP/ WFP also plays a monitoring and a reporting role.

2.2 Agricultural Input Needs: Long-Rains 1993

More recently the agricultural working committee has turned its attention to identifying agricultural inputs for 26 districts during the long-rains of 1993 (see Annex IV). These are outlined in Table 3 below. Present preference of farmers relates to maize, cowpeas and beans (and to a much lesser extent sorghum and millet); and the common vegetables are kales/ spinach, tomatoes

Table 3 Long Rains Planting/ Seed & Chemical Requirement

Category I	Planting Seed <*> Maize	Beans	Cow Peas	Sorgh.	Veg.	Agro-Chemicals <**> Fert.	Dipt.	Cyper.
Tana River	25	8	6	2	50	175	3	200
Garissa	5	-	2	0.5	25	43.7	0.6	100
Isiolo	25	2.5	1	0.5	50	156	3	200
Mandera	20	-	2	0.5	25	118.75	2.4	100
Wajir	25	7.5	24	9	12.5	243.75	3	50
Marsabit	55	40	6	1	25	302	6.6	100
Samburu	40	12	-	0.4	25	217.5	4.8	100
Turkana	7.5	-	4	24	7.5	341	0.9	30
Sub-Total	202.5	70	45	37.9	220	1598	24.5	880
Category II								
Machakos	870	840	696	6.5	200	5620	130	800
Makueni	1078	850	840	31	200	5878	129	800
Kitui	490	560	750	10	200	2676	58.8	800
Tharaka-Nithi	70	245	25	10	200	1075	20.4	800
Laikipia	390	335	-	1	100	2012	47	400
Baringo	286	180	3	1	200	1506	34	500
West Pokot	325	132	-	4	100	1725	40	400
E/Marakwet	62.5	60	2	5	125	438	7.5	500
Taita Taveta	40	20	5	1	250	387	6	1000
Lamu	6	-	8	0.5	10	42.5	0.9	40
Kwale	5	4	20	0.5	125	100	0.75	500
Kajiado	125	160	2	-	250	750	15	1000
Sub-Total	3747.5	3386	2351	70.5	1960	22210	489	7540
Category III								
Kiambu	150	160	-	4	200	900	30	800
Nyeri	25.25	40	-	-	125	189	3	500
Muranga	37.5	20	10	1	125	253	4.5	500
Embu	175	200	80	15	200	1163	25.5	800
Meru	200	276	40	-	125	1063	24	500
Nyandarua	11.25	8	-	-	200	72	1.4	800
Sub-Total	599	704	130	20	975	3640	88.4	3900
Total	4549	4160	2526	128.4	3155	27448	601.9	12320

<*> All the planting seeds (maize, beans, cow peas and sorghum) are measured in metric tonnes, except for vegetable seeds which are measured in kilogrammes.

<**> The fertilizer (20:20:0) and the dipterex are measured in terms of metric tonnes; while cypermethrin is measured in terms of litres.

and onions. While the recommended rates for fertilizer on cereals are 250 kg/hectare (ha) , actual farmer use is almost half this amount. Accordingly the project will only provide for fertilizer at equivalent rate of 125 kg/ha.

The package of seed and agro-chemicals is sufficient for the cultivation of 0.5 ha of land per targeted household. Maize will be packaged in 10 kg packets, and each packet is sufficient to plant about 0.4 ha. Package size for other grains will be: sorghum 2 kg, beans and cowpeas 2 kg, and vegetable 100g. These other grains and vegetables will cover about 0.1 ha.

The districts are divided into three categories. Category I represent the districts in which the drought was most severe. They include all 8 arid zone districts where livestock production takes prominence over cultivation. Category II districts belong to the semi-arid zone, while category III districts belong to the high potential areas of the country. Certain pockets of the latter category of districts suffered severely from the drought.

One 50 kg bag of fertilizer will be supplied to each targeted household to be used principally on cereals (0.4 ha). This rate of application closely reflects current practices based on MOA surveys. No fertilizer will be supplied specifically for application to beans or cowpeas as presently little fertilizer is used on these crops, and, in many instances, they are grown under mix cropping regimes or in rotation with cereals.

Two pesticides, namely dipterex and cypermethrin will be provided for use on maize and vegetables. Dipterex will be supplied in packets for treatment of maize at rates of 3 kg/ ha which is close to current practice.

A set of hand tools consisting of a panga and hoe will be provided to a total of about 80,000 households on the basis of 30% of targeted households in category I, 15% in category II and 5% in category III.

Crop yields from the short-rains (1992) will determine to what extent district farm inputs requirements need to be re-assessed in order to draw up a fresh set of priorities. This process is best done through a close liaison between the DFRCs, MOA and the OP.

2.3 Institutional Aspects

The current institutional arrangements involves close partnership between the OP, UNDP's Emergency Relief Office, and DFRCs. The Kenya Seed Company is main supplier of the seed. A similar arrangement is foreseen under the DRP with the PMU replacing the Emergency Relief Office.

2.4 Cost Estimates

Cost estimates for planting seed, and agro-chemicals are outlined in Table 4 below.

Table 4 Cost Estimates for Agricultural Inputs

			unit cost	cost K shs (000)
Maize	4549	tonnes	27,000	122,823
Beans	4160	tonnes	19,000	79,040
Cow peas	2526	tonnes	17,000	42,942
Sorghum	128.4	tonnes	26,000	3,384.4
Vegetables	3155	kgs	500	1,577.5
Fertilizer	27448	tonnes	10,000	274,480
Dipterex	601.9	tonnes	20,000	12,038
Cypermethrin	12320	litres	300	3,696
Hand Tools				15,938
Transport				19,750 <*>
Total				575,669
			(= US $ 16,448,000)	

<*> Estimate based on 39,500 tonnes @ K shs 500/ tonne

3. Water Sector

3.1 Components of the Water Strategy

The water working group has focused its DRP plans on 8 priority I districts and 7 priority 2 districts. The priority 1 districts belong to the arid zone and these are Wajir, Isiolo, Mandera, Garissa, Samburu, Marsabit, Turkana and Tana River Districts. The priority 2 districts are located in the semi-arid zone and are namely Machakos, Laikipia, Kitui, W. Pokot, Tharaka-Nithi, Makueni and Baringo Districts.

The committee has identified three main components to their DRP strategy. The first component consists of the rehabilitation of vehicles and equipment of the MOWD in these districts in order to improve the capacity building of the ministry in the arid zone districts. The second component relates to rehabilitating mainly boreholes and waterpans in these districts. This component also include the construction or upgrading of waterholes. The third component stresses the importance of high levels of community participation in maintaining waterpoints through the establishment of Water User Associations. It is government policy to transfer the management and ownership of waterpoints - boreholes, waterpans and waterholes- to the local communities. This implies assisting local committees to acquire management and financial skills, and in training local level water technicians

in basic skills relating to maintenance of boreholes, pumps, waterpans and waterholes.

Table 5 Key Bilateral and Multilateral Agencies and NGOs in the Water Sector

District	NGO	Bilateral Agencies	Multi-Lateral Agencies
Wajir	World Vision Internat. (WVI) Oxfam African Inland Church	GTZ	UNICEF EEC
Mandera			UNICEF EEC
Marsabit	Food for the Hungry Int. (FHI) Inter-Aid WVI	GTZ	EEC
Garissa			EEC
Isiolo			EEC
Samburu	Oxfam Farm Africa Maralal Camel Derby Catholic Church FHI	GTZ	EEC
Tana River			

The water sectoral working committee has identified a number of bilateral and multi-lateral agencies, and NGOs already involved in the water sector in ASAL areas. Table 5 outlines this involvement on a district basis with respect to 7 of the arid zone districts.

This table shows that some districts are better endowed in terms of support from donor agencies and NGOs; and this facilitates potential donors in deciding where to invest in the water sector (for more details see Annex V. A).

EEC has already committed itself to financing the rehabilitation of boreholes, springs and waterholes in 6 of the 7 water focus districts - Mandera, Isiolo, Samburu, Marsabit, Garissa and Wajir (see Annex V. C). Implementation is conducted by private contractors.

UNICEF has employed 17 water engineers to work mainly with drought-effected and refugee populations. At present UNICEF in collaboration with GOK is drawing up short-term objectives and rehabilitation strategies for Northern and North Eastern Kenya

for the period between November 1992- April 1993 in water and sanitation (W & S) (see Annex V.D). The W & S plan covers all of the arid zone districts except Tana River District, and includes one semi-arid zone district, namely, Kitui District. The plan covers the full range of water technologies, and places emphasis in capacity building for MOWD and communities to manage their own waterpoints. Its commitment to community participation is reflected in its proposed organizational chart for implementation, that includes sociologists. The proposed budget for the eight district comes to $ 9.5 million.

3.2 Institutional Aspects

Major rehabilitation of vehicles and equipment will be conducted by the private sector. The Thika Landrover assembly plant manages a Landrover Rehabilitation Scheme which is coordinated by the Ministry of Public Works for all ministries.

The rehabilitation of boreholes and waterpans will also be conducted by private contractors under contract with the MOWD or the PMU. A high level of community participation will be encouraged in the construction or upgrading of waterholes.

Community participation in the maintenance of local waterpoints is best achieved at sublocational level where government interfaces most intimately with communities. This will involve using local extension staff to work through nomadic leadership structures and local NGOs in order to establish local water management institutions. MRDASW with the assistance of MOWD, NGOs and donor agencies is well placed to organize training courses in water maintenance for local-level personnel appointed by local communities. MRDASW is currently coordinating a project entitled "Development of Appropriate Water Related Approaches in ASAL" in which water management training is a major component. In addition, the possibility of linking up with the MOWD/ GTZ training workshops on the rehabilitation of pumps, power plant equipment, and community-based pump maintenance is being explored.

3.3 Cost Estimates

Details of the cost estimates in the water sector are broken down according to activity, district and priority category.

For the 8 priority 1 districts that are located in the arid zone, the estimate is K shs 405.4 million; and for the 7 priority 2 districts the estimate is K shs 106.6 m. This gives a total of K shs 512 m (for details see Tables 6 (a) & (b) and Annex V.A below).

Table 6(a) Summary of Interventions in the Water Sector: Priority 1 Districts (K shs 000)

Intervention	Mand -era	Waj -ir	Gari -ssa	Marsa -bit	Samb -uru	Isio -lo	Turk -ana	Tana River
Earth Moving	6000	1200	3200	3200	2400	3200	2000	3000
Repairs/Serv. Rehab of GOK	600	1000	1200	1200	1200	1200	1200	800
Vehicles. Rehab of	7200	25400	24000	22000	12000	6000	12000	5000
Boreholes. New WS/	5000	10000	6000	6000	2000	2000	6000	5000
Boreholes. Rehab of	-	-	-	2000	2000	2000	-	2000
Other WS <*>. Roof Catch.:	2000	2000	2000	1000	1000	1000	2000	1000
Construction. Dug Wells:	5000	4000	4000	4000	2000	2000	4000	6000
Upgrading. Surface Water	7400	1800	9000	2000	2800	3200	3000	3000
Catch.Rehab. Surface Water	-	600	5600	2000	2000	3200	1600	3000
Catch.:New . Community	2400	1800	4000	2400	2000	2000	3000	2500
O & M Training. Technical	1000	1800	2400	1600	2400	800	2000	2500
Support & Training . M & E	600	600	1000	1000	1000	1000	1000	800
. TRTP/Communic.	1200	1200	2400	1200	1200	1200	1600	1600
Capital Costs. Transport:	400	400	1200	1600	1600	2400	2000	2000
Operating Costs. Personnel/Tech	1600	1600	1600	2000	2000	2400	2000	2400
Assist/Train. Sanitation	2800	3200	4800	2800	2000	1800	2600	1600
. Envir.Protect	1600	800	2000	800	800	1200	1000	1000
. Studies	600	600	600	600	600	600	600	600
. Total	45400	58000	75000	57400	41000	37200	47600	43800
(Estimates) = 405,400								

<*> Springs, River intakes etc.

Table 6 (b) Summary of Interventions in the Water Sector: Priority 2 Districts (K shs 000)

Intervention	Macha -kos	Laiki -pia	Kitui	West Pokot	Thark. -Nithi	Makue -ni	Barin -go
Earth Moving Repairs/Serv.	-	-	-	-	-	-	2000
Rehab of GOK Vehicles	200	200	200	200	200	200	200
Rehab of Boreholes	4000	3500	5000	1200	-	-	1000
New WS/ Boreholes	-	-	-	-	-	-	-
Rehab of Other WS <*>	-	-	7000	4000	6000	-	1500
Roof Catch.: Construction	1000	700	1000	1000	500	1000	1000
Dug Wells: Upgrading	1000	1000	7000	4000	4000	1000	2000
Surface Water Catch.Rehab	-	2500	5000	500	-	2000	1500
Surface Water Catch.:New	-	1000	2000	1000	-	1000	-
Community O & M Training	500	300	500	300	300	300	300
Technical Support & Training	500	700	1000	700	500	500	500
M & E	300	300	500	300	300	500	300
TRTP/Communic. Capital Costs	300	300	500	300	300	500	300
Transport: Operating Costs	300	300	500	300	300	500	300
Personnel/Tech Assist/Train	300	300	500	500	300	500	500
Sanitation	500	500	700	500	500	700	500
Envir.Protect	500	500	700	500	500	700	500
Studies	200	200	200	200	200	200	200
Total (Estimates) = 106,600	9600	12100	32600	15600	13700	9900	13100

<*> Springs, River intakes etc.

4. Health Sector

4.1 Components of the Health Strategy

The health working committee divided the original 15 ASAL drought stricken districts into two categories according to malnutrition levels. Category A districts are those with the higher levels of malnutrition and include all the 8 arid zone districts (Mandera, Turkana, Samburu, Garissa, Wajir, Isiolo, Marsabit and Tana River Districts) plus one semi-arid zone district -Kitui District. Category B districts include Makueni, Laikipia, Tharaka Nithi, Machakos, West Pokot and Baringo Districts.

The health strategy is based on strengthening the health infrastructure (buildings, transport, equipment, patient rations, laboratory diagnostic capability, epidemiological capability, water and sanitation at health facilities) and the PHC system it supports (essential drug kits, vaccination, control of diarrhoeal diseases, vector control, training of community residents, community health workers and traditional birth attendants). However family planning does not obtain adequate emphasis.

The main components of the health strategy are:

-Transport:the rehabilitation of existing vehicles belonging to the MOH in the districts; the purchase of new vehicles in certain districts and maintenance/ operating costs of these;

-Buildings:the rehabilitation of health facilities (hospitals, health centres and dispensaries) and the construction of TB manyattas;

-Equipment: the repair and servicing of equipment such as X-Ray machines, theatre lights etc and the purchase of new equipment such as beds, portable X-Ray machines, incubators, diathermy machine, sterilizers, anaesthetic machines etc

-Patient Rations: supplementary to what GOK provides due to the increased influx of patients

-Supplementary Feeding of Children

-Extra Essential Drug Kits (outpatient drug kits, health centre drug kits, and dispensary drug kits) and non-pharmaceutical supplies to meet the increased number of patients

-Improvement of Laboratory Diagnostic Services involving the purchase of equipment such as microscopes etc.

-Improvement of Water and Sanitation at Health Facilities, and

Vector Control (mainly against mosquitoes)

-Training of Community-Based Health Workers and Traditional Birth Attendants and the Provision of Educational Materials

-Immunization (strengthening of the cold chain, provision of immunization kits etc)

-Control of Diarrhoeal Diseases (provision of ORS sachets)

-Strengthening the Epidemiological Capability of Districts (training of field staff, computers, data sheets, office equipment etc)

-Establishment and Commissioning of IV Fluids Plants at Selected Government Hospitals

Requirements of the health sector are provided on a district basis (see Annex VI).

4.2 Cost Estimates

Estimated costs on a district basis are outlined on a district basis in Annex VI. The overall estimated costs of the health strategy for all 15 districts are outlined in Table 7 below.

Table 7 Summary of the Health Strategy Estimated Costs
(K Pds)

Transport	2,343,825
Buildings	1,527,100
Equipment	861,575
Patient Rations	808,548
Supplementary Feeding	5,018,160
Medical Supplies	
-Drug Kits	16,318,614
-Non-Pharmaceutical Supplies	3,286,768
-Laboratory Equipment	1,466,487
Water & Sanitation, and Vector Control	3,433,730
Training, and Health Education	2,052,128
Immunization	694,790
Control of Diarrhoeal Diseases	43,800
Enhancing Epidemiological Capability	233,500
Establishment of IV Fluid Plants	118,966
Total	38,207,991

5. Some General Conclusions

5.1 Geographical Focus

While all sectoral working groups consider the needs of all the 15 ASAL districts outlined in the GOK DRP (see GOK (OP) 1992) they nevertheless tend to focus on a more limited number of districts on the understanding that (i) the arid zone districts suffered most from the drought and (ii) the DRP will only have a real impact if resources are concentrated on a smaller number of districts. The livestock sector group has focused on all of the 8 arid zone districts, plus two semi-arid zone districts. On the basis of nutritional findings, the health sector group gives top priority to the 8 arid zone districts, and one semi-arid zone district (see Section B.4.1 above). The water sector group has focused mainly on all the eight arid zone districts except Tana River District.

The agricultural inputs group presents an exception. This group identified needs in all of the 15 ASAL districts plus 10 other districts. This is understandable as crop production is more important in the local economies of semi-arid districts, and hence these also had to be included.

5.2 A Number of Players

There are a number of players involved in either relief/ rehabilitation work or planning in the arid zone districts.

Firstly, at the district level the government coordinates the relief and rehabilitation effort through the DDCs and DFRCs that operate at district level but are also organized at divisional, locational and sub-locational levels. The submission of the drought management consultant highlights the importance of strengthening these structures to better respond to droughts (see Section C.3 below & Annex VIII).

At the national level, the National Famine Relief Co-Ordinating Secretariat of the OP coordinates relief and rehabilitation activities; and MRDASW is responsible for policy making with respect to ASAL districts (see viz. GOK 1992 c).

Secondly, bilateral and multilateral agencies such as GTZ, EEC and UNICEF are currently financing and implementing rehabilitation activities in all or some of the 8 arid zone districts. An essential component of their programmes is capacity building and assistance to relevant government ministries at district level. They all have staff on the ground working closely with government; and some such as UNICEF has a strong logistics support comprising of transport planes that fly regularly to North and North Eastern Kenya. Because of this capacity UNICEF

has provided support to the Ministry of Health in transporting medical supplies and equipment from the Central Medical Stores in Nairobi to Wajir, Mandera and Garissa.

The World Bank ASAL Team financed by Netherlands, Germany and UNSO and under the coordination of MRDASW plays an important role in policy and planning for the ASAL districts. They are presently involved in the planning of the ASAL Development Programme that begins in 1994 with proposed funding from the World Bank and other donors. They are in the process of formulating District Environmental Action Plans for the ASAL districts with the assistance of the District Environment Officers and consultants in close consultation with district administration and communities. This will provide an useful source of planning data for the DRP.

GTZ under the coordination of the MOLD is producing a Range Management Handbook for a number of the arid zone districts which provides detailed mapping and data on water and range resources. The WRAP project together under MOWD provides another useful source of data on water resources in the ASAL districts. The UNDP financed "Development of Appropriate Water Related Approaches in Asal" under the coordination of MRDASW is playing an important role in planning and training in five of the ASAL district.

Thirdly, NGOs such as Farm Africa, African Muslim Agency, the churches (viz. Catholic Church, African Inland Church, Anglican, National Council of Churches of Kenya (NCCK), Oxfam, FHI, WVI, Inter-Aid, Action Internationale Contre la Faim etc are active in relief and development activities in the ASAL districts.

Given the variety of players active in the ASAL areas, coordination is best achieved at district level. It is at this level under the coordination of the DDCs and the DFRCs that all the players can work out detailed district-specific plans of action for the 18 month DRP with respect to the key sectors. A good example of this type of planning and coordination is shown by the MOWD's lead with MOLD in planning for water at district level in collaboration with NGOs, and bilateral and multi-lateral agencies. This type of planning is particularly illustrated by the "Proposed Emergency Water Plan For Wajir District" (see Annex V. B)

C. RECOMMENDATIONS/ STRATEGIES OF INDIVIDUAL CONSULTANTS

1 Roads and Other Infrastructure

1.1 Roads

The roads rehabilitation strategy has two main components. Firstly, the rehabilitation of 1096 km of roads in 7 priority

districts identified below. Secondly, the rehabilitation of of vehicles and machinery of the MOPW in the same districts, in order to renew the ministry's capacity to maintain roads in these districts.

Roads Rehabilitation

The roads engineer consultant in close collaboration with MOPW has prioritized districts. First priority is given to 7 of the arid zone districts, namely, Mandera, Wajir, Garissa, Samburu, Marsabit, Isiolo and Turkana. Information is also given on 9 other ASAL districts, namely, Laikipia, Machakos, Makueni, Kitui, Baringo, Tana River, Tharaka-Nithi, West Pokot and Lamu.

In the 7 priority districts there are 12,088 kms of classified roads. The DDCs have identified 4,900 km of classified and unclassified roads which need to be rehabilitated in the next four years. Field visits have confirmed that over 70% of the classified roads in the districts are in need of repairs and rehabilitation. This task cannot be completed in the short-term. Hence only priority roads within these districts have been identified. The following preference criteria were used in the selection:

-preference was given to all-weather roads connecting major population centres with high potential areas of the country

-preference was given to intra-district roads that link district headquarters to high potential rangelands that are currently without permanent waterpoints and hence can only be used for short periods during the wet seasons

-preference was given also to roads that act as trucking routes for livestock exports and the importation of food and other commercial commodities.

These preference criteria helped to identify 1096 kms (392 kms to be regravelled, and 704 kms from earth to gravel) of roads for repair and rehabilitation over a period of 24 months in the seven priority district (see Appendix 1, Annex VII). In addition these roads would require drainage structure improvements. More general requirements for the remaining 9 districts are given in Appendix II, Annex VII.

Capacity Building of MOWD at District Level

Due to financial constraints budget allocations to the MOPW have been inadequate. This meant that MOPW was unable to maintain vehicles and machinery, and hence maintenance work on roads suffered. This in turn necessitates the need for major investment in periodic rehabilitation of the roads network in these districts.

1.2 Telecommunications

Communication between district headquarters and the national telephone network system is adequate. However intra-district communication between district headquarters and divisional headquarters is poor. While a long term development of the communication system would have to be the subject of a detailed study by a telecommunications expert, the DRP would provide 28 units of 125 W. HF/SSB radio units are an interim measure to improve intra-district communication with sensitive areas within districts.

A four man-month consultancy for a detailed study is provided for in the cost estimates.

1.3 Other Infrastructure

District authorities have identified the need to rehabilitate and improve other infrastructures: storage facilities at divisional level, the repair of schools, dispensaries, health centres and hospitals, airstrips, market places, slaughter houses etc. It is not possible to survey these needs in such a short time, hence it is recommended that a 6 month consultancy should be provided in order to identify and cost these additional requirements.

1.4 Institutional Aspects: Road Sector

Before the DRP starts in April 1993, the PMU should employ a chief engineer -using Project Preparation Facility (PPF) funds- to design and cost in detail the roads rehabilitation project, and to prepare bidding documents for tendering. This would be a four man-month commitment. In his/ her work the chief engineer would work closely with the MOPW.

The construction work would be contracted out to private contractors; and supervisory work to Consulting Engineers.

1.5 Cost Estimates

Cost details broken down in terms of investment costs, civil works costs, and technical assistance & consultancies are shown in Table 8 below (for details see Appendix III, Annex VII).

Table 8 Estimated Costs: Roads and Communication
(K shs 000)

I Investment Costs	
-Vehicles, Radio Sets, Rehab & Spare Parts	31,946
-Civil Works	672,290
-Technical Assistance & Consultancies	50,617
II Recurrent Costs	1,150
Total	756,003

The total costs are estimated to be K shs 756.003 m or Us $ 21.724 m (1 US $ = K shs 34.8) divided between K shs 525.644 m foreign costs and K shs 6.619 m local costs.

2. Drought Management

2.1 Introduction

Currently when droughts occur GOK re-activates at the national level the National Famine Relief Co-Ordination Secretariat (located in the OP), and at district and sub-district levels famine relief committees known as the DFRC, Divisional Famine Relief Committee (DivFRC), the Locational Famine Relief Committee (LFRC), and the Sub-Locational Famine Relief Committee (SLFRC). Their function is to identify drought-created needs such as food, water shortages, emergency sale of livestock and to take action to meet these needs.

Drought management aims to reduce and manage the impact of drought in order to prevent a famine (see GOK (MRDASW 1992)). GOK has recognized the need for a full drought management capacity covering all aspects including drought contingency planning, drought intervention and drought recovery. This is exemplified by a series of recent GOK documents relating to drought management (see GOK 1992 a, b & c , GOK (OP) 1992).

A report commissioned by the EEC, WFP and Royal Netherlands Embassy in collaboration with MRDASW recommended that the Turkana Drought Contingency Planning system be extended with modifications to four other ASAL districts beginning in 1993, with a complete coverage of all 16 ASAL districts in twenty years (see GOK (MRDASW) 1992).

It is proposed here that all ASAL districts ought to begin to develop a drought management capacity in the short-term. It is a question of transforming current GOK Famine Relief structures and activities -which at present are only activated when droughts occur- into permanent drought management structures and

activities, and in the process revamping national and district institutions (within the framework of the District Focus Strategy) to take on drought management responsibilities on a permanent basis (see Annex VIII).

2.2 Making the Move From Drought Relief To Drought Management

It is proposed that National, District and Sub-District Famine Relief Committees be converted in to National, District and Sub-District Drought Management Committees. At the National Level it is proposed that 7 senior government be seconded to the National Drought Management Secretariat. It is also proposed that District Drought Management Secretariats (staffed by a drought management officer, drought planning officer and a drought data officer) be established in all of the 16 ASAL districts (i.e. 48 officers). District Drought Management Secretariats would be supported by divisional drought monitors (on average 5 per district), and drought management field monitors (on average 25 per district)>

All staff would be seconded from within government; and hence GOK would carry staff costs. Drought and Field Monitors should be familiar with local culture, language and production systems. The main task of the District Drought Management Secretariat would be to collect data relevant to drought conditions (viz. rainfall and its distribution, livestock movements, livestock prices, nutrition levels, food prices etc) and to draw up plans that can be implemented at community level to strengthen local economies to better respond to drought conditions (viz. creation of cereal banks controlled by communities themselves, the sale of livestock in good years and depositing some of the sale price in savings accounts that can then be used during drought years, the installation of controlled waterpoints in rangeland that is reserved for drought periods, the improvement of roads to facilitate easy movement etc.).

Communities would be involved at all stages of drought contingency planning to ensure that indigenous drought coping mechanisms be incorporated into all plans.

Training, transport, and office space/ equipment will be required.

2.3 Estimate of Costs

Cost details are available in Annex VIII. The overall required investment is outlined in Table 9 below.

Table 9 Estimated Costs of the Drought Management Strategy (US $)

Source	Amount	
GOK	US$ 978,000	42%
Donors	US$ 1,358,000	58%
Total	US$ 2,337,000	100%
Previous Investment (Office and Staff Housing)		
GOK	US$ 3,623,000	100%
Donors	US$ 0	0
Total	US$ 3,623,000	100%
Total Inputs		
GOK	US$ 4,601,000	77%
Donors	US$ 1,359,000	23%
Total	US$ 5,960,000	100%

3. Management of the Range/ Environment

3.1 Introduction

Environmental concern over the degraded areas of the rangeland due to heavy concentrations of livestock around permanent waterpoints (such as boreholes) during the drought prompted the employment of a range management specialist. Environmental considerations also feature in the findings of the water sector working committee (see Annex V.A). It is essential that impact of the rehabilitation of existing waterpoints and the expansion of a network of new and upgraded waterpoints on livestock movement and the use of the rangelands be assessed. At all costs livestock concentrations for long periods around permanent water must be avoided.

Nomadic pastoralists are aware of the need to rest certain areas of the range as indicated by their movement away from permanent water during wet seasons. But they are not always able to put this concern into practice because vast areas of the range are beyond the reach of cattle and small stock (but not camels) during dry periods because of the lack of permanent waterpoints in these remote areas. The latter can be opened up in some instances for more regular use through the judicious use of boreholes. However access to such boreholes must also be controlled to ensure that the surrounding rangelands are not over-used.

The range management component focuses on six of the arid zone districts, namely, Turkana, Marsabit, Mandera, Wajir, Garissa and Tana River Districts.

3.2 Range Management/ Environmental Strategy

(a) The main components of the range management/ environmental strategy are: waterpan/ dam protection and the provisional of additional water troughs, establishment of grass seed bulking plots in areas of poor rangeland, the construction of mini-spate diversion for collecting and spreading of water for opportunistic fodder production, and the support of MOLD livestock extension workers at divisional level.

Waterpoint Protection
In order to control access to waterpans/ dams it is essential that an hectare surrounding these waterpoints be fenced. Thirty six waterpoints will be protected in this manner, six in each of the six targeted districts.

Seed Plots
In each of the above districts 10 degraded sites will be selected for establishing grass seed propagation plots. This would consist of fencing off one hectare of rangeland to be oversown with indigenous perennial grass seed. The fenced off plot would be located on the windward side of the open degraded area.

Mini-Spate Diversion
Four sites in Turkana and one site in each of the other five districts would be selected for fodder production through using mini-spate diversion technology. These fodder plots would provide alternative sources of feed hence relieving pressure on range resources.

Extension
In order to make extension staff more mobile two vehicles per district will be rehabilitated and operating costs provided.

(b) Other elements of the range management/ environmental strategy are: revegetation and woodlots, and environmental education.

Revegetation and Woodlots
Communities would be assisted to regenerate the tree and shrub coverage of degraded areas surrounding population centres and waterpoints through the construction of nurseries and the provision of water and fencing. In close consultation with the communities and under the direction of the District Environment Officer, three waterpoints and one town community from each district would be selected for this project component.

Environmental Education
Training seminars in environmental issues for government officers and community leaders in 16 of the ASAL districts would be held. These seminars would be conducted by the National Environment Secretariat. Training of participants in participatory rural appraisal (PRA) methodologies will be encouraged.

3.3 Institutional Arrangements

Interventions which involve control over access to scarce water and range resources will only work with high levels of community involvement. Communities must be involved at all stages of the environmental projects -project design and site selection, implementation, and monitoring/ evaluation. Technical inputs in project implementation design and implementation and training will be provided by district and sub-district officers of MOLD, MOA, and the Ministry of Environment and National Resources (MENR), and the National Environment Secretariat. Final approval of projects will be given by the DDC and DFRC.

3.4 Estimate of Costs

Estimated costs relating to the range management/ environment strategy are outlined in Table 10 below; and details are provided in Annex IX.

Table 10 Estimated Costs of the Range Management/ Environment Strategy

(K shs 000)

(a) Range Management	
Waterpoint Protection	2,900
Seed Plots	3,000
Mini-Spate Diversion/ Irrigation	17,100
Support to Livestock Extension	7,000
Sub-Total	30,000
(b) Other Environmental Interventions	
Revegetation/ Woodlots:Waterpoints	6,800
Protected Areas:Population Centres	2,000
Environmental Education	2,200
PRA Training	3,200
Sub-Total	14,200
Total	44,200

4. Urban Management in Arid Zones

4.1 Urban Management Strategy

The proposed urban management strategy has two components: (i) to address priority concerns in infrastructural services with particular focus on water, sanitation, and solid waste management and with respect to three towns Mandera, Wajir and Isiolo; and (ii) to improve local capacity (a) to plan for and manage urban settlements in arid zones and (b) to create appropriate income generating activities for their residents.

4.2 Institutional Arrangements

The approach will be to work through town councils, line ministries, NGOs and on-going development programmes financed by bilateral and multi-lateral donors (sometimes referred to as the "Wajir Model" see Section B.5.2 above). Community participation is essential at all stages of the project cycle and as part of this town consultation and training workshops are being proposed. Already town residents have shown their willingness to participate in building up the infra-structural services of their towns.

4.3 Estimate of Costs

Table 11 Estimated Costs of the Urban Management Strategy
(US $ 000)

Project formulation	37
Socio-economic study	12
Solid waste input/ training	50
Rainwater harvesting:demonstration	27
Town consultation workshops	7
Training of community leaders	30
Water treatment works rehabilitation	150
Hydrogeological review/survey	25
Night soil collection improvements	80
Water systems improvements	60
Improved latrine-based sanitation	105
Road/drainage improvement	127
Multi-purpose training centre	60
Urban planning & management	59
Project management support	86
Total	915
UNCHS overhead charge (13%)	119
Grand Total	1,034

D MANAGEMENT ISSUES

1. Organizational Aspects
2. Disbursement Issue

(These issues are currently being negotiated)

E OVERALL ESTIMATE OF COSTS

Table 12 below outlines the overall costs by sector. In order to provide the reader with some concept of what the DRP will cost on a district basis the average estimated costs (for each sector and the whole programme) per district are provided in the 5th column. The average estimated costs per district to implement the whole package per district is US $ 7.457 m. Given the size of the arid zone districts, their relative neglect in the past, and their needs in terms of roads, health, water and livestock sectors this figure is modest.

Sectors can be ranked in terms of district-based spending. The road and communication sector is the highest spender, followed by the health, water, agriculture and livestock sectors.

Table 12 Overall Estimated Costs of the Drought Recovery Programme

Sector	K.shs (000)	US $ <*> (000)	Nr of Dist-ricts	Av. Per District
Livestock Sector	211,000	6,029	10	603
Agricultural Inputs	575,669	16,448	26	633
Water Sector	512,000	14,629	15	975
Roads & Communication	756,003	21,600	7	3,086
Drought Management	81,795	2,337	16	146
Health Sector	764,160	21,833	15	1,456
Range Management/ Environment	44,200	1,263	6	211
Urban Management	36,190	1,034	3	347
Administrative Costs <**>	N/A	N/A		
Current Known Total	2,981,017	85,173	-	7,457

<*> Exchange Rate: 1 US $ = K shs 35

<**> As the negotiations about structure and disbursement procedures of the proposed DRP were not finalized when writing this draft of the report it was not possible to estimate administrative costs.