

NOTES ON KWDP

JOINT FORMULATION ENERGY MISSION

DECEMBER 1987

TABLE OF CONTENTS

Reorientation of KWDP	1
Annex A KWDP Kakamega and Kisii	3
Annex B KWDP Headquarters	10
Annex C KWDP Murang'a Project	13
Annex D Notes on KWDP Mass Intervention	22
Annex E Unresolved Issues	24
Annex F TOR KWDP Management Consultant	26

NOTES ON KWDP

Reorientation of KWDP

1.0 The principles of Programme budget reformulation for Kakamega and Kisii are essentially based on a phase out model. Those for KWDP Headquarters, which supports KWDP district work, have been laid out in the main text. A reformulation of Muranga on the new model has already been completed and is included in this section. The Nakuru budget, at present, remains unaltered from the KWDP original submission although the relation of task to cost in the Nakuru submission remains problematic.

1.1 KWDP must urgently move to a new perception of its own role in support of MOERD woody biomass initiatives. Although KWDP management and senior staff have been informed that MOERD regards KWDP as a project, not an institution, KWDP management and senior staff continued to ignore the implications of this decision.

1.2 The new model of KWDP is that it responds to MOERD requests for wood energy planning and management assistance at district level. Additionally, KWDP will facilitate, on request, the implementation of woody biomass energy projects by the relevant line ministries within the districts. The wood energy planning and management expertise within KWDP is based on its reputation as an R&D programme within the wood energy sector.

1.3 KWDP will be required to develop a phase in : phase out form of intervention, a distinctly different form of intervention than that currently practiced. Although the phases of intervention will be broadly similar namely research, planning and implementation, the form of intervention must be more intensive to support MOERD's district initiatives. Consequently the research component must be increasingly based on rapid appraisal techniques rather than detailed surveyed; the planning must be focused through the DEDO to the DDC and there must only be support for implementation by line ministries not KWDP implementation per se.

1.4 The implications of such a model has a profound impact on the management and financial situation within KWDP. Firstly KWDP Headquarters must be only a supportive body for district level intervention rather than an entity that dominates the KWDP programme. Secondly existing proposals for expansion of KWDP activities in Kakamega and Kisii as submitted, must be rejected and, as soon as possible, a planned phase out programme begun, so that only a core of professional staff remain. Muranga requires to fit the new intervention model and serious questions should be raised about the proposals to undertake Nakuru in the "traditional" KWDP research model. Finally for the next three years KWDP must make its basic goal the transfer of existing knowledge and techniques for woody biomass production to MOERD

to line ministries operating at district level and MOERD nominated NGO's. Above all KWDP must commit itself as a project to the MOERD district development initiatives and cease defining its own policies which are increasingly at odds, particularly institutionally, with the broad direction of GOK policy.

1.5 JFEM members attempted to talk with KWDP management and senior staff on the budget implications of the new model. KWDP declined. While JFEM members are sympathetic to this position, given the changing institutional framework within which KWDP is situated, JFEM interprets such a refusal as another sign of the continuing managements problems within KWDP, especially the inability to read the institutional landscape in which they operate. While supervision of management is scheduled to increase , with Steering Committee Meetings at much greater frequency, JFEM Members agree that there should be a fiscal limit on KWDP activities as specified in the overall budget, until such time as KWDP demonstrates that it seeks to serve MOERD rather than continue its autonomous development.

This is not to belittle the achievement of KWDP- the major achievement of which is the strong core professional staff. Despite assurances from JFEM the core staff were not effected by the proposed changes, KWDP staff raised the issue of other levels of workers currently employed by KWDP. Although JFEM Members indicated similar employment opportunities will be created by the MOERD initiative, KWDP staff remained , at best unconvinced.

1.6 Annex A contains TOR for reformulating KWDP Kakamega and Kisii as well as the JFEM indicators for budget restructuring. Annex B contains similar detail for KWDP HQ. Annex C contains a brief on the purpose of the Muranga project, TOR for Muranga reformulation and the budget for KWDP Muranga.

1.7 Annex D and E contain two requested notes from the JFEM on KWDP's Mass Extension Programme and some unresolved issues for policy consideration. Finally Annex F contains TOR for a management consultancy to look at management issues raised by the KWDP reorientation.

ANNEX A

TERMS OF REFERENCE FOR THE PREPARATION OF KWDP KAKAMEGA AND KISII PROJECTS

Background

1. The DG15 has supported KWDP activity in Kakamega and Kisii since 1984. The initial focus was on producing replicable methodologies through R and D that could meet the fuelwood challenge. This work was extensively pursued and in general KWDP will now have to move to a more intensive model, i.e. strong professional support to MOERD on a rapid intervention model with clearly defined output.
2. During the second phase (1988-1990), the planned activities in Kisii and Kakamega are:
 - a) Kisii
 - agroforestry trials including hedgerow species trials, indigenous species trials including for waterlogged areas, establishment of seed production units and trials to assess the effectiveness of seed sales and packaging;
 - extension activities through groups, rallies and field days, schools, radio programmes;
 - support programmes including audio-visual aids and monitoring of KWDP approaches;
 - research including seasonal wood consumption survey, operation of local markets for trees and tree products in urban, semi urban and rural areas, and development of appropriate means of conserving fuelwood.
 - b) Kakamega
 - production of three films to complement the two already produced;
 - monitoring of films in schools;
 - establishment of new seed production units and collection of seeds from farmers and other sources;
 - testing of seed sales;
 - 16 on-farm trials of indigenous and exotic species on four sublocations for the purpose of demonstration;
 - training (in-house?) of existing senior and junior extension agents (training and seminars);
 - detailed monitoring of on-station trials; and
 - woodfuel consumption and conservation surveys, and woodfuel marketing survey.

3. The KWDP plan of operation for the second phase is an outline and the work programme bears little or no relationship to the accompanying detailed budget. It is therefore recommended that a detailed work programme and budget for year 1 and indicative work programme and budget for year 2 and 3 is prepared within one month.

Objectives

4. The primary objective of the preparation of the plan of operation to specify project activities and attendant budgets commensurate with scaled down manpower and activities thus facilitating a smooth and rapid transfer of knowledge.

In particular, the preparation of the plan of operation detailing activities will address itself to the following issues:

a) detailed work programme and budget of the in-house training courses and seminars including:

- (i) number of participants;
- (ii) indicative training programme content;
- (iii) duration and venue of training as well as frequency;
- (iv) number of lectures;
- (v) specification of associated costs.

b) development and verification of technical agroforestry recommendations and packages including:

(i) establishment of on-farm management trials on selected farms;

- identification/selection of selected on-farm management trials;
- specification of management options;
- project assistance to these trials;
- project monitoring input;
- detailed costing associated with the trials.

(ii) on-farm agroforestry trials including:

- location, size and number of agroforestry trials;
- determination of availability of land and establishment of modality of project-farmer cooperation;
- determination of project/farmer contribution;
- detailed costing related to design, lay-out, planting and monitoring.

(iii) on-station agroforestry trials (including sub-zonal trials) including:

- location, size and number of trials as well as nurseries;
- availability of water and requisite infrastructure;
- determination of requirements of seeds, labour, and other supplies;
- determination of other project inputs;
- detailed costing of associated requirements.

c) Development of seed collection and supply system including:

- (i) number, size, location and species composition of seed production units;
- (ii) indicative number of schools, clubs, farmers per zone envisaged to be involved in seed supply and supply enhancement including expected supply by source, indicated prices;
- (iii) indicative seed supply from local and external sources;
and
- (iv) detailed costing of the activities included above.

d) Other studies

- (i) objectives of the studies, justification and expected results;
- (ii) time scheduling and resource requirements; and
- (iii) detailed cost of the activities.

5. Prepare an indicative plan and budget for year 2 and 3.

Duration

7. The detailed work programme and budget for year 1 and indicative programme will be presented to MOERD within one month.

8. Tables 1 + 2 reflect JFEM reformulation of budget that would agree with the broad outlines presented by the reorientation of KWDP in Kisii and Kakamega.

TABLE 1 Analysis of KWDP Kakamega Budget

VOTE NO.	'000 SHILLINGS VERN RECOMMENDATION	KAKAMEGA COMMENT
0	478	As Project declines, so should real accomodation costs.
1	964	Similarly with decline, expect administrative cost reduction.
2-02-01	967	
02	662	
03	580	
04	580	
05	153	One year only
06	153	One year only
07	-	
08	-	Swift phase out of extension
09	-	and limited responsibility
10	580	
11	397	
12	121	
13	121	
14	174	
15	-	
16	-	Only one nursery of transferable size is recommended.
17	-	
18-27	-	Omit - not transferable
28	154	
29	154	
30	47	(
31	47	(One year only
32	47	(
33	-	Not transferable
2-02-60	500	Use casual labour to phase out 46.6% labour - rounded up (47%).
90	660	
8.1	218	
3.2	698	No advice year III

4.1	570	Production proportional to labour.
4.2	105	No reduction - Kakamega as exemplar.
4.3	78	
4.4	38	No year III
5.1	1,114	Reduction proportional to labour
5.2	49	Reduction proportional to labour
6.1	-	
6.2	-	
6.3	305	
6.4	-	
6.4	3,470	Requires urgent MOERD review
6.5	198	No year III
6.6	99	No year III
6.7	-	
6.8	-	
6.9	-	
7.1	65	Reduction proportional to labour
7.2	-	
8.0	-	
9.0	1,210	Reduction proportional to labour

TABLE 2 Analysis of KWDP Kisii Budget

VOTE NO.	'000 SHILLINGS		KISII
	VEFM	RECOMMENDATIONS	COMMENT
0	633		As project declines, so should real accommodation costs.
1	928		Similarly with decline, expect administrative cost reduction
2-02-01	967		
02	662		
03	547		
04	547		
05	487		
06	153		1 year only
07	153		1 year only
08	-		
09	-		
10	580		
11	397		
12	121		
13	121		
14	174		
15-27	-		4 equivalents to casual labour
28	154		
29	154		
30-32	141		1 year only each person
33	-		
60	500		(including drivers)
90	720		calculated as 51% labour
3.1	235		
3.2	787		Reduction proportional to labour
4.1	601		Reduction proportional to labour
4.2	50		Reduction proportional to labour

4.3	98	
4.4	55	1 year
5.1	1,228	Reduction proportional to labour
5.2	54	Reduction proportional to labour
6.1	127	Retained for trials
6.2	-	
6.3	305	
6.4	-	
6.5	2,205	Requires urgent MOERD review
6.6	141	Smaller 1 year programme
6.7	-	
6.8	-	
6.9	-	
6.10	-	
7.1	71	Reduction proportional to labour
7.2	-	
8.0	-	
9.0	958	Reduction proportional to labour

ANNEX B

TERMS OF REFERENCE FOR KWDP-HQ

Table I outlines what the JFEM thinks is maximum core staff. In view of the fact that significant portions of what was submitted as Nairobi Headquarters Phase 2, 1988-90 activities belong to the MOERD and further that in the restructured framework, the MOERD Project Steering Committee will have policy and management responsibilities over significant programming funds, it is important that KWDP Headquarters needs be evaluated within the next 6 months.

The terms of reference will have to include and not be limited to:

1. A review of staffing needs at Headquarters including all management, professional and subordinate staff.
2. A review of Headquarters activities in support of phasing out needs of Kisii and Kakamega.
3. A review of Headquarters activity in support of the new framework Murang'a District project.
4. A review of Headquarters activity in support of Nakuru District Project.
5. More specific proposals for KWDP contribution to MOERD District Energy Initiatives given the priorities identified in JFEM report.
6. A comprehensive review of financial and administrative processes to:
 - a) decentralize planning, budgeting and accountability to district programmes;
 - b) work out details of reporting to unified Project Steering Committee and donors.
7. Work out modalities of programme reporting to the unified MOERD Project Steering Committee.
8. Work out details of internal KWDP decision making with respect to staffing in view of MOERD needs for absorption of staff in the long term.
9. Develop a 3 year budget related to all tasks identified above for MOERD and donor consideration.

Table 3 contains the JFEM assessment of a probable budget for KWDP Headquarters given its redefined role in support of MOERD district level activity.

TABLE 3 Analysis of KWDP HQ Budget

VOTE NO.	'000 SHILLINGS		KWDP HEADQUARTERS
	VERN RECOMMENDATION		COMMENT
0.1	720		Assumes move to Ngong with smaller quarters reflecting reduction in headquarter staff
0.2	99		Assume overbudget since office size declines
0.3	76		
1	-		Requires substantially reduced sum - JFEM cannot determine it. No KWDP board
2.1	-		
2.2-01	1,102		
02	967		
03	967		
04	-		Not KWDP responsibility
05	967		
06	-		Not KWDP responsibility
07	-		Not KWDP responsibility
08	967		
09	-		
10	535		
11	967		
12	-		Move responsibility to district
13	-		
14	507		
15	-		Move responsibility to district: KWDP budget smaller.
16	-		
17	967		
18	741		
19	-		
2.2-20	507		
21	-		

ANNEX C

KWDP MURANG'A PROJECT

1. The main objective of the KWDP Murang'a Project is to develop "biological" technical packages and innovative extension approaches complementary to existing extension methodologies that would ensure sustained integration of woody biomass at farm level. The specific objectives of the project include:
 - a) to develop a manpower capacity at all levels of the district for planning, preparation and implementation of agroforestry projects;
 - b) to develop appropriate technical agroforestry options for the introduction of appropriate agroforestry species into existing farming systems which will contribute to soil stability and fertility, fodder, fuelwood and construction timber to farm households;
 - c) to develop appropriate woody biomass management packages to enhance woody biomass supply for the various end-users mentioned in (b) above;
 - d) to increase woody biomass integration on off-farm and on-farm conservation structures with purpose of increasing food production;
 - e) to develop innovative extension approaches complementary to the existing approaches of the line ministries which would ensure a more rapid adoption of technical agroforestry packages; and
 - f) to develop a seed production and collection/supply system of multi-purpose agroforestry tree species which will support sustained development of agroforestry within the district.
2. The proposed KWDP/Murang'a Project is a research and development project with a determined life span. It supports district level line ministries' activities in the area of broadening the agroforestry species base for integrating woody biomass and developing innovative extension approaches complementary to existing approaches. The limited life span of the project implies that the budgetary burden of transfer of KWDP into the normal activities of MOERD be minimized as much as possible.
3. The principles that should be observed in broadening the

species base for integration of wood biomass and woody biomass management packages are:

- a) an assessment of the district-level tree species planting effort and management techniques currently applied with the active participation of MOA, MENR/RAES, MOLD and non-governmental organizations involved in agroforestry programmes;
 - b) selection of multi-purpose agroforestry species (indigenous and exotic species) and technical management packages with the active participation of the organizations mentioned above;
 - c) systematic and fast screening of species and the setting up of provenance trials of the most promising species with the active participation and involvement of the institutions mentioned above;
 - d) setting of seed production and collection/supply system with the active participation of the same; and
 - e) monitoring of the efforts mentioned with the active participation of the same.
4. Such process will ensure the internalization of the project activities into the work programme of the institutions through incremental integration. Further, this will help attain the training objectives stipulated in the project and minimize the staff requirements of the project.
5. The principles that have to be adhered to in the development of complementary extension approaches are:
- a) testing and evaluation of innovative approaches developed for Kisii and Kakamega in Murang'a with the active participation of the line ministries and non-governmental organizations at district level;
 - b) presentation of alternative extension approaches that are believed to be feasible on a priori ground by KWDP for consideration by the above mentioned institutions;
 - c) selection of alternative extension approaches, development of selected extension approaches, and small-scale field-testing with the active participation of the staff of the institutions mentioned above;
 - d) monitoring and evaluation of the efficacy of the extension approaches being field tested in terms of

cost effectiveness, complementarity and integrability and replicability; and

- e) selection of feasible extension approach(es) to complement existing extension approaches and field monitoring of the same by line ministries and non-governmental organizations with the assistance of KWDP.
6. The process outlined above will serve the training purpose indicated above, internalize the whole R and D within the institutions involved and allow a smooth transfer of KWDP activities and functions.
7. The Plan of Operation as outlined in the Murang'a District Project Phase 2, 1988-90 of October 1987 is very sketchy and bears no relationship to the funding requests (Appendix 3) of November 1987. The outline Plan of Operation envisages the following:
- a) Training and Manpower Development which will include:
 - (i) consultative meetings with the DDC;
 - (ii) consultative meetings with key officers of MOA, MOLD, MOERD, MOENR/RAES, MCSS.
 - b) Development and Verification of Technical Agroforestry recommendations and packages will include:
 - (i) establishment of Eight Provenance trials with four species in the five zones: tea, coffee, maize, maize/bean and dry zones;
 - (ii) cultural activities related to the provenance trials;
 - (iii) farm management studies (12 farms);
 - (iv) on-farm trials on 12 farms to determine the range of agroforestry possibilities;
 - (v) establishment of undetermined number of controlled trials; and
 - (vi) longitudinal socio-economic studies on "typical" farm and farm families.

- c) Development and Verification of mass extension approach to disseminate the technical agroforestry recommendations and packages including:
 - (i) an extension approach that deals with inculcating deliberate planting of agroforestry trees;
 - (ii) an extension approach with tree-planting require mixed agroforestry configuration and tree management; and
 - (iii) an extension approach with harvesting and end-use utilization focus.
 - d) Development of seed production and collection system based on schools.
7. The outline of Plan of Operation as presented by KWDP (6 above) cannot be considered as a base for the proposed detailed budget. Given that a budget is a summation of costed activities, it is essential KWDP prepares a detailed work programme and budget for the first year and an indicative work programme for the second and third year. Although this exercise is planned for December and January a certain framework within which the exercise has to be done needs to be defined. This includes the following considerations:
- a) the built-in phasing of the project implies the recruitment of a small core professional staff and requisite supportive staff that can easily be absorbed by the GoK. Further, the core staff will be supported by KWDP Headquarters staff thus obviating the need for consultancy input;
 - b) clearly, some activities are outside KWDP domains. These are: training, research and human development which are the responsibilities of MOERD;
 - c) the cost associated with the establishment of the centre and operational funds associated with running of centre extend over the life of the project. Therefore, the centre is MOERD activity, but run by KWDP during the R and D phase.

A more detailed T.O.R. for the preparation of detailed work programme and budget for year 1 and indicative for years 2 and 3 is attached.

- 8. The proposed KWDP/Murang'a budget derived from the envisaged activities above is shown in Table 3.

Table 3	KWDP Muranga derived Budget		
	1988	1989	1990
0. Rents, electricity, and water	78,000	43,000	48,000
1. Administrative/computer cost	179,000	248,000	273,000
2. KWDP Murang'a staff	1,605,000	2,261,000	2,491,000
3.1. Local contract work	64,000	78,000	98,000
3.2. International contract work	495,000	273,000	300,000
4.1. National travel KWDP staff	182,000	257,000	283,000
4.2. National travel contract staff	-	49,000	-
4.3. National travel contract staff	65,000	27,000	31,000
4.4. International travel contract staff	40,000	46,000	53,000
5.1. Murang'a car pool	330,000	431,000	473,000
5.2. Non project vehicles	110,000	160,000	183,000
6.3. Seed production units	35,000	100,000	115,000
6.4. Seed production programme	255,000	367,000	534,000
6.5. Mass Intervention test programme	135,000	440,000	975,000
6.6. On-farm agroforestry trials	90,000	53,000	60,000
6.7. On-station agroforestry trials	90,000	57,000	77,000
7.1. Reporting	15,000	46,000	63,000
9.1. Transport equipment (vehicles)*	1,963,000	252,000	188,000
9.2. Miscellaneous	113,000	96,000	104,000
Total	5,844,000	5,284,000	6,528,000

TERMS OF REFERENCE FOR THE PREPARATION OF THE KWDP MURANG'A
PROJECT

Background

1. The Swedish International Development Agency (SIDA) has supported Kenya Soil and Water Conservation programmes since 1973. The initial focus of the programme was reduction soil depletion, destruction and/or erosion through the construction of soil conservation structures and rehabilitation of eroded lands. Experiences gained over the years have indicated the important role of preventive measures using approaches and resulted in gradual integration of such measures. However, the absorptive capacity of MOA/Soil and Water Conservation Branch was believed to be so limited that support to other Kenyan institutions capable of integrating woody biomass to increase the effectiveness of soil conservation and related activities was deemed essential.

2. It is within this context that Beijer/KWDP was commissioned by the Ministries of Agriculture and Livestock Development/Soil and Water Conservation Branch and Ministry of Energy and Regional Development to carry out a District Resource Analysis (DRA) of Murang'a under a grant provided by SIDA. The aims of the DRA were "to provide a clearer insight into the existing on-farm woody biomass in the district: its management, functions and consumption patterns, and its inter-relationships with prevailing demographic, environmental, agricultural, infrastructural, cultural and socio-economic conditions, in order to plan for effective intervention to activities to increase the quantity and quality of woody biomass energy and to conserve soil and water".

3. The KWDP has made a good start in outlining the plan of operation of the proposed agroforestry development programme, namely:

- a) development/manpower development;
- b) development and verification of technical agroforestry recommendations and packages;
- c) development and verification of mass extension approaches;
- d) development of seed production and collection systems; and
- e) monitoring of agroforestry packages and investigation on other project related issues.

However, a more detailed work programme for the first year and indicative work programmes for the second and third years that corresponds to the budget should be prepared. However, this should be based on the core staff of District Manager, administrator, secretary, accountant, extension/training monitoring/research and agroforestry experts.

Objectives

4. The primary objective of the preparation of the plan of operation to establish project activities' linkages with those of the line ministries engaged in energy and energy-related activities (MOA, MOENR, MOLD, NGO's) with a view of creating a smooth transfer of functions within the three year period.

In particular, the preparation of the plan of operation detailing activities will address to the following issues:

- a) detailed work programme and budget of the manpower development component including:
 - i) determination of target groups for training programme i.e. district officers, divisional officers, technical officers and technical assistants;
 - ii) indicative training programme content;
 - iii) duration and venue of training as well as frequency;
 - iv) number of lecturers;
 - v) specification of associated costs.
- b) development and verification of technical agroforestry recommendations and packages including:
 - i) establishment of on-farm management trials on selected farms:
 - identification/selection of selected on-farm management trials;
 - specification of management options;
 - project assistance to these trials;
 - project monitoring input;
 - detailed costing associated with the trials.
 - ii) development of nursery and planting techniques on local and group/individual nurseries including:
 - identification of nurseries and communities that require assistance in this connection;
 - number of location of nurseries;
 - definition of needed support;
 - determination of project input to enhance their activities;
 - preparation of detailed costings for the component.

iii) on-farm agroforestry trials including:

- location, size and number of agroforestry trials;
- determination of availability of land and establishment of modality of project-farmer cooperation;
- determination of project/farmer contribution;
- detailed costing related to design, lay-out, planting monitoring.

iv) on-station agroforestry trials (including sub-zonal trials) including:

- location, size and number of trials as well as nurseries;
- availability of water and requisite infrastructure;
- determination of requirements of seeds, labour, and other supplies;
- determination of other project inputs;
- detailed costing of associated requirements.

c) development and verification of mass extension approaches including:

- i) test trials of mass extension approaches developed for Kisii and Kakamega, together with cooperating institutions in the various zones;
- ii) joint evaluation of relevance of the extension approaches;
- iii) definition, selection of alternative complementary mass extension approaches by KWDP and cooperating district institutions;
- iv) development of verification of selected approaches with the active participation of the cooperating institutions;
- v) evaluation of the feasible and cost-effective mass extension approaches; and
- vi) detailed costing of the activities indicated above.

e) monitoring of agroforestry packages and other project studies including:

- i) objectives of the studies, justification and expected results;
- ii) time scheduling and resource requirements; and
- iii) detailed cost of the activities.

5. Prepare an indicative plan and budget for years 2 and 3.

Duration

6. The detailed work programme and budget for year 1 and indicative work programme will be presented to SIDA/NAIROBI before January 15, 1988.

ANNEX D

Notes on KWDP Mass Intervention

Some observations on KWDP's Mass Intervention Test Programmes in Kisii and Kakamega.

1. None of the extension techniques which KWDP is testing is unique or innovative. Experiences with these techniques across the world are well documented in a great number of publications. There seems to be little need to prove that in Kakamega films are able to draw large audiences.
2. Films used as extension materials in developing countries need to be situation specific in order to be effective. If the Kakamega films meet this condition, then it very much restricts the geographical scope of application and consequently negatively influences their cost effectiveness.
3. Films are capable of creating awareness and can be used for motivation if they are followed by a discussion. They are less effective in instruction unless they are accompanied by a study guide. This, of course, increases the overall costs of the mass intervention considerably. KWDP Kakamega so far has produced awareness film (45 minutes), and 1 instruction film on the establishment of a nursery (45 minutes). It plans to produce three more instruction films over the next three years.
4. The production of films (and other media) requires skilled manpower and considerable financial resources. The utilization of films as extension technique has proven to be problematic in most developing countries basically because of operational constraints. Against this background it is unlikely that line ministries of GOK are capable or willing to adopt the extension technique.
5. From a pure research point of view, there seems little need for KWDP to continue with the production of films. For testing purposes, those produced already suffice.

If, however, MOERD sees it as useful to have the complete film package for training purposes, then KWDP could be asked to complete the planned intervention films on transplanting, tree management, harvesting and conservation.

6. Kisii plans to test the effectiveness of radio in motivating individuals to raise trees for fuelwood. Again it can be said that level of effectiveness of radio in this respect has been researched in many countries. There is no need to duplicate this. Instead KWDP could better concentrate on

surveying, listing habits and preferences in Kisii and testing various radio messages.

7. It seems fair to recommend that KWDP changes its extension research focus from testing the effectiveness of various extension methods, which will reveals not much more that is already known.
8. This has a consequence that there will be a much reduced need for KWDP extension operations in the field, with consequences on staffing requirements and operation costs.
9. It is acknowledged that KWDP has served to give Kenyans opportunities to gain professional experience in extension techniques and research, and that the proposed redirection of the extension research strategy means deviation of the prevailing research activities. The Mission proposes this redirection on the basis of two factors:
 - a) the original T.O.R. of KWDP which clearly indicate the need for research in replicable methods;
 - b) the urgent need for rapid applied research which will provide fast results for advising line ministries of feasible agroforestry/extension techniques.

The Mission feels that more attention and time is needed to underpin this recommendation for redirection and therefore strongly recommends that within the next 6 months an evaluation is conducted of KWDP extension research in relation to the original KWDP T.O.R. and that in conjunction with MOERD and KWDP, a feasible research strategy is mapped out for KWDP in conformity with the needs of MOERD.

6. Almost all agroforestry projects in the country have concentrated on planting new biomass and not enhancing existing biomass. Most issues in biomass in ASALs require massive inputs in management. How is this to be approached?
7. JFEM has developed a plan to staff DEDO as suggested by MOERD. The budgetary implications of this are that # 3,395,000 will be needed for the 30 districts suggested. Recurrent budget requirements are in the order of KP 780,000. If this strategy is followed, MOERD will get a District Focus oriented energy development strategy. Will there be budgetary allocations for this expansion? Will this priority activity lead to cutting back on grounds already covered by previous activities or slowdown in District Focus Strategy expansion?
8. The District Resource analysis, as developed by KWDP, presents a vast amount of knowledge about the overall woody biomass situation at farm level. To structure this knowledge, a focus was made on one enduse, namely woodfuel. The idea behind this was to find out what triggers the production of this product at farm level. The conclusion was that cultural barriers obstruct production prospects and to solve this an awareness campaign was launched.

KWDP has emphasized this approach convinced that, once the cultural barrier is removed, problems will be solved. The extension products emphasize this message.

However, experience elsewhere show that fuelwood production is largely seen as a by-product of the trees in agroforestry systems. ICRAF is, for example, following this line. MOERD and donors need to mount a professional evaluation of this approach of direct fuelwood production in the near future to enable them to decide on resource utilization. This is an urgent matter for the unified MOERD Steering Committee.

ANNEX F

TOR FOR KWDP MANAGEMENT CONSULTANCY

The JFEM understands that there are plans afoot to put a new manager in KWDP. Given that such a manager will come when past KWDP operating framework and style are changing leading to new programme focus and hence management needs, the JFEM is of the opinion that a management consultant should be appointed to assist in the organisation of KWDP.

The basic tasks of such a management consultancy will be to:

1. Restructure KWDP programme to fit into the MOERD District Energy Initiatives and the phase in, phase out 4 year cycle.
2. Work out with KWDP how it is to develop its district work plans with line ministry officials at district level and how those work plans are to be integrated to MOERD work plans.
3. Work out with KWDP management internal methods and procedures for:
 - a) defining new activities;
 - b) defining decision making processes particularly with respect to KWDP relationships with DDCs, DEDOs and other programmes in the districts where it is working.
 - c) redefining management responsibilities of KWDP HQ Staff (Nairobi) and district staff.
 - d) manner of fund-raising and relations with MOERD and donors with respect to fund-raising.
 - e) issues of staffing levels with respect to their eventual absorption into MOERD.
 - f) formal methods of transferring KWDP knowledge to MOERD.

NOTES ON KWDP

JOINT ENERGY FORMULATION MISSION

DECEMBER 1987

Thursday 7
Intercon.
DF Documents.

TABLE OF CONTENT

Reorientation of KWDP	2
Annex A KWDP Kakamega and Kisii	4
Annex B KWDP Headquarters	10
Annex C KWDP Murang'a Project	13
Annex D Notes on KWDP Mass Intervention	20
Annex E Unresolved Issues	22
Annex F TOR KWDP Management Consultant	24

NOTES ON KWDP

Reorientation of KWDP

1.0 The principles of Programme budget reformulation for Kakamega and Kisii are essentially based on a phase out model. Those for KWDP Headquarters, which supports KWDP district work, have been laid out in the main text. A reformulation of Muranga on the new model has already been completed and is included in this section. The Nakuru budget, at present, remains unaltered from the KWDP original submission although the relation of task to cost in the Nakuru submission remains problematic.

1.1 KWDP must urgently move to a new perception of its own role in support of MOERD woody biomass initiatives. Although KWDP management and senior staff have been informed that MOERD regards KWDP as a project, not an institution, KWDP management and senior staff continued to ignore the implications of this decision.

1.2 The new model of KWDP is that it responds to MOERD requests for wood energy planning and management assistance at district level. Additionally, KWDP will facilitate, on request, the implementation of woody biomass energy projects by the relevant line ministries within the districts. The wood energy planning and management expertise within KWDP is based on its reputation as an R&D programme within the wood energy sector.

1.3 KWDP will be required to develop a phase in : phase out form of intervention, a distinctly different form of intervention than that currently practiced. Although the phases of intervention will be broadly similar namely research, planning and implementation, the form of intervention must be more intensive to support MOERD's district initiatives. Consequently the research component must be increasingly based on rapid appraisal techniques rather than detailed surveys; the planning must be focused through the DEDO to the DDC and there must only be support for implementation by line ministries not KWDP implementation per se.

1.4 The implications of such a model has a profound impact on the management and financial situation within KWDP. Firstly KWDP Headquarters must be only a supportive body for district level intervention rather than an entity that dominates the KWDP programme. Secondly existing proposals for expansion of KWDP activities in Kakamega and Kisii as submitted, must be rejected and, as soon as possible, a planned phase out programme begun, so that only a core of professional staff remain. Muranga requires to fit the new intervention model and serious questions should be raised about the proposals to undertake Nakuru in the "traditional" KWDP research model. Finally for the next three years KWDP must make its basic goal the transfer of existing knowledge and techniques for woody biomass production to MOERD to line ministries operating at district level and MOERD nominated NGOs. Above all KWDP must commit itself as a project to the MOERD district development initiatives and cease defining its own policies which are increasingly at odds, particularly

institutionally, with the broad direction of GOK policy.

1.5 JEFM members attempted to talk with KWDP management and senior staff on the budget implications of the new model. KWDP declined. While JEFM members are sympathetic to this position, given the changing institutional framework within which KWDP is situated, JEFM interprets such a refusal as another sign of the continuing managements problems within KWDP, especially the inability to read the institutional landscape in which they operate. While supervision of management is scheduled to increase, with Steering Committee Meetings at much greater frequency, JEFM Members agree that there should be a fiscal limit on KWDP activities as specified in the overall budget, until such time as KWDP demonstrates that it seeks to serve MOERD rather than continue its autonomous development.

This is not to belittle the achievement of KWDP- the major achievement of which is the strong core professional staff. Despite assurances from JEFM the core staff were not effected by the proposed changes, KWDP staff raised the issue of other levels of workers currently employed by KWDP. Although JEFM Members indicated similar employment opportunities will be created by the MOERD initiative, KWDP staff remained, at best unconvinced.

1.6 Annex A contains TOR for reformulating KWDP Kakamega and Kisii as well as the JEFM indicators for budget restructuring. Annex B contains similar detail for KWDP HQ. Annex C contains a brief on the purpose of the Muranga project, TOR for Muranga reformulation and the budget for KWDP Muranga.

1.7 Annex D and E contain two requested notes from the JEFM on KWDP's Mass Extension Programme and some unresolved issues for policy consideration. Finally Annex F contains TOR for a management consultancy to look at management issues raised by the KWDP reorientation.

ANNEX A

TERMS OF REFERENCE FOR THE PREPARATION OF KWDP KAKAMEGA AND KISII PROJECTS

Background

1. The DG15 has supported KWDP activity in Kakamega and Kisii since 1984. The initial focus was on producing replicable methodologies through R and D that could meet the fuelwood challenge. This work was extensively pursued and in general KWDP will now have to move to a more intensive model, i.e. strong professional support to MOERD on a rapid intervention model with clearly defined output.
2. During the second phase (1988-1990), the planned activities in Kisii and Kakamega are:
 - a) Kisii
 - agroforestry trials including hedgerow species trials, indigenous species trials including for waterlogged areas, establishment of seed production units and trials to assess the effectiveness of seed sales and packaging;
 - extension activities through groups, rallies and field days, schools, radio programmes;
 - support programmes including audio-visual aids and monitoring of KWDP approaches;
 - research including seasonal wood consumption survey, operation of local markets for trees and tree products in urban, semi urban and rural areas, and development of appropriate means of conserving fuelwood.
 - b) Kakamega
 - production of three films to complement the two already produced;
 - monitoring of films in schools;
 - establishment of new seed production units and collection of seeds from farmers and other sources;
 - testing of seed sales;
 - 16 on-farm trials of indigenous and exotic species on four sublocations for the purpose of demonstration;
 - training (in-house?) of existing senior and junior extension agents (training and seminars);
 - detailed monitoring of on-station trials; and
 - woodfuel consumption and conservation surveys, and woodfuel marketing survey.
3. The KWDP plan of operation for the second phase is an outline and the work programme bears little or no relationship to the accompanying detailed budget. It is therefore recommended that a detailed work programme and budget for year 1 and indicative work programme and budget for year 2 and 3 is prepared within one month.

Objectives

1. The primary objective of the preparation of the plan of operation to specify project activities and attendant budgets commensurate with scaled down manpower and activities thus facilitating a smooth and rapid transfer of knowledge.

In particular, the preparation of the plan of operation detailing activities will address itself to the following issues:

- a) detailed work programme and budget of the in-house training courses and seminars including:
 - (i) number of participants;
 - (ii) indicative training programme content;
 - (iii) duration and venue of training as well as frequency;
 - (iv) number of lectures;
 - (v) specification of associated costs.
- b) development and verification of technical agroforestry recommendations and packages including:
 - (i) establishment of on-farm management trials on selected farms;
 - identification/selection of selected on-farm management trials;
 - specification of management options;
 - project assistance to these trials;
 - project monitoring input;
 - detailed costing associated with the trials.
 - (ii) on-farm agroforestry trials including:
 - location, size and number of agroforestry trials;
 - determination of availability of land and establishment of modality of project-farmer cooperation;
 - determination of project/farmer contribution;
 - detailed costing related to design, lay-out, planting and monitoring.
 - (iii) on-station agroforestry trials (including sub-zonal trials) including:
 - location, size and number of trials as well as nurseries;
 - availability of water and requisite infrastructure;
 - determination of requirements of seeds, labour, and other supplies;
 - determination of other project inputs;
 - detailed costing of associated requirements.

- c) Development of seed collection and supply system including:
 - (i) number, size, location and species composition of seed production units;
 - (ii) indicative number of schools, clubs, farmers per zone envisaged to be involved in seed supply and supply enhancement including expected supply by source, indicated prices;
 - (iii) indicative seed supply from local and external sources; and
 - (iv) detailed costing of the activities included above.
- d) Other studies
 - (i) objectives of the studies, justification and expected results;
 - (ii) time scheduling and resource requirements; and
 - (iii) detailed cost of the activities.

5. Prepare an indicative plan and budget for year 2 and 3.

Duration

- 7. The detailed work programme and budget for year 1 and indicative programme will be presented to MOERD within one month.
- 8. Tables 1 + 2 reflect JEFM reformulation of budget that would agree with the broad outlines presented by the reorientation of KWDP in Kisii and Kakamega.

TABLE 1 Analysis of KWDP Kakamega Budget

VOTE NO.	'000 SHILLINGS		KAKAMEGA COMMENT
	GOVERN	RECOMMENDATION	
0		478	As Project declines, so should real accomodation costs.
1		964	Similarly with decline, expect administrative cost reduction.
2-02-01		967	
02		662	
03		580	
04		580	
05		153	One year only
06		153	One year only
07		-	Swift phase out of

08	-	extension and
09	-	limited
		responsibility
10	580	
11	397	
12	121	
13	121	
14	174	
15	-	Only one nursery of
16	-	transferable size is
17	-	recommended
18-27	-	Omit - not
		transferable
28	154	
29	154	
30	47	(
31	47	(One year only
32	47	(
33	-	Not transferable
2-02-60	500	Use casual labour
		to phase out
90	660	46.6% labour -
		rounded up (47%)
8.1	218	
3.2	698	No advise year III
4.1	570	Production propor-
		tional to labour
4.2	105	No reduction -
		Kakamega as exemplar
4.3	78	
4.4	38	No year III
5.1	1,114	Reduction propor-
		tional to labour
5.2	49	Reduction propor-
		tional to labour
6.1	-	
6.2	-	
6.3	305	
6.4	-	
6.4	3,470	Requires urgent
		MOERD review
6.5	198	No year III
6.6	99	No year III
6.7	-	
6.8	-	
6.9	-	
7.1	65	Reduction propor-
		tional to labour
7.2	-	
8.0	-	
9.0	1,210	Reduction propor-
		tional to labour

TABLE 2 Analysis of KWDP Kisii Budget

VOTE NO.	000 SHILLINGS VEFM RECOMMENDATIONS	KISII COMMENT
0	633	As projeect declines, so should real accommodation costs
1	928	Similarly with decline, expect administrative cost reduction
2-02-01	967	
02	662	
03	547	
04	547	
05	487	
06	153	1 year only
07	153	1 year only
08	-	
09	-	
10	580	
11	397	
12	121	
13	121	
14	174	
15-27	-	4 equivalents to casual labour
28	154	
29	154	
30-32	141	1 year only each person
33	-	
60	500	(including drivers)
90	720	calculated as 51% labour
3.1	235	
3.2	787	Reduction proportional to labour
4.1	601	Reduction proportional to labour
4.2	50	Reduction proportional to labour
4.3	98	
4.4	55	1 year
5.1	1,228	Reduction proportional to labour
5.2	54	Reduction proportional to labour
6.1	127	Retained for trials
6.2	-	
6.3	305	
6.4	-	

ANNEX B

TERMS OF REFERENCE FOR KWDP-HQ

Table I outlines what the JEFM thinks is maximum core staff. In view of the fact that significant portions of what was submitted as Nairobi Headquarters Phase 2, 1988-90 activities belong to the MOERD and further that in the restructured framework, the MOERD Project Steering Committee will have policy and management responsibilities over significant programming funds, it is important that KWDP Headquarters needs be evaluated within the next 6 months.

The terms of reference will have to include and not be limited to:

1. A review of staffing needs at Headquarters including all management, professional and subordinate staff.
2. A review of Headquarters activities in support of phasing out needs of Kisii and Kakamega.
3. A review of Headquarters activity in support of the new framework Murang'a District project.
4. A review of Headquarters activity in support of Nakuru District Project.
5. More specific proposals for KWDP contribution to MOERD District Energy Initiatives given the priorities identified in JEFM report.
6. A comprehensive review of financial and administrative processes to:
 - a) decentralize planning, budgeting and accountability to district programmes;
 - b) work out details of reporting to unified Project Steering Committee and donors.
7. Work out modalities of programme reporting to the unified MOERD Project Steering Committee.
8. Work out details of internal KWDP decision making with respect to staffing in view of MOERD needs for absorption of staff in the long term.
9. Develop a 3 year budget related to all tasks identified above for MOERD and donor consideration.

Table 3 contains the JEFM assessment of a probable budget for KWDP Headquarters given its redefined role in support of MOERD district level activity.

TABLE 3 Analysis of KWDP HQ Budget

	000 SHILLINGS	KWDP HEADQUARTES
NOTE NO.	VERN RECOMMENDATION	COMMENT
0.1	720	Assumes move to Ngong with smaller quarters reflecting reduction in headquarter staff
0.2	99	Assume overbudget since office size declines
0.3	76	Requires substantially reduced sum - JEFM can not determine it.
1	-	No KWDP board
2.1	-	
2.2-01	1,102	
02	967	
03	967	
04	-	Not KWDP responsibility
05	967	
06	-	Not KWDP responsibility
07	-	Not KWDP responsibility
08	967	
09	-	
10	535	
11	967	
12	-	Move responsibility to district
13	-	
14	507	
15	-	Move responsibility to district: KWDP budget smaller
16	-	
17	967	
18	741	
19	-	
2.2-20	507	
21	-	
22	525	
23	372	
23(a)	372	Assuming higher written output, one extra person
24	121	
25	121	
26	121	
27	154	
28	154	
29	154	
30	154	
60	133	
90	645	Reduction proportional to labour
3.1	477	
3.2	1,094	Left untouched to facilitate

4.1	1,180	transfer
4.2	-	25% reduction
4.3	48	If required KWDP needs
4.4	-	special funds
5.1	913	If required, KWDP needs
		special funds
		Reduced proportional to

ANNEX C

KWDP MURANG'A PROJECT

1. The main objective of the KWDP Murang'a Project is to develop "biological" technical packages and innovative extension approaches complementary to existing extension methodologies that would ensure sustained integration of woody biomass at farm level. The specific objectives of the project include:
 - a) to develop a manpower capacity at all levels of the district for planning, preparation and implementation of agroforestry projects;
 - b) to develop appropriate technical agroforestry options for the introduction of appropriate agroforestry species into existing farming systems which will contribute to soil stability and fertility, fodder, fuelwood and construction timber to farm households;
 - c) to develop appropriate woody biomass management packages to enhance woody biomass supply for the various end-users mentioned in (b) above;
 - d) to increase woody biomass integration on off-farm and on-farm conservation structures with purpose of increasing food production;
 - e) to develop innovative extension approaches complementary to the existing approaches of the line ministries which would ensure a more rapid adoption of technical agroforestry packages; and
 - f) to develop a seed production and collection/supply system of multi-purpose agroforestry tree species which will support sustained development of agroforestry within the district.
2. The proposed KWDP/Murang'a Project is a research and development project with a determined life span. It supports district level line ministries' activities in the area of broadening the agroforestry species base for integrating woody biomass and developing innovative extension approaches complementary to existing approaches. The limited life span of the project implies that the budgetary burden of transfer of KWDP into the normal activities of MOERD be minimized as much as possible.
3. The principles that should be observed in broadening the species base for integration of wood biomass and woody biomass management packages are:
 - a) an assessment of the district-level tree species planting effort and management techniques current applied with the active participation of MOA, MENR/RAES, MOLD and non-governmental organizations involved in agroforestry programmes;

- b) selection of multi-purpose agroforestry species (indigenous and exotic species) and technical management packages with the active participation of the organizations mentioned above;
 - c) systematic and fast screening of species and the setting up of provenance trials of the most promising species with the active participation and involvement of the institutions mentioned above;
 - d) setting of seed production and collection/supply system with the active participation of the same; and
 - e) monitoring of the efforts mentioned with the active participation of the same.
4. Such process will ensure the internalization of the project activities into the work programme of the institutions through incremental integration. Further, this will help attain the training objectives stipulated in the project and minimize the staff requirements of the project.
5. The principles that have to be adhered to in the development of complementary extension approaches are:
- a) testing and evaluation of innovative approaches developed for Kisii and Kakamega in Murang'a with the active participation of the line ministries and non-governmental organizations at district level;
 - b) presentation of alternative extension approaches that are believed to be feasible on a priori ground by KWDP for consideration by the above mentioned institutions;
 - c) selection of alternative extension approaches, development of selected extension approaches, and small-scale field-testing with the active participation of the staff of the institutions mentioned above;
 - d) monitoring and evaluation of the efficacy of the extension approaches being field tested in terms of cost effectiveness, complementarity and integrability and replicability; and
 - e) selection of feasible extension approach(es) to complement existing extension approaches and field monitoring of the same by line ministries and non-governmental organizations with the assistance of KWDP.
6. The process outlined above will serve the training purpose indicated above, internalize the whole R and D within the institutions involved and allow a smooth transfer of KWDP activities and functions.

7. The Plan of Operation as outlined in the Murang'a District Project Phase 2, 1988-90 of October 1987 is very sketchy and bears no relationship to the funding requests (Appendix 3) of November 1987. The outline Plan of Operation envisages the following:
- a) Training and Manpower Development which will include:
 - (i) consultative meetings with the DDC;
 - (ii) consultative meetings with key officers of MOA, MOLD, MOERD, MOENR/RAES, MCSS.
 - b) Development and Verification of Technical Agroforestry recommendations and packages will include:
 - (i) establishment of Eight Provenance trials with four species in the five zones: tea, coffee, maize, maize/bean and dry zones;
 - (ii) cultural activities related to the provenance trials;
 - (iii) farm management studies (12 farms);
 - (iv) on-farm trials on 12 farms to determine the range of agroforestry possibilities;
 - (v) establishment of undetermined number of controlled trials; and
 - (vi) longitudinal socio-economic studies on "typical" farm and farm families.
 - c) Development and Verification of mass extension approach to disseminate the technical agroforestry recommendations and packages including:
 - (i) an extension approach that deals with inculcating deliberate planting of agroforestry trees;
 - (ii) an extension approach with tree-planting require mixed agroforestry configuration and tree management; and
 - (iii) an extension approach with harvesting and end-use utilization focus.
 - d) Development of seed production and collection system based on schools.
7. The outline of Plan of Operation as presented by KWDP (6 above) cannot be considered as a base for the proposed detailed budget. Given that a budget is a summation of costed activities, it is essential KWDP prepares a detailed work programme and budget for the

first year and an indicative work programme for the second and third year. Although this exercise is planned for December and January a certain framework within which the exercise has to be done need to be defined. This includes the following considerations:

- a) the built-in phasing of the project implies the recruitment of a small core professional staff and requisite supportive staff that can easily be absorbed by the GoK. Further, the core staff will be supported by KWDP Headquarter staff thus obviating the need of consultancy input;
- b) clearly, some activities are outside KWDP domains. These are: training, research and human development which are the responsibilities of MOERD;
- c) the cost associated with the establishment of the centre and operational funds associated with running of centre extend over the life of the project. Therefore, the centre is MOERD activity, but run by KWDP during the R and D phase.

A more detailed T.O.R. for the preparation of detailed work programme and budget for year 1 and indicative for year 2 and 3 is attached.

8. The proposed KWDP/Murang'a budget derived from the envisaged activities above is shown in Table 3.

Table 3 KWDP Muranga derived Budget

	1988	1989	1990
0. Rents, electricity and water	78,000	43,000	48,000
1. Administrative/computer cost	179,000	248,000	273,000
2. KWDP Murang'a staff	1,605,000	2,261,000	2,491,000
3.1. Local contract work	64,000	78,000	98,000
3.2. International contract work	495,000	273,000	300,000
4.1. National travel KWDP staff	182,000	257,000	283,000
4.2. National travel contract staff	-	49,000	-
4.3. National travel contract staff	65,000	27,000	31,000
4.4. International travel contract staff	40,000	46,000	53,000
5.1. Murang'a car pool	330,000	431,000	473,000
5.2. Non project vehicles	110,000	160,000	183,000
6.3. Seed production units	35,000	100,000	115,000
6.4. Seed production programme	255,000	367,000	534,000
6.5. Mass Intervention test programme	135,000	440,000	975,000
6.6. On-farm agroforestry trials	90,000	53,000	60,000
6.7. On-station agroforestry trials	90,000	57,000	77,000
7.1. Reporting	15,000	46,000	63,000
9.1. Transport equipment (vehicles)*	1,963,000	252,000	188,000
9.2. Miscellaneous	113,000	96,000	104,000
Total	5,844,000	5,284,000	6,528,000

TERMS OF REFERENCE FOR THE PREPARATION OF THE KWDP MURANG'A PROJECT

Background

1. The Swedish International Development Agency (SIDA) has supported Kenya Soil and Water Conservation programmes since 1973. The initial focus of the programme was reduction soil depletion, destruction and/or erosion through the construction of soil conservation structures and rehabilitation of eroded lands. Experiences gained over the years have indicated the important role of preventive measures using approaches and resulted in gradual integration of such measures. However, the absorptive capacity of MOA/Soil and Water Conservation Branch was believed to be so limited that support to other Kenyan institutions capable of integrating woody biomass to increase the effectiveness of soil conservation and related activities was deemed essential.
2. It is within this context that Beijer/KWDP was commissioned by the Ministries of Agriculture and Livestock Development/Soil and Water Conservation Branch and Ministry of Energy and Regional Development to carry out a District Resource Analysis (DRA) of Murang'a under a grant provided by SIDA. The aims of the DRA were "to provide a clearer insight into the existing on-farm woody biomass in the district: its management, functions and consumption patterns, and its inter-relationships with prevailing demographic, environmental, agricultural, infrastructural, cultural and socio-economic conditions, in order to plan for effective intervention to activities to increase the quantity and quality of woody biomass energy and to conserve soil and water".
3. The KWDP has made a good start in outlining the plan of operation of the proposed agroforestry development programme, namely:
 - a) development/manpower development;
 - b) development and verification of technical agroforestry recommendations and packages;
 - c) development and verification of mass extension approaches;
 - d) development of seed production and collection systems; and
 - e) monitoring of agroforestry packages and investigation on other project related issues.

However, a more detailed work programme for the first year and indicative work programmes for the second and third years that corresponds to the budget should be prepared. However, this should be based on the core staff of District Manager, administrator, secretary, accountant, extension/training monitoring/research and agroforestry experts.

Objectives

4. The primary objective of the preparation of the plan of operation to establish project activities' linkages with those of the line ministries engaged in energy and energy-related activities/MOA, MOENR, MOLD, NGO's) with a view of creating a smooth transfer of functions within the three year period.

In particular, the preparation of the plan of operation detailing activities will address to the following issues:

- a) detailed work programme and budget of the manpower development component including:
 - i) determination of target groups for training programme i.e. district officers, divisional officers, technical officers and technical assistants;
 - ii) indicative training programme content;
 - iii) duration and venue of training as well as frequency;
 - iv) number of lecturers;
 - v) specification of associated costs.
- b) Development and verification of technical agroforestry recommendations and packages including:
 - i) establishment of on-farm management trials on selected farms;
 - identification/selection of selected on-farm management trials;
 - specification of management options;
 - project assistance to these trials;
 - project monitoring input;
 - detailed costing associated with the trials.
 - ii) development of nursery and planting techniques on local and group/individual nurseries including:
 - identification of nurseries and communities that require assistance in this connection;
 - number of location of nurseries;
 - definition of needed support;
 - determination of project input to enhance their activities;
 - preparation of detailed costings for the component.
 - iii) on-farm agroforestry trials including:
 - location, size and number of agroforestry trials;
 - determination of availability of land and establishment of modality of project-farmer cooperation;

- determination of project/farmer contribution;
 - detailed costing related to design, lay-out, planting monitoring.
- iv) on-station agroforestry trials (including sub-zonal trials) including:
- location, size and number of trials as well as nurseries;
 - availability of water and requisite infrastructure;
 - determination of requirements of seeds, labour, and other supplies;
 - determination of other project inputs;
 - detailed costing of associated requirements.
- c) development and verification of mass extension approaches including:
- i) test trials of mass extension approaches developed for Kisii and Kakamega, together with cooperating institutions in the various zones;
 - ii) joint evaluation of relevance of the extension approaches;
 - iii) definition, selection of alternative complementary mass extension approaches by KWDP and cooperating district institutions;
 - iv) development of verification of selected approaches with the active participation of the cooperating institutions;
 - v) evaluation of the feasible and cost-effective mass extension approaches; and
 - vi) detailed costing of the activities indicated above.
- e) monitoring of agroforestry packages and other project studies including:
- i) objectives of the studies, justification and expected results;
 - ii) time scheduling and resource requirements; and
 - iii) detailed cost of the activities.

5. Prepare an indicative plan and budget for year 2 and 3.

Duration

6. The detailed work programme and budget for year 1 and indicative work programme will be presented to SIDA/NAIROBI before January 15, 1988.

ANNEX D
Notes on KWDP Mass Intervention

Some observations on KWDP's Mass Intervention Test Programmes in Kisii and Kakamega.

1. None of the extension techniques which KWDP is testing is unique or innovative. Experiences with these techniques across the world are well documented in a great number of publications. There seems to be little need to prove that in Kakamega films are able to draw large audiences.
2. Films used as extension materials in developing countries need to be situation specific in order to be effective. If the Kakamega films meet this condition, then it very much restricts the geographical scope of application and consequently negatively influences their cost effectiveness.
3. Films are capable of creating awareness and can be used for motivation if they are followed by a discussion. They are less effective in instruction unless they are accompanied by a study guide on the topic. This, of course, increases the overall costs of the mass intervention considerably. KWDP Kakamega so far has produced awareness film (45 minutes), and 1 instruction film on the establishment of a nursery (45 minutes). It plans to produce three more instruction films over the next three years.
4. The production of films (and other media) requires skilled manpower and considerable financial resources. The utilization of films as extension technique has proven to be problematic in most developing countries basically because of operational constraints.

Against this background it is unlikely that line ministries of GOK are capable or willing to adopt the extension technique.
5. From a pure research point of view, there seems little need for KWDP to continue with the production of films. For testing purposes, the produced already suffice.

If, however, MOERD sees it as useful to have the complete film package for training purposes, then KWDP could be asked to complete the planned intervention films on transplanting, tree management, harvesting and conservation.
6. Kisii plans to test the effectiveness of radio in motivating individuals to raise trees for fuelwood. Again it can be said that level of effectiveness of radio in this respect has been researched in many countries. There is no need to replicate this. Instead KWDP could better concentrate on surveying listening habits and preferences in Kisii and testing various radio message.
7. It seems fair to recommend that KWDP changes its extension research focus from testing the effectiveness of various extension methods, which will reveals not much more that is already known.

ANNEX E

UNRESOLVED ISSUES

The following issues are strictly speaking not part of JEFM's Terms of Reference. However the JEFM had to take stands on most of them, at times explicitly and other times implicitly. We raise them below, for we believe the MOERD donors, and projects to resolve:

1. With respect to the meaning and utility of a JEFM, what is the point of formulating 4 districts and leaving one (Nakuru) out?
2. What is the MOERD and donor position on mass extension techniques, given that:
 - a) line ministries extension strategies are not mass;
 - b) the high cost of operationalising such strategies in the many cultural units forming the Kenyan nation.
3. Now that the Steering Committee has clarified that KWDP is a project and that, in the long term, project personnel, equipment etc. will be absorbed into GOK/MOERD, what management system and process is the MOERD going to put into place to:
 - a) effectively manage the KWDP (including internal communication lines) within the next 6 months;
 - b) ensure that cost effective and transferable mass intervention techniques are developed?
 - c) ensure that these techniques are transferable from KWDP to line ministries at district level within a desirable timeframe? It is the JEFM's position that major mass intervention investment should be stopped forthwith until new justification is made.
4. How is MOERD going to communicate the implications of the MOU to district level so that the line ministry officials understand it and coordinate their activities at that level?
5. Research is expensive and can only be justified if it leads to specific implementation outcomes. What has been the cost benefit outcome of the KWDP and Baringo Fuel and Fodder? Would returns to date justify the high investment along the same lines in Nakuru?
6. Almost all agroforestry projects in the country have concentrated on planting new biomass and not enhancing existing biomass. Most issues in biomass in ASALs require massive inputs in management. How is this to be approached?

7. JEFM has developed a plan to staff DEDO as suggested by MOERD. The budgetary implications of this are that # 3,395,000 will be needed for the 30 districts suggested. Recurrent budget requirements are in the order of KP 780,000. If this strategy is followed, MOERD will get a District Focus oriented energy development strategy. Will there be budgetary allocations for this expansion? Will this priority activity lead to cutting back on grounds already covered by previous activities or slowdown in District Focus Strategy expansion?

8. The District Resource analysis, as developed by KWDP, presents a vast amount of knowledge about the overall woody biomass situation at farm level. To structure this knowledge, a focus was made on one enduse, namely woodfuel. The idea behind this was to find out what triggers the production of this product at farm level. The conclusion was that cultural barriers obstruct production prospects and to solve this an awareness campaign was launched.

KWDP has emphasized this approach convinced that, once the cultural barrier is removed, problems will be solved. The extension products emphasize this message.

However, experience elsewhere show that fuelwood production is largely seen as a by-product of the trees in agroforestry systems. ICRAF is, for example, following this line. MOERD and donors need to mount a professional evaluation of this approach of direct fuelwood production in the near future to enable them to decide on resource utilization. This is an urgent matter for the unified MOERD Steering Committee.

ANNEX F

TOR FOR KWDP MANAGEMENT CONSULTANCY

The JEFM understands that there are plans afoot to put a new manager in KWDP. Given that such a manager will come when past KWDP operating framework and style are changing leading to new programme focus and hence management needs, the JEFM is of the opinion that a management consultant should be appointed to assist in the organisation of KWDP.

The basic tasks of such a management consultancy will be to:

1. restructure KWDP programme to fit into the MOERD District Energy initiatives and the phase in, phase out 4 year cycle.
2. work out with KWDP how it is to develop its district work plans with line ministry officials at district level and how those work plans are to be integrated to MOERD work plans.
3. work out with KWDP management internal methods and procedures for:
 - a) defining new activities;
 - b) defining decision making processes particularly with respect to KWDP relationships with DDCs, DEDOs and other programmes in the districts it is working.
 - c) redefining management responsibilities of KWDP HQ Staff (Nairobi and district staff.
 - d) manner of fund-raising and relations with MOERD and donors with respect to fund-raising.
 - e) issues of staffing levels with respect to their eventual absorption into MOERD.
 - f) formal methods of transferring KWDP knowledge to MOERD.

KENYA/CANADA ENERGY ADVISORY PROJECT
in the
MINISTRY OF ENERGY AND REGIONAL DEVELOPMENT



Ontario Energy Consortium
Nationwide House
P.O. Box 41122
Nairobi - Kenya
Tel: 20722
Telex: 25770

MEMORANDUM

TO: All Participants in the Sagret Hotel Workshop on the
Coordination of the Rural Energy Projects of the Ministry of
Energy and Regional Development, April 22-23, 1986

FROM: R.G. Macdonald, Team Leader, Kenya/Canada Energy Advisory
Project

SUBJECT: Report of the Consultants

DATE: September 8, 1986

Attached for your information and comment is the final draft of the report by the Mazingira Institute, the consultants who undertook the above study for the Kenya/Canada Energy Advisory Project.

The report, serving its role as a resource document, is being discussed now in the Ministry of Energy and Regional Development, with a number of its major findings being considered for implementation.

On behalf of the Kenya/Canada Energy Advisory Project, I would like to thank all participants in the Workshop for their important contributions to this useful document. As indicated at the Sagret Workshop, we would be pleased to receive from you any comments you have on the attached report.

KENYA/CANADA ENERGY ADVISORY PROJECT
CONSULTANCY ON MINISTRY OF ENERGY AND REGIONAL DEVELOPMENT COORDINATION OF
THREE RURAL ENERGY PROJECTS

REVIEW AND PLAN FOR CONSOLIDATION

Final Draft following a Worskhop on
22nd-23rd April 1986

D. Lee-Smith/G-C.M. Mutiso
Mazingira Institute

10th June 1986

CONTENTS

0.00	SUMMARY	ii
PART ONE : BACKGROUND		
1.00	INTRODUCTION AND STUDY METHOD	1
2.00	EVOLUTION OF RURAL ENERGY POLICY 1974-1986	3
3.00	BACKGROUND TO RURAL ENERGY ACTIVITIES IN KENYA	4
4.00	CONTRIBUTION AND POTENTIAL OF THE THREE PROJECTS	6
PART TWO : PROPOSALS		
5.00	COORDINATION, TRAINING & MANPOWER DEVELOPMENT	12
6.00	TECHNOLOGY DEVELOPMENT	16
7.00	EXTENSION	22
8.00	DISTRICT ENERGY PLANS	28
9.00	FUNDING MECHANISMS	32
10.00	MASS AWARENESS	38
PART THREE : ANNEXES		
ONE	: LIST OF DOCUMENTS USED	
TWO	: LIST OF WORKSHOP PARTICIPANTS	
THREE	: LIST OF ABBREVIATIONS USED	
FOUR	: PROJECT DATA SHEETS	
FIVE	: RESOURCE REQUIREMENTS FOR PLAN IMPLEMENTATION	
SIX	: TERMS OF REFERENCE	

LIST OF FIGURES AND TABLES

FIGURE ONE :	Proposed new elements and linkages in existing MOERD organizational structure	10
TABLE ONE :	Rural energy project institutional arrangements	32
TABLE TWO :	Example of funding flows at a typical District Energy Centre	34

0.00 SUMMARY

- 0.01 This report is the output of a consultancy, to review and prepare a plan for consolidation of three projects falling under the Ministry of Energy and Regional Development (MOERD). The purpose of the plan is for the Ministry to consolidate its agroforestry/energy centres and extension-related activities. The topic is addressed both substantively and administratively. Proposals for coordination and development are made within a substantive framework which assesses the contribution of the three projects and the suggested coordinating role of the Ministry in relation to Technology Development, Extension, and District Energy Planning.
- 0.02 All three projects have made useful contributions to technology development; the agroforestry/energy centres developed by KREDP project also provide a useful basis for a national infrastructure project for energy technology development. KWDP project provides a useful guideline for starting district energy planning at national level. The various extension methods used by the projects need to be used selectively to develop a national rural energy extension system using existing extension networks. All three projects recognise the primacy of woodfuel as the most pressing rural energy issue, but SEP has also addressed other renewable energies, including biogas, wind and solar, which have selected applications.
- 0.03 It is suggested that administrative coordination be addressed by improved management procedures within the recently reorganized Ministry structure, and by the formation of a single Rural Energy Coordination Committee (RECC) within MOERD. Projects should operate under the supervision of the appropriate sections of Energy Department and within a national planning framework to be prepared by the Planning Unit of MOERD and monitored by RECC. The Planning Unit also needs to prepare a Rural Energy Manpower Development Plan.
- 0.04 It is recommended that technology development take place at District Energy Centres (DEC). Initially the KREDP centres should be consolidated and MOERD capacity to run them built up. However, more technology testing and development should take place on farm and with user participation; a more comprehensive technology assessment method is needed. An additional arid area centre should also be started in collaboration with IPAL, Baringo Fuel and Fodder Project, and the Regional Development Authorities. The ultimate aim is to have DECs in all Districts, but the capacity of Energy Department to manage the existing ones must be built up first. The DECs should provide a physical infrastructure and information, and projects should operate out of the centres to provide a variety of services to local groups and individuals. Initially projects may also help MOERD to run the extension training, seed bulking and other basic services of the Centres. A long term goal would be for local institutions to run rural energy services out of the DECs.

- 0.05 Extension materials should emerge from the three projects, and others, and be compiled by a proposed **Extension Coordination Section** to be set up in Energy Department of MOERD. This section will coordinate packages emerging from the field and their dissemination through the appropriate extension systems. Training and extension supervision should be provided at headquarters and competent local staff under each centre manager. Interministerial coordination should be handled by the existing **Energy Planning Committee (EPC)** or other suitable body, which should review the implementation of rural energy extension, training and public information materials through the national extension services.
- 0.06 Donor assistance will be needed for many of these tasks, but especially for the formation of a mobile **District Energy Plan Task Force (DEPTAF)**, which will build on the projects, particularly KWDP, to assist the districts in preparing their energy plans. Energy matters at district level, including preparing and implementing plans and overseeing the centres, should be the responsibility of **District Rural Energy Subcommittees (DRES)**. Where there are DECs, the centre manager should be appointed **District Energy Officer (DEO)** and act as the secretary of the subcommittee. In districts where there are no centres the DFO (RAES) could act. Centre managers should have a higher civil service level to effectively act as secretaries to the DRES.
- 0.07 At the moment there are various mechanisms for channelling and managing funds. MOERD coordination should be improved by including all projects in the forward estimates, in line with the national budget rationalization process. Agreements need to be worked out by RECC and the donors for any new projects in the area of rural energy. It is recommended that project funds be monitored by MOERD and the relevant DDCs, but generally capacity is limited for management of funds and outside assistance may be needed. However, the management of funds for infrastructural services such as the DECs, and for the overall functions of planning, evaluation and database management should be a priority for MOERD. Where possible, local organizations in the districts should take over project management, including funds, in the long term, and donor projects can usefully help the ministry bridge the gap.
- 0.08 A national mass awareness program on rural energy, particularly woodfuel, is proposed. This would be implemented through provincial and national level **Rural Energy Seminars**, involving district officials, local leadership and various agencies concerned with rural energy. This is needed in order to increase public awareness of the issues related to renewable energy, especially woodfuel production, and the role of the MOERD in the national effort.
- 8.09 This report is the edited version of the consultant's report, following a workshop where participants from MOERD, other ministries, the projects and KCEAP reviewed the proposals. The report consists of three parts: Introduction, Proposals, and Annexes. There is a summary of the workshop discussion in each section of the Proposals, and the other sections of the report have been amended in line with workshop recommendations.

1.00 INTRODUCTION AND STUDY METHOD

- 1.01 In 1985, the Canadian International Development Agency (CIDA), provided Kenya's Ministry of Energy and Regional Development with a team of energy advisors under the Kenya/Canada Energy Advisory Project (KCEAP) to assist MOERD in planning and coordination of its energy activities. In January 1986, KCEAP commissioned a study to review and develop a plan for MOERD to consolidate and expand its agroforestry/energy centres and extension-related activities. Specifically, the study was required to address the coordination of three donor-funded projects:
 Kenya Renewable Energy Development Project, KREDP
 Kenya Woodfuel Development Program, KWDP, and
 Special Energy Program, SEP.
 The consultants were Mazingira Institute, Nairobi, an independent, non-profit research and development organization. Two Mazingira consultants worked as a team with KCEAP to develop the plan, being in particular assisted by a project secretary provided by KCEAP.
- 1.02 KREDP, KWDP and SEP address complementary aspects of the problem of rural energy in Kenya but are related to the Ministry in different ways and are not yet formally coordinated as part of an overall program. Therefore, in addition to its terms of reference to prepare a plan for consolidating the three projects, the consultancy has attempted to define their context, namely a consolidated national level plan for rural energy.
- 1.03 The need for such a plan emerged out of the methodology's consultative process. This called for the participation of the various project personnel, as well as the consultants and the Ministry, in identifying common objectives, achievements, options and constraints. These participants identified a common concern for a stronger MOERD planning and management framework for projects to operate within. The functions of a National Rural Energy Program were identified as:
 Coordination, Training and Manpower Development
 Technology Development,
 Extension, and
 District Energy Planning.
 In addition, proposals have been made in the report on two other areas:
 Funding Mechanisms, and
 Mass Awareness.
- 1.04 Initial consultations and discussions with Ministry and project personnel were during field visits, and subsequently in two half-day workshops in February 1986. Further consultations with Ministry personnel took place during the development of a draft plan, which was reviewed at another workshop on 22nd and 23rd April 1986. Participants in this workshop, from the projects, KCEAP, Energy Department, Planning Unit and Finance and Administration Departments of MOERD, as well as from other concerned Ministries, were invited to review and amend the plan before its final submission to MOERD.

- 1.05 As a result of the workshop, substantial editorial revisions have been made to this document, which constitutes the final version of the draft plan submitted by the consultants. A summary of the workshop discussions has been included in the present document under each substantive topic, and the topics have been reorganized for clarification. Corrections have also been made to the text under each section to reflect the new structure of MOERD. It is hoped that the consultative process used will ensure a realistic and workable plan that will enable Kenya Government to move forward towards the goals of ensuring sufficient and affordable rural energy supplies of the appropriate type to assist all aspects of rural development.
- 1.06 This document is divided into three parts. The first contains background introductory material, the second contains the proposals, and the third consists of information annexes. Part One contains Sections 1.00 to 4.00; after this description of the method used, there is an overview on the evolution of rural energy policy in Kenya. This is followed by a background statement on rural energy in Kenya, and a comparative assessment of the contribution and potential of the three projects. Part two, Sections 5.00 to 10.00, contain the proposals for consolidating and extending the projects' and the Ministry's activities in the area of rural energy.
- 1.07 Part three consists of the annexes, which are: the list of documents used, participants at the April workshop, abbreviations used, data sheets on each of the three projects (compiled specifically for this study), and data on the resources required for implementation of the proposals. The two Mazingira consultants would like to acknowledge the contribution of the project secretary in preparing these last two annexes. It is hoped that this document, and the way it is laid out, will be helpful in communicating this complex topic adequately and assist the Ministry in moving forward its efforts at national coordination of rural energy.

3.00 BACKGROUND TO RURAL ENERGY ACTIVITIES IN KENYA

- 3.01 Woodfuel is the single most important energy source in Kenya, constituting 73-75% of national energy supply. The large majority of Kenya's population use woodfuel for domestic energy, primarily for cooking. This is one factor contributing to deforestation and soil erosion. Wood resources are being depleted at several times the rate they are being replaced. These problems have been recognised by Kenya Government since the 1970s and are addressed in various ways and in several sectors. Apart from the national emphasis on tree planting through Rural Afforestation and Extension Service (RAES, Ministry of Environment and Natural Resources, MOENR), the Presidential Commission on Soil Conservation and Afforestation (PPCSCA), the Chiefs Nurseries, National Tree Planting Day and the Presidential Tree Fund, agroforestry and social forestry are emphasized in the 1983-88 development plan. The National Food Policy emphasizes maximum productive use of land through increased intercropping and other improved farming practices, including agroforestry, due to the need for additional land and better use of existing land for food production.
- 3.02 Agroforestry and increased woodfuel production are major elements in the rural energy projects under the Ministry of Energy and Regional Development (MOERD), which also include other small-scale and renewable energy technologies. In addition, several national level and many locally-based NGOs are actively engaged in tree-planting and agroforestry. Thus MOERD activities in this area are part of a much wider national effort which addresses the problems experienced by most Kenyans. These problems include environmental degradation, the daily provision of woodfuel from ever decreasing sources, and the enormous amounts of labour time consumed in this effort, particularly by women.
- 3.03 Following on from the Fuelwood Cycle Study which began in 1980, MOERD has been involved in three major rural energy projects:
 KREDP funded by USAID,
 KWDP funded by Netherlands government,
 SEP funded by the Federal Republic of Germany.
 Kenya Renewable Energy Development Project, KREDP, is in the process of becoming an integral part of MOERD structure and has established six agroforestry/rural energy centres. Kenya Woodfuel Development Program, KWDP, operates somewhat independently of the Ministry to develop a woodfuel program district by district. Special Energy Program, SEP, tests and disseminates rural energy technologies in various parts of Kenya; it tests biogas, charcoal kilns, fuel-efficient wood stoves, wind and solar technologies, while recognizing woodfuel as the primary problem.
- 3.04 The national target for tree seedling production by the Kenya Forest Department was raised from 50 to 200 million per annum a few years ago. When it was established in 1971, the Rural Afforestation and Extension Service produced only 78 000 seedlings, but by 1984 this had risen to about 80 million per annum. RAES now has 167 nurseries but is constrained by seed availability. By comparison, of the three projects, KREDP produced 2 million

seedlings in 1983, while KWDP and SEP are not aimed at seedling production. SEP plans to distribute 1.5 million seedlings (from KREDP) to women groups, while KWDP has identified the problem as one of seed production: it estimates the demand for Kakamega District alone as 150 million seedlings, and is now focussing on encouraging more on-farm Seed Production Units. KREDP also now emphasizes seed production in its nurseries.

- 3.05 There are many NGOs that have been active in wood production. (15) It has been observed that a community-based approach is often more effective than centre-based research and extension in reaching farmers and that "Government should use community-based projects to disseminate appropriate agroforestry technologies". (1) Case study data indicate that, in 1982, many Kenya households were planting trees for various purposes including fuelwood, and that the large majority obtained the seeds or seedlings from their own farms or common land. A smaller number obtained them from Forest Department, while a few were bought or obtained from Agriculture Stations or other sources, including KFA, Chief's Nurseries and NGOs. On-farm tree planting is more common in high potential than arid and semi-arid areas of Kenya. (2) This is confirmed by the detailed KWDP data on Kakamega, where 38% of farms already have traditional tree seedling nurseries. Thus MOERD's rural energy program is part of the national effort on a very broad front, in which the Kenyan farmer is clearly leading the way in woodfuel production.

Numbers in brackets refer to documents listed in Annex One.

4.00 CONTRIBUTION AND POTENTIAL OF THE THREE PROJECTS

General

- 4.01 This section provides a brief summary of the three projects, including their objectives, their major achievements, and aspects which need improvement or change. The section is based on:
- . the project data sheets (see Annex 4),
 - . a comparative assessment of the separate mid-term evaluations of each project, (18,27,35)
 - . the preliminary workshop discussions held in February 1986.
- It is clear that all three projects have contributed to the process of technology development. KREDP in particular has contributed in developing an infrastructure for energy technology development in the form of the agroforestry/ energy centres, which are also being used by SEP. The main contribution of KWDP has been in the area of district energy planning, specifically woodfuel. All three projects have used different approaches to extension. These will need selective judgement for adoption of an effective approach to rural energy extension at the national level.

Kenya Renewable Energy Development Project

- 4.02 KREDP began in September 1981 and is presently due to end in December 1986 when its functions will be fully handed over to MOERD. The project budget of US \$4.8 million (K.Sh.76.8 million) in the form of a grant from USAID and a local contribution of K.Sh.27.2 million is being administered by MOERD with the assistance of Energy Development International, EDI, a US consultancy firm. The project objectives are to:
- . Increase renewable energy supply
 - . Modify demand through conservation strategies
 - . Set up a viable institutional mechanism to carry these out in the long term.
- 4.03 The major achievements of the project have been:
1. Developing the Memorandum of Understanding on cooperation between MOERD, MOALD and MOENR.
 2. The establishment of six Agroforestry/Energy centres and two sub-centres in six eco-zones of Kenya.
 3. The development of agroforestry techniques
 4. The development and dissemination of an improved energy-conserving jiko for which there is now widespread demand in Kenya.
- 4.04 The KREDP centre infrastructure provides the physical and institutional basis for the consolidation and expansion of MOERD rural energy activities. Centres carry out agroforestry species and spacing trials and produce seedlings for distribution. Recently, the emphasis has shifted to seed production nurseries and seed collection. Short training courses have been held at the centres for extension workers and farmers. Peace Corps Volunteers at each centre work on nursery development and, more recently, collaborative extension activities with MOALD, MOENR, schools and model farmers. These are aimed at conveying the knowledge developed at centres to their rural constituencies.

- 4.05 Centres are used for the demonstration of renewable energy technologies and for training of artisans and orientation of users. Agroforestry techniques and charcoal jikos are the main technologies disseminated in this way but also fuel-efficient woodstoves, charcoal kilns and biogas units in collaboration with SEP. The project is in the process of documenting and analysing its agroforestry activities. It has also contributed to the development of agroforestry training programs in Kenya's Universities and Colleges. Funding is largely through government procedures and the project is included in MOERD estimates.
- 4.06 However, although these strong institutional linkages have been built within Kenya Government structure, KREDP suffers from the following problems:
1. Centre-based extension is not effective in reaching large numbers of farmers and users.
 2. Current links to the existing extension services in MOALD, MOENR and others are weak.
 3. Ministerial back-up and support is weak, with essential manpower missing both at headquarters and at the centres.
- 4.07 The experience of the three projects and others run by NGOs in Kenya shows that community-based projects which involve the local population are often more effective than centralized research and extension methods. There need to be more off-centre and on-farm tests and demonstrations, farmers involved in developing options, and more emphasis on indigenous tree species. More women should be involved in the program, there should be more monitoring of activities and production of extension materials. At present the extension activities rely heavily on Peace Corps Volunteers. MOALD and RAES staff need to be more actively involved. (1,18) Although the project provides one research and extension officer and one training and extension officer at headquarters as well as overall direction of the centres, these posts have not all been filled due to a lack of skilled manpower. Nor will these functions easily be carried over by MOERD on termination of the project in 1986. Funds channelled through MOERD are held up through red tape and lack of administrative capacity. All of these issues need resolving if the KREDP centres and framework are to provide a sound basis for a national program.

Kenya Woodfuel Development Program

- 4.08 KWDP began in 1984 and is expected to complete its work in two districts, Kakamega and Kisii, by the end of 1986. The budget for this activity is K.Sh.40 million provided as a grant by the Netherlands government and administered entirely by the Beijer Institute, a Swedish non-profit organization. The program is being extended to two more districts, Muranga and Nakuru, with funds from other donor sources. The project objectives are:
- . self-sufficient supply of fuelwood in rural homesteads in program areas
 - . to develop technical options and effective dissemination strategies for increasing fuelwood production on farms.
 - . to develop fuelwood conservation strategies.
 - . to develop manpower and train Kenya government extension staff
 - . to develop biomass and socio-economic monitoring methods.
 - . To develop a district woodfuel planning method.

- 4.09 The main achievements of the project have been:
1. Developing the district woodfuel planning methodology and the database in two districts.
 2. Farmers' participation in the development and testing of options for increasing woodfuel production.
 3. Creation of increased awareness and woodfuel activities on farms through a multi-media approach to the general public, including theatre, illustrated packages, and follow-up extension work.
- 4.10 The district resource assessments (agroforestry and cultural surveys) have been carried out in Kakamega and Kisii. Field activities in Kakamega include establishing nurseries for fast growing agroforestry species, formation of community contact groups in seven sub-locations, establishment and monitoring of seed production units and developing technical and extension options through on-farm tests with farmers. A popular theatre play is also being performed district-wide, with follow-up seed distribution and monitoring. Different options are being developed in Kisii to suit local needs. It is planned to refine the method so that it is cheaper and can be applied systematically in any district.
- 4.11 Problems with KWDP are:
1. Weak linkages to MOERD leading to problems of incorporating the program in national activities.
 2. Lack of contribution to training of local personnel.
 3. Lack of energy conservation (stove) strategies.
 4. Need for a cheaper district methodology with clearer guidelines for data collection and selection of woodfuel supply options.
- 4.12 One problem with KWDP is the weakness of its links to MOERD. Major decisions tend to be made more with reference to donor criteria and exigencies, rather than with consultation and guidance by MOERD, despite the nominal existence of a Steering Committee. While its autonomy allows for a flexible and adaptive approach in the field, there is a real need for better integration in a national planning framework and exchange with other projects. The same applies to the content of the program, which might benefit from drawing in material from other sources.
- 4.13 Although the project employs local personnel and they have benefitted from their participation and contribution to the methodology, they are all relatively senior and experienced people. The project has not developed a systematic training component to train less experienced personnel in the methodology or to establish counterparts within Kenyan institutions.
- 4.14 As yet, the methodology has focussed entirely on fuelwood production and does not include energy conservation practices such as cooking methods and improved fuelwood stoves. This was an area of intervention included in the project objectives. In order to be drawn into a national program, the method would need to encompass more energy technologies and to have specific guidelines that are replicable. KWDP needs to address these shortcomings and to develop better integration with national programs and institutions so as to have a greater impact. In particular, links should be built to the national extension networks of MOALD and MOENR which can benefit from the project's experience.

Special Energy Program

- 4.15 SEP began in 1982 and is expected to continue until 1988. All aid is in the form of a grant from Federal Republic of Germany administered by GTZ. FRG contribution is in the form of: eight full time technical assistance personnel plus short term consultants; local salary support for four Kenyan personnel; six vehicles; wind measuring equipment; windmills; wind generators; biogas plants; charcoal kilns; solar refrigerators; and one computer. Kenya government contribution is in the form of three personnel and an office. The project objectives are to:
- . Reduce rural energy scarcity and overutilization of wood stock.
 - . Reduce dependence on imported energy.
 - . Improve rural energy supply.
 - . Introduce, adapt and disseminate appropriate renewable energy technologies.
- 4.16 The main achievements of the program have been:
1. Technology testing and demonstration of specific renewable energy technologies. (Biogas, charcoal kilns, fuelwood stoves, woodfuel plantations, wind and solar).
 2. Gathering of wind and solar baseline data.
- 4.17 The testing of a variety of renewable energy technologies in different parts of Kenya has permitted assessment of the viability and potential applications of these technologies. SEP has made good use of the agroforestry/energy centres established by KREDP. It is also the only one of the three projects to have made any significant contribution to technology development in the arid areas of the country. SEP has established that the major area of technology development that needs addressing is woodfuel, including plantations, stoves, and kilns. There is little potential application for wind and solar except for solar water heating and in specific areas with institutional or community-scale demand and no access to the national electricity grid in the immediate future. Biogas has specific application for medium size farmers practising zero grazing.
- 4.18 SEP has the following problems however:
1. The dissemination programs for the various technologies have not resulted in widespread adoption by users.
 2. The methodology of technology assessment needs refining to include economic, social and technical criteria systematically and to incorporate user participation in testing.
 3. Lack of effective administrative and management support from MOERD headquarters.
- 4.19 The fuelwood stoves have not been adopted by users on a large scale because the program has focussed on training of trainers without an effective follow-up on training of users or monitoring in user conditions. The biogas plants have not yet been very much adopted because the conditions for adequate maintenance have not yet been worked through with users, nor have the plants been demonstrated in use (on zero-grazing farms). Only construction of the units is demonstrated and artisans trained in this skill. SEP needs to broaden its technology development method to increase its effectiveness.

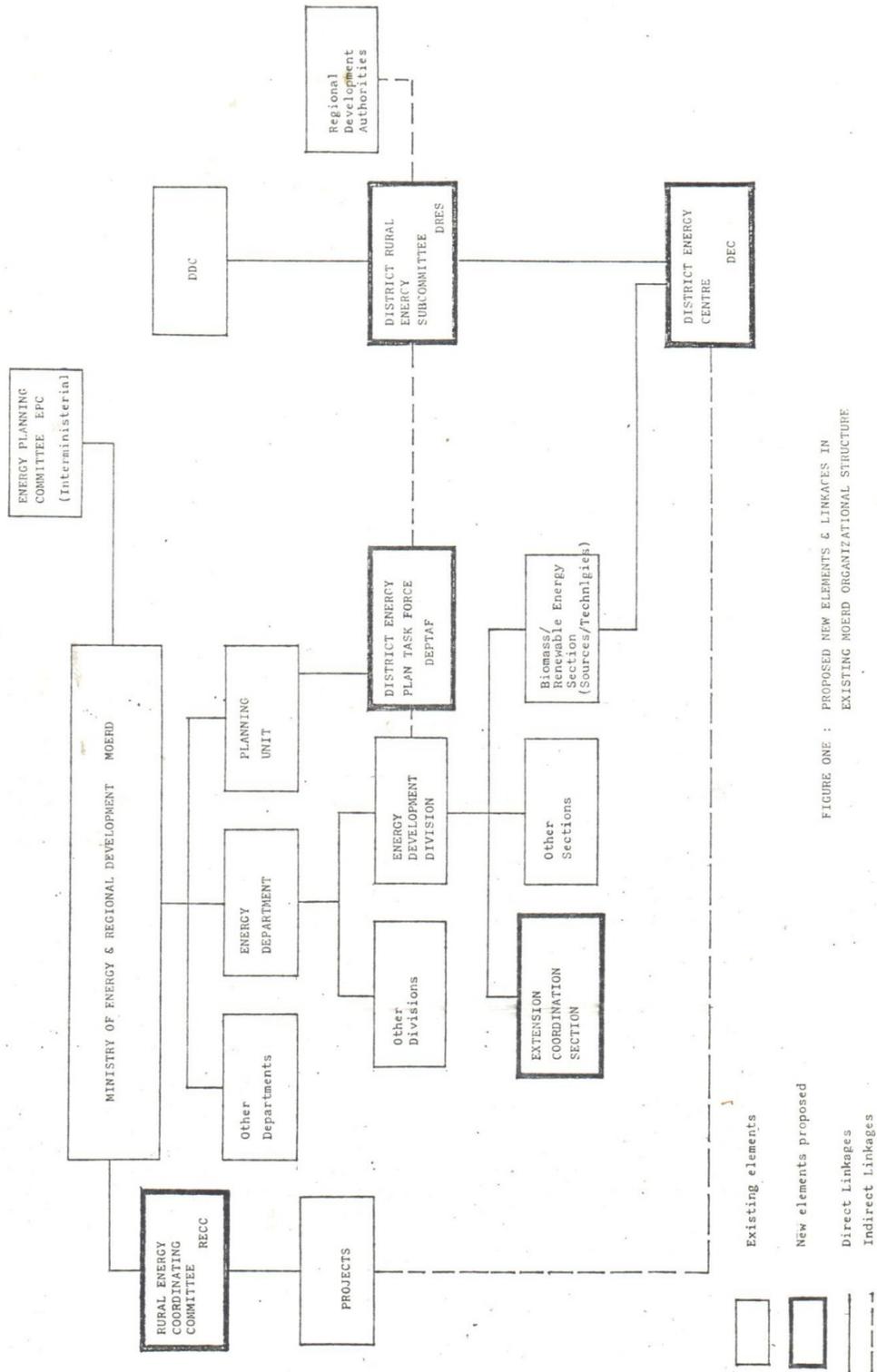


FIGURE ONE : PROPOSED NEW ELEMENTS & LINKAGES IN EXISTING MOERD ORGANIZATIONAL STRUCTURE

- Existing elements
- New elements proposed
- Direct Linkages
- Indirect Linkages

P R O P O S A L S

5.00 COORDINATION, TRAINING AND MANPOWER DEVELOPMENT

What is the status of the three projects?

- 5.01 KREDP is due to be fully taken over by the Ministry by the end of this year but arrangements to do this effectively have not yet been made. Although some of the necessary positions for the staff at the centres have been created and filled there is a lack of appropriate trained personnel in Energy Department to carry out the varied tasks required.
- 5.02 Also, there is currently no overall framework with agreed national goals, targets, and schedules for implementation. Further, project coordination and supervision is weak; projects are not supervised from the relevant parts of Energy Department and there is a proliferation of committees. MOERD has nominal Steering Committees to guide the KWDP and SEP projects, while KREDP is directly administered by MOERD, the main substantive contact being with Planning Unit. The committees designated are not effective.
- 5.03 Although KREDP has contributed to the development of extension training, courses in institutions of higher learning, and training of MOERD personnel both on-the-job and through one scholarship, the overall picture on counterpart training and the development of Kenyan manpower is weak. KWDP has trained Kenyan personnel on-the-job but there is no systematic plan for the absorption of such personnel by GOK. Initially, SEP was not provided with counterpart MOERD personnel. The personnel acquiring skills on all of the projects may have difficulty in being absorbed into either public or private sector employment because of the lack of overall manpower planning in the area of rural and renewable energy.

What role should the Ministry play?

- 5.04 To improve coordination it is proposed that all donors active in rural energy be coordinated by a single Rural Energy Coordination Committee, RECC in MOERD. Day-to-day supervision of projects should be by Energy Department. In the short term, and before establishing any new energy centres, MOERD needs to improve management procedures within the framework of its recent reorganization and make sure that the supervision of projects, and taking over of relevant functions from them, are adequately taken care of in its work program. Vacant positions, at the centres and HQ, must be filled with the appropriately qualified manpower.
- 5.05 To improve the manpower problem in the long term it is proposed that MOERD's Planning Unit should develop, with donor support where appropriate, a comprehensive national Rural Energy Manpower Development Plan. This should include:
1. Estimates of numbers of personnel required in Kenya, in both public and private sectors, in the various categories of technical and administrative personnel related to rural energy. (Donors should be involved in discussions with respect to their proposed contribution to these estimated requirements when developing projects for funding. Such discussions should include both Energy Department and Planning Unit. Relevant NGOs may also be called in to such discussions by the RECC.)

2. Recommendations on training requirements to meet the planned targets, with numbers of personnel at each level and specific technical specializations required. (Donors should select from and offer contributions in accordance with these recommendations.)
 3. Inclusion of training recommendations in national planning categories.
 4. Provision for certification of the required new specializations and personnel categories. (Such as biogas technicians, woodfuel economists and others.)
- 5.06 Apart from such overall national manpower development and training, MOERD needs to continue with the start made by KREDP on systematic training of agroforesters. Agroforestry should be part of the curriculum for extension training at the Embu, Bukura, Ahiti, Ndombi, Matuga and Kilifi agricultural institutions. Agroforestry courses for institutions of higher learning at Egerton, Moi, Nairobi and JCAT, as well as the Forestry College at Londiani, need continued development based on the initiative of KREDP.

Workshop Discussion: Coordination, Training & Manpower Development

- 5.07 Workshop participants agreed that an in-house coordination committee is required within MOERD, with the composition suggested (see Administrative Structure and Staffing, below), and with the overall responsibility for monitoring and substantive review of projects.
- 5.08 The difficulties of absorbing project personnel into the civil service hierarchy and of the handover of centres from project to Ministry control were discussed. It was pointed out that DFM has already endorsed the creation of the necessary positions at existing centres and that others, plus any required at headquarters, would be reviewed in due time when requested and justified. Another question was the formal relationship between MOERD and project personnel in the field. It was agreed that MOERD should review this matter and develop a protocol. It was also agreed that the consultant's report should be revised to reflect the new structure of MOERD as given in the DFM report of 1985 (12).
- 5.09 Participants thought that the issue of training was of paramount importance and was not adequately covered in the report, although it was mentioned in several places. This has been addressed in the final report by including this separate section on coordination, training and manpower development, while the specific area of extension training is included only under extension. The need for training specialists such as biomass technologists as well as extension workers was pointed out, as was the contribution already made by the three projects to training both extension personnel and students in institutions of higher learning. Participants felt the lack of trained manpower was critical. Projects need to incorporate adequate counterpart training and counterparts also need to be provided to work with projects, so that they can be taken over on completion. The need for courses and training programs on energy planning was specifically mentioned.

Performance Targets: Coordination, Training and Manpower Development5.10 Short term:

1. The supervision of implementation of all projects and the management of the centres should be clearly assigned to the relevant sections and officers of MOERD's Energy Department, filling approved posts with qualified personnel as required. The latter in particular is urgently needed to prevent the existing centres collapsing while the Ministry builds up its capacity.
2. Develop a protocol formalizing and clarifying the status of project personnel in the field in relation to MOERD.
3. Abolish existing project steering committees and set up a single Rural Energy Coordination Committee whose first task will be to establish modes of operation and detailed procedures for donor-funded projects.
4. Establish terms of reference and a working schedule for the RECC including its mode of servicing by Energy Department and Planning Unit.
5. Set up regular reporting sessions for projects to submit extension materials, report on project progress and achievements of plan targets.

5.11 Medium Term

1. Prepare the Rural Energy Manpower Development Plan, and operationalize it in collaboration with the other appropriate ministries and bodies.
2. Prepare and operationalize rural energy, including extension, training programs, and public information programs, through the appropriate sections of Energy Department and the District Energy Centres (see Section 7.00 on extension).

6.00 TECHNOLOGY DEVELOPMENT: PROPOSALS

What is the contribution of the three projects?

6.01 The projects have developed or are developing the following technologies:

Woodfuel Production Technologies:

- Agroforestry species screening and configurations (KREDP/KWDP);
- Alley cropping (KREDP);
- Woodlot trials (KWDP);
- On-farm nurseries (KWDP);
- Seed production and distribution technologies (KWDP);
- Seed orchards (KREDP);
- Fuelwood plantations (SEP);

Woodfuel Conservation Technologies:

- Improved jikos (KREDP);
- Improved wood stoves (KREDP/SEP)
- Improved charcoal kilns (SEP);

Other Renewable Energy Technologies:

- Biogas digesters (SEP);
- Windpower (SEP);
- Solar technologies (SEP);

6.02 Perhaps the most important contribution to technology development has been the initial creation of a technology development infrastructure by KREDP. Six agroforestry/energy centres and two subcentres have been established in various ecozones to test and demonstrate energy technologies. KREDP has also had success with improved jikos, for which there is considerable demand; some agroforestry packages are also now ready for dissemination. SEP has also used these centres, as well as other locations in the country where GTZ projects are based. SEP has established that woodfuel technologies are the primary area to concentrate on for the majority but that solar, wind and, in particular, biogas, have some specific applications in areas not accessible to the national electricity grid in the medium term, for institutional/community users, and on medium-size farms using zero grazing. Some of these technologies, particularly biogas, need continued development.

6.03 Despite these achievements, the following aspects could be improved upon:

1. Centres need to be backed up by more on-farm and range testing and demonstration, and better means of involving farmers and users.
2. The method of technology choice and testing needs to focus more on social and cultural conditions of use, economic feasibility and maintenance. (10)
3. The system of monitoring production, marketing and product life needs development. (10)
4. Dissemination techniques need strengthening

6.04 There are opportunities here for combining the best aspects of all projects, and for developing a more comprehensive technology assessment method.

What role should the Ministry play in Technology Development?

- 6.05 The agroforestry/energy centres should continue to form the basis of the national infrastructure for rural and renewable energy technology development and dissemination. However, there is some discussion on whether the number of centres should be expanded so as to have one in each district. Although the current centres represent ecozones and are also supposed to serve large regions it is not realistic to expect a centre to service a whole region or ecological zone in terms of outreach. It has been suggested that it may be possible to build five centres each year until all 35 remaining districts are covered, which would have the following advantages:
- . Developing MOERD infrastructure in the districts.
 - . Creating physical structures which will be seen as project contribution when the donors are gone.
 - . Being meeting places for program consensus-building.
 - . Legitimising program activity.
- 6.06 All these are valid, but the following constraints must be borne in mind:
- . Centres are not efficient providers of seedlings for large areas.
 - . Centre-based extension is not effective. (See Section 6.00 on extension.)
 - . The KREDF project will terminate this year and adequate arrangements for MOERD to manage the existing centres have not yet been made. (See Section 5.00 on coordination).
- 6.07 Nevertheless it is proposed that, as MOERD expands operations, it should create District Energy Centres, (DECs). Experience out of the Kitui, Kilifi, Bukura, Kisii, Ngong and Wambugu centres developed by KREDF and the facilities planned for Nakuru and Muranga by KWDP should help MOERD to think and plan in detail a standard module of a DEC by FY 1987/88. Until such time plans for centres in other districts should be held in abeyance, with the exception of one for the arid/semi-arid lands for which arrangements should be made in consultation with IPAL, the Baringo Fuel and Fodder Project, and the Regional Development Authorities.
- 6.08 Links between the centres and the DDCs should be strengthened. (See Section 8.00 on district planning). Since it is not reasonable to expect centres to service regions, adjoining districts with no centres might request specific assistance or services from a centre and pay for them (as provided for in Appendix 1 of the District Focus document).

- 6.09 The functions of the District Energy Centres should be:
1. To provide information, demonstration and training courses on all appropriate energy technologies, in the form of extension leaflets, courses and a library.
 2. To refine species and spacing trials and other energy technologies that need those specific ecozone conditions. However, the majority of tests must be carried out on farm or range, in farmers' or pastoralists' conditions and in consultation with farmers and pastoralists.
 3. To provide seed bulking, processing, buying and distribution facilities.
 4. To provide a base and support facilities for district rural energy programs and projects of other ministries, donors, NGOs and community groups, which should operate through the proposed District Rural Energy Sub-committee, and also for the proposed District Energy Planning Task Force. (See Section 8.00 on district energy planning.)
 5. To provide a base for monitoring district energy data.
 6. To hold barazas and seminars locally.
- 6.10 It is envisaged that donors will support projects that operate out of the centres. The idea is to provide information and services to local institutions that will form and be self-sustaining in the long run (e.g. small industries, women groups, cooperatives). Donors might assist by providing funds to NGOs that support the formation of such institutions through credit, technical and business advisory services, supplies and equipment. Donors should be encouraged to provide the necessary infrastructure for such projects which will build up the centres over time (e.g. classrooms, biogas plants with cow sheds, rental workshops, shop, local newspaper press, cooperative bulk supplies store and management system, vehicle workshop, etc.). It is not the ministry's job to run these projects, but to manage the facility and support system, and to oversee the projects. Clearly, siting of centres is crucial. Not all projects will be physically in the centre location in the long term, though it is recommended so in the short term. Administratively, they should be related to the centres.
- 6.11 MOERD should also develop a technology assessment method which can be used to monitor the performance of all donor-funded technology development projects. Criteria should cover economic, social, cultural and technical performance, including maintenance. It is absolutely critical that technologies are developed and tested by projects in the field with the users, be they farmers or pastoralists.

Workshop discussion : Technology Development

- 6.12 Participants felt that the section of the report dealing with the contribution of the projects should be broadened to include more emphasis on agroforestry technologies and to include other points of clarification. Para.6.01 has been amended accordingly. It was also felt that training should receive more emphasis and the appropriate additions have been included in section 5.00 on coordination and Section 7.00 on extension.
- 6.13 It was generally agreed that the establishment of District Energy Centres in all districts should be the long term goal, although participants differed on how quickly this might be achieved. The importance of building upon and expanding from the existing agroforestry/energy centres was acknowledged, and there was general agreement that this should be done professionally and practically, within the limits of available resources. It was agreed that the centres should continue to come under the Energy Department and that a realistic phased plan should be drawn up and costed.
- 6.14 The importance of consolidating the existing centres and using other existing facilities was stressed. The immediate need for a semi-arid centre was also endorsed; apart from IPAL, the Regional Development Authorities (RDAs) cover several arid and semi-arid areas and have many nurseries. The Fuel and Fodder Project in Baringo is also an important programming resource. It was pointed out that most of the present centres are based on Farmers Training Centres of MOALD and that such a pattern could continue. Other existing resources mentioned were the NYS and the recently funded KANU nurseries which could be used as dissemination points.
- 6.15 The question of gaps in the existing pattern of centres was addressed in relation to regions, districts, ecozones, and the more micro-scale variations to be found in reality. Government's commitment to the district focus was recognized as the guiding principle within which a realistic plan should be drawn up based on existing resources, to establish district and inter-district centres. Two questions were not resolved. One was whether MOERD is the right Ministry to be involved in testing agroforestry technologies, even though it was clear that this is one of the present functions of two of the projects under MOERD, and that collaboration with MOALD and MOENR is crucial. Another was the question of using existing projects such as KWDP as the foci for establishing future centres.

Performance Targets: Technology Development

6.16 Short Term:

1. Improve the performance of the six existing centres, particularly by expanding their outreach.
2. Investigate the creation of a specific centre dealing with arid/semi-arid areas, building upon existing resources including those of the Regional Development Authorities, IPAL and the Fuel and Fodder project.

6.17 Medium Term:

1. Develop a standard approach for District Energy Centres (DECs), which must also have flexibility depending on local conditions and the types of projects proposed.
2. Draw up a plan for developing district and inter-district centres based on existing resources including those of the RDAs.
3. Establish and implement a standard rural energy technology monitoring and assessment method.

6.18 Long Term:

Establish functioning DECs in all 41 districts based on a thorough assessment and adaptation from the experience of the first ones.

Administrative Structure and Staffing: Technology Development

- 6.19 The basic function of the centres being to provide a base and services to the DDC sub-committee, extension services, and NGO projects, staff at national and district level must provide:
- . good management and administration,
 - . documentation and records,
 - . buildings and equipment maintenance and supervision,
 - . running of training, demonstration and technology testing as required,
 - . production and distribution of extension and public information packages, based on the outputs of the projects.

National Level:

- 6.20 National level staff must include senior management and administrative skills, extension and communication skills, training program design, management and implementation skills. The person in charge of centre managers at national level should be in Energy Development Division of Energy Department. He or she must be senior to the individual centre managers and have competent administrative assistants, transport, financial and administrative back-up. He or she should work with the proposed extension coordinator (see Section 7.00 on extension). This person should be at level L/M, or externally funded equivalent post in the interim.

District Level:

- 6.21 Each District Energy Centre should be run by a manager who is also designated District Energy Officer. Centre managers are currently at level J/K. However, in view of the management complexity suggested and the need for them to operate at a level commensurate with other district personnel, level K/L is recommended.
- 6.22 The staff of the DEC should include an agricultural officer, preferably an agroforester, an extension trainer/coordinator responsible for implementing the training and public information programs through the relevant extension services, and an engineer/technician responsible for the renewable energy technology infrastructure. One of these persons should be the manager, at the appropriate level. Level J/K is recommended for the others. Where no engineer is available, the job should carry the appropriate level depending on the qualifications of the technician available.

7.00 EXTENSION: PROPOSALS

What is the contribution of the three projects?

- 7.01 Each of the three projects uses a different approach to extension. KWDP has contributed to a detailed understanding of the constraints to increased farm-level woodfuel production, has begun an awareness program to address these in one district and has developed innovative mass communication methods, but has not yet produced district extension packages. However, the KWDP method relies on its own intensive extension system, and it is unclear how this can either be replicated on a large scale or transferred into the national extension system. KREDP developed its extension system out of the centres, relying on MOALD and MOENR extension staff and Peace Corps Volunteers. However, this method has not systematically reached a great many farmers, and contacts with other extension systems are weak and ad hoc. SEP has worked through Maendeleo ya Wanawake to extend wood stoves, but its concentration on training of trainers has not yet led to widespread adoption of the stoves.
- 7.02 Some training of MOALD extension staff and farmers is being carried out by KREDP in short "exposure" courses. KREDP has also developed short courses at Universities and Colleges. The useful outputs of all three projects and others need to be continuously coordinated, updated and put into usable training form nationally and for districts.
- 7.03 Seed is a major issue to be addressed in woodfuel extension. Kenyan farmers already plant trees, and are by far the largest single source of seed and seedlings. However, this activity is characteristic of the high-potential areas and not of arid and semi-arid areas, or Coast Province. (2) Extension needs to focus on increasing this production and providing it with the necessary support services, particularly in the areas where it is currently lowest.

What role should the Ministry play?

- 7.04 Although there is a need for dissemination of energy technologies MOERD was set up as a policy-making ministry only and it is not feasible for it to set up its own national extension system. It must rely on other national outreach systems, specifically MOALD, RAES, MOCSS, the schools through MOEd, MOLS, Institutes of Technology, Village Polytechnics and Kenya Industrial Estates.
- 7.05 It has been observed that centralized extension systems that disseminate packages produced by experts are not appropriate for farmers' and pastoralists' conditions and are not readily accepted by them. There are problems with centre-based extension as the KREDP mid-term evaluation shows and current literature on extension amply documents. Rural research in general, including KWDP research, specifically shows that effective extension systems have to be culture- and location-specific. Decentralized extension systems and community-based approaches which respond to farmers' and pastoralists' needs have been found to be more effective. MOERD needs a mechanism for utilizing such community-based packages, and energy technologies developed on farms and on range.

- 7.06 Furthermore, at the moment, there is no mechanism for combining the findings and outputs of the three projects (or others) into usable extension packages, even though they may be operating in the same area. There is a need for an overall framework of extension for rural energy projects. For example, there is some consensus among project personnel that there is some information available which can be extended immediately. What lacks is a coordinated mechanism for doing this.
- 7.07 It is recommended that the following immediately available information be developed into rural energy extension packages, training programs and public information campaigns:
1. Known indigenous and exotic fuelwood and multi-purpose trees.
 2. Energy conservation practices, including alternative cooking systems.
 3. Traditional practices which constrain production of fuelwood and biomass in general.
 4. Methods of producing, collecting and storing tree seed.
 5. Small nursery technology.
 6. Marketing of tree seed and fuelwood.
 7. Making and marketing efficient stoves and jikos.
- 7.08 It is further recommended that MOERD should coordinate production of extension packages and other information. Woodfuel and other energy extension packages should be continuously derived from the projects and other sources and directed to the relevant national extension systems. A senior extension person should be responsible for this within MOERD and the same person should participate actively in the proposed District Energy Planning Task Force (DEPTAF, see Section 8.00 on district energy planning). It is proposed that an Energy Extension Section be created within Energy Department with the required personnel being seconded to DEPTAF as necessary.
- 7.09 This section must not be seen as the proxy for a new energy extension system. Extension as such will be the function of other ministries' extension services, who will, however, require training and orientation sessions at the DECs. The centres should therefore not only provide a classroom and teaching aids but also extension trainers whose work will be to coordinate with the operating ministries and organizations. Packages may originate both from the headquarters extension section and from the centres themselves. Local extension packages might also be printed at centres. Much of the initial work of generating extension material may need to be done through donor-funded projects but under MOERD leadership. The national energy extension system should be based on MOERD collaborating with other Ministries and NGOs and assisted by appropriate donor-funded projects.
- 7.10 One problem not yet given attention by the projects, MOERD and NGOs is large scale reseeded and the related extension problems. Seeds are not available in parts of the country because all the producing trees are cut. There may also be cases where a tried species with highly desirable traits like good fuelwood/charcoal and nitrogen fixation can be introduced into an area by large scale seeding techniques. The cost effectiveness of the various approaches to this technique need to be studied, and the contribution of the Fuel and Fodder project in this area assessed.

Workshop Discussion: Extension

- 7.11 Participants agreed on the importance of building upon what farmers are doing. However, it was pointed out that, though seed is a problem at present, this may be only temporary. Existing moves to coordinate the national seed supply and to remove local bottlenecks were described by project personnel. Also, seed is not the only bottleneck in woodfuel supply: extension workers' lack of mobility, training and packages are problems as well, as are tree survival, follow-up and lack of adoption by farmers. These are addressed in some ways by the projects, but the efforts to work more closely with farmers, and to develop a robust monitoring program, must be stepped up. These are concerns both for the MOERD projects and for the various national extension services.
- 7.12 The general consensus was that extension, and research/extension linkages, need considerable strengthening, especially through training. It was agreed that a primary role of the DECs should be extension training. KENGO and KREDP have initiated agroforestry training workshops in the districts. The workshop suggested that agroforestry training modules should be developed based on the resources of the three projects but also others, and of the resources of such institutions as ICRAF, IPAL, ILCA and others.
- 7.13 Participants raised two important questions about extension:
 1. Who in the national system is going to extend agroforestry?
 2. Who is going to address the cultural variable and how is extension going to cope with it?
 It was agreed that MOERD must rely largely on MOALD which has the largest extension network in the country, and must work out a way in which cultural information is both collected and made available for extension. However, links must be established not only to MOALD but also the other relevant extension networks. Among those mentioned in the consultant's report, RAES, MOEd and MOCSS were particularly stressed. It was suggested that MOERD work out a program of extension materials appropriate to the different networks, and that, within this, the various parts of MOALD, such as Livestock, Home Economics and so on, should also be differentiated.
- 7.14 It was agreed that interministerial coordination is essential in the wood/renewable energy area, and that an interministerial coordinating committee should be established to:
 . review the joint memoranda of understanding between the various agencies concerned;
 . ensure coordination on extension matters.
 Participants pointed out that the existing Energy Planning Committee (EPC) could play this role, and that relevant NGOs could be invited to participate in sessions concerning their outputs.
- 7.15 The lack of an overall extension policy was pointed out, and the fact that this must go beyond the scope of the present report: the goals of wood production must be defined, and cover the various uses of wood. The specific needs of the landless and those in semi-arid areas must be addressed through extension. A different

extension approach is needed for areas where people are semi-nomadic pastoralists; fodder crop trees are the priority in such situations, and community-wide measures to counteract erosion and cutting down of trees; rather than farm extension packages, barazas and consultations with the community leaders in each area are needed in arid and semi-arid lands.

Performance Targets: Extension7.16 Short Term:

1. Investigate the establishment and necessary staffing of an Extension Coordination Section in Energy Department of MOERD, with this function being extended to DECs. This section will compile energy extension packages and direct them to the appropriate extension services.
2. Revise the Memorandum of Understanding between MOERD, MOENR and MOALD on centres and extension to include more collaborating Ministries and extension services (e.g. MOCSS, MOLS, PPCSCA) and to establish a more specific framework for the preparation and dissemination of extension and training materials.

7.17 Medium Term:

1. Review and compile existing project and other information into a training plan.
2. Compile extension and public information packages through collaboration between project and MOERD personnel.
3. Implement the training plan in collaboration with MOALD, RAES and other relevant agencies through a consultative process at Ministry HQ level, leading to combined field sessions at district level.
4. Disseminate the extension packages and public information through the appropriate extension services and media, including monitoring of impacts.

7.18 Long Term:

Implement appropriate energy extension programs for medium and high potential areas on the one hand and arid/semi-arid areas on the other:

1. The woodfuel target for medium and high potential areas is to increase local tree production by:
 - .encouraging farmers, schools, centres and other institutions to bulk seed
 - .encouraging farming of woodfuel as a subsistence crop
 - .encouraging farming of a woodfuel surplus for sale
 - .encouraging and supporting women groups to produce and sell seed and woodfuel
 - .buying seed of fast growing species at commercial rates.
2. The woodfuel target for arid and semi-arid areas is to build up range and community-based woodfuel production, both for community fodder and woodfuel, and as a national charcoal and woodfuel resource. This can be approached through awareness campaigns, barazas and a consultative process with local leaders.

8.00 DISTRICT ENERGY PLANS: PROPOSALS

What is the contribution of the three projects?

- 8.01 The main contribution to planning is being made by KWDP. This project is piloting a method of district woodfuel planning which:
- . documents district woodfuel resources,
 - . identifies key woodfuel problems through farmer surveys,
 - . generates awareness through mass media and extension,
 - . identifies options for intervention with farmers participation.
- Although this method is still only in its development stage in two districts, it is potentially a useful and effective model.
- 8.02 However, there are three adjustments that will need to be made:
1. The method is expensive, partly because it is in an initial experimental phase, which is understandable, and partly because it relies on a high level of technical expertise, both in Nairobi and in the field, and highly trained extension workers in the districts.
 2. It covers only woodfuel production, and not woodfuel conservation (stoves) or other energy technologies, which are being dealt with by the other two projects.
 3. It does not help MOERD or the DDCs build capacity because it does not have a counterpart training program.
- In order to be adopted for national use it needs to be refined, adapted into a broad energy planning framework and made cheaper.

What role should the Ministry play?

- 8.03 At present there is a complete lack of a framework for specific plans for different districts or ecozones for DDCs, donors, or NGOs to follow. This is serious gap in the policy planning and coordination roles of MOERD. The Planning Unit of MOERD must develop a program, and a program evaluation framework, and Energy Department must monitor all centre and donor activities in relation to it. This applies to all present and future donor funded activities. KCEAF can assist in this task. The program should detail specific targets and modes of operation, but should also be adaptive to accommodate innovations and update itself where needed, particularly in response to learning that takes place in the field.
- 8.04 Also, there is enough information and informed judgement to begin generating district plans while collecting more quantitative data. The KWDP data and other information can be used for the first plans and the methodology adapted for later ones. In order to generate district energy plans which detail the technologies to be used by various actors, we recommend the creation of a District Energy Plan Task Force (DEPTAF) within MOERD's Planning Unit. MOERD should make best use of donor assistance in:
1. Developing the first round of District Energy Plans
 2. Building up the capacity of the DEPTAF.
- Of course there will continue to be energy problems in districts after the first round of planning, and an important continuing function of DEPTAF will be to respond to new energy problems identified in the districts by farmers, extension services, donors and the DDCs.

Workshop Discussion: District Energy Plans

- 8.03 After a great deal of discussion, it was agreed that there is a need for district energy plans, and that these might best be achieved by a District Energy Plan Task Force which would provide assistance to the DDCs. District energy plans will need to be related to overall district development plans and budgets, and to be monitored and evaluated during implementation. It was pointed out that full use should be made of:
- . the existing data collection infrastructure including CBS and MOPND.
 - . existing data sources including KREMU and the RDAs.
 - . the existing planning infrastructure, namely the DDOs and ADDOs who are the planners at district level and the MOPND at national level.
- It was conceded that these structures by themselves were inadequate to produce district energy plans and that it is the responsibility of MOERD to coordinate the relevant data and to set up a system for district planning, which could be an adapted version of the KWDP method.
- 8.06 Participants described the parallel experiences of MOENR which has a mobile environmental assessment task force, and is also currently developing a district planning approach for tree planting and monitoring, based on the District Soil Conservation Subcommittees. The possibility of consolidating district energy and soil conservation activities in one subcommittee needs to be discussed by MOERD, RAES and FPSCSA. The need for a specific district energy plan framework in order to avoid uncoordinated and ineffective activities was strongly endorsed both by governmental agencies such as RAES and by NGOs such as KENGO.
- 8.07 Participants proposed the idea of a prototype district energy plan, and it was pointed out that this should cover all energy types and not only woodfuel, however much this might be the priority. The inherent problem that energy planning must cover more than just wood, and that wood planning must cover more than just energy, came up time and again in the the discussions, without reaching a decisive conclusion beyond the fact that they must be coordinated at district level. Several participants stressed the importance of planning on a smaller scale than the district because of socio-economic and ecological variations. The importance of KWDP-type cultural surveys at the farm level, and of sub-locational planning, were supported. Differences between districts were also discussed, and the fact that MOERD must decide which ones to concentrate on first. Semi-arid areas need a different type of planning, not least because land has not been adjudicated. It was suggested that projects were a major resource within districts which should be used by the task force in preparing its plans. The same applied to centres, where they exist at the time of plan preparation.
- 8.08 Participants agreed that the Planning Unit of MOERD should obtain price and other market data on timber including its use for fuelwood, as such data is currently not available. This needs to be done so that bankable projects can be developed and agencies such as AFC and others encouraged to provide credit for tree production to farmers and community organizations.

Performance Targets: District Energy Plans8.09 Short Term:

1. Develop the work program and investigate resource requirements and sources of funds for the District Energy Plan Task Force
2. Prepare a prototype District Energy Plan based on all relevant, including KWDF, data and the inputs of the DDCs, RAES, Soil Conservation Unit and NGOs active in the relevant district. The plan should have clear technology recommendations.
3. Compile existing data sources and project outputs from all relevant agencies in the districts for which plans are being prepared.
4. Establish energy data banks: at the DECs for use in district focus planning, and at MOERD for policy planning.

8.10 Medium Term:

1. Continuous coordination, collection and updating of quantitative biomass data for district planning.
2. Development and refinement of a scaled-down version of KWDF method for district planning.
3. Undertake district energy plans with selected DDCs in time for the next Development Plan.

8.11 Long Term:

1. Set up reliable system of extension feedback which incorporates on-farm agroforestry experience so as to build up a national energy planning capacity which is responsive to local problems.
2. Set up reliable system of data updating to maintain an accurate district biomass and other district energy database for use at district and MOERD levels.

Administrative Structure and Staffing: District Energy Plans

National Level:

- 8.12 The District Energy Plan Task Force (DEPTAF) should be in the Planning Unit of MOERD. It should be headed by a planner reporting to the Head of Planning Unit, and should be interdisciplinary and task oriented. Although a size of approximately ten is required, it is suggested that this include appropriate secondments from Energy Department and donor-supported posts as well as staff of the Planning Unit. The following composition is suggested:
- . five planners from MOERD's Planning Unit/MOPND/donors
 - . an extension planner seconded from Extension Section
 - . the relevant agroforestry, biogas, solar, wind, tidal and oil expertise as required for the district either from Energy Department or from donor sources.
 - . the DDO and Assistant DDO for the district.
- 8.13 All energy specializations appropriate to rural development in the district should be considered, but with the emphasis on woodfuel planning and extension specialists to ensure integration of farmers' priorities into new technology options and plans. The task force should be totally mobile, going to the various districts to do its work, and will therefore need adequate transport and field allowance support. It is suggested that donor support be sought for this also. Since plans are being prepared for use and implementation by DDCs with the assistance of Energy Department they must participate in the exercise. The participation of the proposed Extension Coordination Section of Energy Department is of crucial importance. Planners will be assigned to DEPTAF as part of the normal work programming of the Planning Unit. The number requested from DPM may be more or less than five, depending on the work program of both the Unit and DEPTAF.

District Level:

- 8.14 The most important activity in each district is to create a District Rural Energy Sub-committee (DRES) of the Executive Committee of the DDC. Its membership should be: DC as Chairman, DDO, ADDO, DFO (RAES), DAO, DSDO and NGOs in the district. If there is a DEC, the Centre Manager could act as Secretary to the DRES, and should also be designated District Energy Officer, (DeEO). Where there are no centres the Secretary should be the DFO (RAES).
- 8.15 The functions of the DRES should be to:
1. Prepare the District Energy Plan with the assistance of the national task force.
 2. Supervize the implementation of the District Energy Plan with the assistance of the Energy Department of MOERD, particularly the Biomass and Extension Sections.
 3. Collect information on rural energy activities.
 4. Supervise and coordinate the activities of energy implementing agencies in the district.
 5. Oversee activities of the DEC, if any, including planning rural energy committees at divisional, locational and sub-locational levels.

9.00 FUNDING MECHANISMS: PROPOSALS

What are the mechanisms used for the three projects?

9.01 In fact MOERD has five projects with four donors (CIDA, Federal Republic of Germany, Netherlands Government and USAID), each with different modalities of relating to it, as shown in Table One:

PROJECT	DONOR	PROJECT MANAGEMENT	FUNDS MANAGED BY
KREDP	USAID	MOERD (with EDI assistance)	Energy Development International (EDI) a US consulting firm; partially handed over to MOERD, complete handing over end 1986.
KWDP	Dutch govt. SIDA	Beijer Institute, a Swedish NGO	Beijer Institute and Dutch govt.
BFFP	Dutch govt.	Baringo Fuel & Fodder Project	Baringo Fuel & Fodder Project and Dutch govt.
SEP	FRG	GTZ, a govt.owned parastatal	GTZ
KCEAP	CIDA	KCEAP within MOERD (Joint steering committee)	KCEAP with some funding items jointly agreed upon with MOERD

TABLE ONE: RURAL ENERGY PROJECT INSTITUTIONAL ARRANGEMENTS

- 9.02 The two extreme ones are KREDP and KWDP: KREDP can operate only within MOERD structures; KWDP on the other hand operates on its own, seeking only authority on programs. SEP operates largely on its own, although it is partly housed by MOERD, and does not even discuss budgets with MOERD. KCEAP is both housed in and clears some local cost items with Ministry. These separate modalities were agreed upon by MOERD for different reasons which suited the specific projects and donors involved. It is clear that there are advantages and disadvantages at the two extremes.
- 9.03 Projects which are run through MOERD, including the management of funds, can be more easily managed and supervised, and are more easily absorbed into national budgets and programs. On the other hand, MOERD currently lacks the capacity for such management and supervision.
- 9.04 Direct funding has the following disadvantages:
1. Lack of government involvement in day-to-day decision-making resulting in lack of learning in the official decision-making system and reduced likelihood of assimilation of the program.
 2. Lack of government involvement in overall policy and priority decisions, resulting in lack of national coordination and the failure to build up a national policy data-base.

On the other hand, direct funding has the following advantages:

1. Less bureaucratic hold-ups due to lack of resources and decision-making capacity at national level. Management of funds by central government can hold up or completely disrupt actions in the field if decisions on small items, or the approval of budgets, are delayed for months because of lack of personnel or lengthy procedures at headquarters.
2. Projects with decision-making autonomy can be closer and more responsive to needs in the field.

What role should the Ministry play?

- 9.05 It is recognized that donors as agencies of sovereign states have their own procedures and policies to abide by. However, donor aid and technical assistance to a country has, virtually by definition, a moral obligation to develop the capacity for local control. A certain amount of goodwill is therefore needed on all sides in building up donor coordination mechanisms. These are needed at national and at local level. Kenya has made a significant step in the coordination of projects at the local level through establishing the District Development Committees and MOERD can utilize this mechanism. However, coordination structures at national level are still weak. Two goals should remain paramount:
1. Effective implementation of projects based on national priorities.
 2. Building up of Kenyan capacity for rural energy policy, planning, management and evaluation.
- 9.06 The new Budget Rationalization Programme of Kenya Government requires all externally-aided projects to be shown in the relevant Ministry's forward budget so that the recurrent cost, staffing and subsequent operational requirements are taken into account. (14). However, apart from KREDP, which is included in MOERD forward estimates, this has not been done so far for the other projects under MOERD. We recommend that the first task of the proposed Rural Energy Coordination Committee (RECC) of MOERD be to negotiate with donors an agreed modality for project funding and management which fits in with MOERD priorities.
- 9.07 As outlined in the previous sections of the report, the optimum mode of operation for MOERD is to maintain overall planning, monitoring and evaluation control (through its Planning Unit and the district process) and to develop, manage and maintain rural energy infrastructural services, namely District Energy Centres, (through its Energy Department). Projects (which should fit in with MOERD policy and plans) are best run by local institutions, under the auspices of the DDCs. NGOs have a role to play in helping build up such local institutions through projects which manage and channel funds to them. Due to the limited management capacities of MOERD it is recommended that, though MOERD and the relevant DDCs should monitor management and funding of all projects, outside assistance is likely to be needed for management of many such projects in the immediate future. MOERD should give priority to building up its capacity to manage infrastructural projects such as the DEC's and the overall functions of planning, evaluation and database management.

ITEM	DONOR	IMPLEMENTING AGENCY	RECIPIENT	FUNDS MANAGED BY	WITH ADVICE BY	PROJECT APPROVAL, MONITORING AND SUPERVISION
Capital development & infrastructure	Govt.A	Executing Agency X	MOERD	Executing Agency X	-	MOERD
Centre operations & maintenance	None	MOERD	-	MOERD	-	-
Seed production unit	Govt.A	Executing Agency X	Location Woodfuel Producers Cooperative	Executing Agency X	DDC Subcommittee	MOERD
Fuelwood/agroforestry extension training program	Govt.A	Executing Agency X & MOERD/MOALD/MOENR	MOERD	MOERD	-	MOERD
Biogas demonstration unit & zero grazing farm	Govt.B	Executing Agency Y	MOERD	MOERD	-	MOERD
Biogas units on farms	Govt.B	Executing Agency Y	Farmers	Executing Agency Y	DDC Subcommittee	MOERD
Jiko workshops bulk store & supplies, retail shop	Govt.C	Executing Agency Z	Locational Jiko Coop OR individual entrepreneurs	Executing Agency Z	DDC Subcommittee	MOERD
Business advisory service & credit scheme	Govt.D	Executing Agency Z	Local women groups, coops & individual entrepreneurs	Executing Agency Z	DDC Subcommittee	MOERD

TABLE TWO: EXAMPLE OF FUNDING FLOWS AT A TYPICAL DISTRICT ENERGY CENTRE

- 9.08 The capital development of infrastructure could also be funded directly through donor projects, as was the case with KREDP, with only recurrent and maintenance costs and functions being taken over either by MOERD or the respective local institutions on termination of the projects. An example of funding flows for a District Energy Centre is given in Table Two opposite.
- 9.09 Overall functions of planning, programming, evaluation and data-base management which are donor-supported must have such funds appearing in MOERD estimates and be monitored by them. Another important consideration is that there be substantive MOERD counterparts in place before the start of such projects, and there should be continuous and proper liaison with DPM on this. Such counterparts should take effective responsibility for "their" projects and not abdicate such role to the donors. This is particularly important where funds are not only monitored but administered by MOERD, as is the case with KREDP.
- 9.10 This provision should not jeopardize existing planning projects such as KDEAP and KWDP. However, such projects should be monitored by the appropriate part of MOERD in collaboration with the RECC. More importantly, pilot projects such as KWDP should have a phased plan for development of a prototype method which can be adopted on a wider basis nationally in MOERD and other relevant institutions. Such plan should incorporate counterpart training and a contribution to the MOERD manpower development plan.
- 9.11 Although the time for and scope of this consultancy have not permitted a detailed analysis of the finance and administration procedures of MOERD, it is clear from the investigation of KREDP that they leave much to be desired in terms of efficiency. The following are offered as suggestions for further investigation concerning those items funded through MOERD, whether donor funded or from GOK budget:
1. Better linkages between Finance Department and Administration Department on the one side, and Energy Department and Planning Unit on the other, in terms of information on financial procedures and project requirements respectively.
 2. More delegation of discretionary budget items to project and/or centre personnel in the form of imprests.
 3. More realistic estimating of project and/or centre expenditures, particularly transport and other operational expenditures.

Workshop discussion: Funding Mechanisms

- 9.12 Although the workshop did not devote a great deal of time to the discussion of this part of the report, it was briefly reviewed and noted as being of use for information purposes, subject to the provisions of Treasury Circular No.3 1986. It was suggested that the final report be edited to include reference to the ongoing budget rationalization process of Kenya Government and the relevant treasury circulars. It was noted that all new funding must appear in the relevant Ministry's forward estimates although projects with 90% or more recurrent donor funding are exempt from the specified cost ceilings. Participants concluded that the new government provisions would not invalidate existing agreements with donors, beyond the inclusion of their budgets in the relevant estimates. It was agreed that it should be up to RECC to negotiate with donors on modalities for funding, and for fund management, for new projects.

Performance Targets: Funding Mechanisms9.13 Short Term:

Convene the Rural Energy Coordination Committee and set up a series of meetings with donors concerned to agree on mutually acceptable funding, budgeting, and fund management modalities.

9.14 Medium Term:

Establish and operationalize funding, budget, and finance management mechanisms agreed.

9.15 Long Term:

MOERD to assume effective control of national rural energy planning and provision of project support services nationwide.

Administrative Structure and Staffing: Funding MechanismsNational Level:

- 9.16 Control and supervision of agreed funding mechanisms will be the task of the Rural Energy Coordinating Committee of MOERD with advice from Energy Department and Planning Unit. Administration of funding for any item channelled through MOERD will be by the DSF&A in Finance and Administration Division, in direct communication with one designated officer responsible in Energy Department or Planning Unit.

District Level:

- 9.17 District Rural Energy Subcommittees (DRES) will be responsible for overseeing the funding of projects in their districts; such projects will appear in the forward budgets for the district and project implementation will be monitored by the DDC. It is not proposed that the DRES be directly responsible for the management of funds, but under the district focus they have important planning, monitoring and evaluation responsibilities. They should, however, have all substantive project data.

10.00 MASS AWARENESS: PROPOSALS

What is the contribution of the three projects?

- 10.01 KWDF has contributed to the development of innovative mass awareness techniques on an experimental basis among rural populations in one district. The impacts remain to be monitored and replicated on a wider basis but are anticipated to be effective. KREDP has contributed to the establishment of six agroforestry/energy centres but awareness of these is limited. Although substantial awareness of the need for tree planting and soil conservation has been generated nationally through the various agencies listed in Section 3.00, through the political leadership, and through the media, there has not yet been a concerted effort to give rural energy issues a high visibility nationally.

What role should the Ministry play?

- 10.02 For MOERD to give rural energy visibility nationally we propose that Rural Energy Seminars be held. Provincial seminars should be held first, with the top officials of MOERD, including the Minister and PS, discussing problems of rural energy with special emphasis on fuelwood. Participants should include District Commissioners, District Development Officers, District Forest Officers (RAES, Ministry of Natural Resources), District Agricultural Officers and all NGOs with Energy Projects in the particular province.
- 10.03 After the seven provincial seminars there should be a national seminar on rural energy. This should include MPs, KANU District Leaders, Permanent Secretaries and top business leaders. During all the seminars, but particularly the national one, MOERD ought to support extensive mass media (Radio/T.V. & Print) coverage so as to highlight the problems, strategies and long term solutions.

Workshop discussion: Mass Awareness

- 10.04 There was a great deal of support for the concept as presented, to increase awareness among government officials at all levels on the importance of energy, particularly fuelwood, and of the role of MOERD, particularly in relation to fuelwood. However, there was disagreement on whether such a campaign should precede or follow cabinet consideration of the Energy Policy document. Some participants felt strongly that energy issues of public concern should be given a high profile immediately and that there are mechanisms such as the District Administrations and the PPCSCA which can be utilized without prejudice to the policy-making process. Others felt that a systematic campaign should be mounted after policy approval, as had been done with the National Food Policy. A compromise position was reached to have district seminars in the short term and provincial and national seminars in the medium term. One proposal was that the main message should be that the solution to the woodfuel problem is in the hands of the people.

ANNEXES

ANNEX ONE : LIST OF DOCUMENTS USED

GENERAL

1. "Agroforestry in Kenya: Needs and Current Efforts", Ntayombya, P., major paper submitted in partial fulfillment of requirements for Masters in Environmental Studies degree, York University, Toronto, March 1986, mimeo.
2. "Draft report on Children's Perception of Woodfuel in Kenya", Gathuru, P.K., Mazingira Institute, Nairobi, 1986, mimeo.
3. "Evaluation of Community Forestry in Kenya with reference to Local Nurseries", Chavangi, A.H., RAES, Nairobi, 1985(?), mimeo.
4. Farm and Community Forestry, Foley, G. and Barnard, G., Social Forestry Network Paper 1b, ODI, London, Winter 1985
5. ICRAF Newsletter, Nos 6-16, ICRAF, Nairobi, Dec 1981-Jan 1986.
6. ICRAF Annual Report 1984, ICRAF, Nairobi, 1985.
7. Newsletter, Social Forestry Network Paper No.1, ODI, London, Winter 1985.
8. Rural Forestry, RAES Newsletter Nos. 3, 4 and 5, Nairobi, 1985.
9. Social Forestry in 1985: Lessons Learnt and Topics to be Addressed, Shepherd, G., Social Forestry Network Paper 1a, ODI, Winter 1985.
10. "The Kenya Ceramic Jiko and Kuni-Mbili Jiko Case Study", Manundu, M. and Minae, S., a report prepared for the International Development Research Centre, Nairobi, July 1985, mimeo.

GOVERNMENT OF KENYA:

11. Development Plan 1984-88, Government Printer, Nairobi 1984.
12. "Report of the Re-Organization and Staffing of the Ministry of Energy and Regional Development", Directorate of Personnel Management, Nairobi, July 1985.
13. "Treasury Circular No.3: Draft Estimates of Revenue and Expenditure 1986/87, Budget Rationalization Programme", ES 1/03, Ministry of Finance, Nairobi, February 1986.
14. "Budget Rationalization Programme: Objectives, Guidelines and Instructions for Implementation", Ministry of Finance, Nairobi.

KENYA RENEWABLE ENERGY DEVELOPMENT PROJECT:

15. A Directory of Organizations Working on Tree Planting and Woodfuel Conservation in Kenya, Mathu, Dr. W., Nairobi, Dec 1985.
16. "Extension/Training Programme in Renewable Energy Technologies: An Implementation Strategy", Kinyanjui, M. and Minae, S., Nairobi 1982, mimeo.
17. Information Bulletin No. 1:
Mtwapa Agroforestry/Energy Centre
Ngong/Jamhuri Agroforestry/Energy Centre
Kitui Agroforestry/Energy Centre
Bukura Agroforestry/Energy Centre
Kisii Agroforestry/Energy Centre
Wambugu Agroforestry/Energy Centre
Nairobi, 1984(?).
18. "Mid-Term Evaluation", prepared for USAID by Institute for Development Anthropology, Binghamton, New York, Feb 1984, mimeo.
19. Minutes of Dec 5-6 1985 Meeting of MOERD Extension Personnel, Better Living Institute, Kitui, mimeo.
20. Minutes of Dec 10-11 1985 Meeting of MOERD Extension Personnel, Golf Hotel, Kaakamega, mimeo.
21. "Project Implementation Document", USAID, 1980, mimeo.
22. "Project Authorization", USAID, 1980, mimeo.
23. "Project Data Sheet", USAID, 1980, mimeo.

SPECIAL ENERGY PROGRAM:

24. Background, Current Activities, Outlook for the Future, GTZ-SEP, Eschbon, FRG, 1984.
25. Charcoal Production and Research Activities within the Special Energy Program Kenya, Nairobi, no date.
26. Manual for the Construction and Operation of the Half-Orange Fire-Erick Kiln, Nairobi, no date.
27. "Main Report on the Evaluation of SEP", Federal Ministry for Economic Cooperation, Bonn 1985.
28. "Plan of Operation Phase II", 1984(?), mimeo.
29. Woodfuel Plantations in Kenya, Teplitz-Sembitzky, Nairobi, 1983(?).

KENYA WOODFUEL DEVELOPMENT PROGRAM:

30. "Brief Report on the History of KWDP/Beijer Institute in Kenya and its Relations with MOERD", no date, mimeo.
31. "Culture as the Basis for Implementing Self-Sustaining Woodfuel Development Programs", Chavangi,N., Engelhard,R. and Jones,V., Nairobi, 1985, mimeo.
32. "Development Research and Energy Planning in Kenya", Bradley,P., Chavangi,N. and Van Gelder,A., *Ambio*, Vol.14 No.4-5, Stockholm, 1985.
33. "Draft Findings of the 1st Phase Cultural Survey carried out in Kisii", Nairobi, 1985(?), mimeo.
34. How to Start a Moto Mwaka Tree Nursery, Enyola,M., Nairobi, 1985(?).
35. "Mid-Term Review Mission - November 1985, Conclusions and Recommendations", Draft 4, mimeo.
36. "Progress Reports Nos. 1-3", Nairobi, 1985, mimeo.
37. "Progress Report on Seed Production Units", Mun'gala,P., Working Paper #8, Nairobi, 1985, mimeo.
38. "Schedule of Operation", Sept 1983, mimeo.
39. Script for a play, Amwai,J., Nairobi, mimeo.
40. So, Firewood Can Wreck a Home, Nairobi,1985.
41. "Strategy for the Kakamega District Woodfuel Development Project, a discussion paper", Nairobi, October 1985, mimeo.
42. "The Application of Moto Mwaka, a discussion paper", Nairobi, October 1985, mimeo.
43. "The Origins and Development of the KWDP", Engelhard,R., Working Paper #1, Nairobi, 1984, mimeo.
44. "The Sequence of Events Leading to the Awareness Program", October 1985, mimeo,
45. "Traditional Agroforestry Practices in Kakamega District", van Gelder,B., Enyola,M. and Mung'ala,P., Nairobi, Dec 1985, mimeo.
46. "Woodfuel and Agroforestry in Kisii District", Kuyper, J.B.H. and Bradley,P.N., Working Paper #7, Nairobi 1985, mimeo.
47. "Woody Biomass Survey of Kakamega District", Bradley,P.N. and Kuyper,J.B.H., Working Paper #9, Nairobi, 1985, mimeo.

ANNEX THREE : LIST OF ABBREVIATIONS USED

ADDO	Assistant District Development Officer
AFC	Agricultural Finance Corporation
CIDA	Canadian International Development Agency
DAO	District Agricultural Officer
DC	District Commissioner
DDC	District Development Committee
DDO	District Development Officer
DEC	District Energy Centre
DEnO	District Energy Officer
DEPTAF	District Energy Planning Task Force
DFO	District Forestry Officer
DPM	Department of Personnel Management, OP
DRES	District Rural Energy Subcommittee
DSDD	District Social Development Officer
EDI	Energy Development International (contractor for KREDP)
EPC	Energy Planning Committee
FRG	Federal Republic of Germany
GOK	Government of Kenya
GTZ	Development Agency of FRG
ICRAF	International Centre for Research on Agroforestry
ILCA	International Livestock Centre for Africa
IPAL	International Project for Arid Lands
KCEAP	Kenya/Canada Energy Advisory Project
KENGO	Kenya Energy Non-Governmental Organization
KREDP	Kenya Renewable Energy Development Project
KREMU	Kenya Rangeland Ecological Monitoring Unit
KWDP	Kenya Rural Energy Development Program
MOALD	Ministry of Agriculture and Livestock Development
MOCSS	Ministry of Culture and Social Services
MOEd	Ministry of Education
MOENR	Ministry of Environment and Natural Resources
MOERD	Ministry of Energy and Regional Development
MOLS	Ministry of Lands and Settlement
MOPND	Ministry of Planning and National Development
MOU	Memorandum of Understanding
NCST	National Council of Science and Technology
NGO	Non-Governmental Organization
NYS	National Youth Service
ODI	Overseas Development Institute, UK
OP	Office of the President
PPCSCA	Permanent Presidential Commission on Soil Conservation and Afforestation, OP
RAES	Rural Afforestation Extension Service, MOENR
RDA	Regional Development Authority
RECC	Rural Energy Coordination Committee
SEP	Special Energy Program
SIDA	Swedish International Development Agency
USAID	United States International Development Agency
VP	Village Polytechnic

Items in bold type are proposed and not existing at present.

ANNEX 4

PROJECT DATA SHEETS

This annex contains summaries of information obtained during the consultancy about each of the three projects: KREDP, SEP and KWDP. They are essentially notes on the projects rather than authoritative reports and are provided to complete the documentation of the consultancy. Further information on the projects should be obtained from the appropriate contact person identified in the data sheets.

AGROFORESTRY/ENERGY CENTRES AND EXTENSION:
CONSOLIDATION AND EXPANSION PROJECT
PROJECT INFORMATION (KREDP)

CONTENTS

1. Project Identification
2. Project History
3. Project Response to Government Policy Objectives
4. Project Strategy
5. Specific Project Activities
6. Project Resources
7. Personnel Resources
8. Project Relationships with Agencies and Group
9. General Comments on Consolidation.

1. Project Identification

The KREDP (Kenya Renewable Energy Development Project) is a cooperative endeavour between the Government of Kenya and the Governemnt of the USA through USAID. The Ministry of Energy and Regional Development (MOERD) is the implementing agency on behalf of the Government of Kenya while the EDI (Energy Development Institute) is the implementing agency on behalf of the USAID.

The project, which is aimed at increasing renewable supply, modifying energy demand through conservation strategies and developing a viable institutional mechanism to carry out these activities over the longterm was initiated in September, 1981 and is expected to continue until December, 1986. The project budget over this period is expected to be US\$7.0 million. The project contact personnel, their location and addresses etc are listed below:

<u>Contact Person</u>	<u>Location</u>	<u>Address</u>	<u>Telephone</u>
Amare Gitahun	8th Floor	P.O. Box	430800
Cyrus Ndegwa	Utalii House		
Rose Akech			

2. Project History

The following is a brief history and summary of the project since its inception:

The project embarked on the establishment of Regional Agroforestry Research Centres (6 established so far) and subcentres (2 established) and in developing Cooperative arrangements with existing institutions. KREDP now services Renewable Energy programmes in 24 districts through the provision of technical services, and the deployment of field staff. These inputs go towards such activities as nursery design and development for agroforestry; seed collection and distribution, collection of data on these activities, as well as providing training for service and target groups within these districts

III Project Response to Government Policy Objectives

The project was designed to contribute toward meeting the following Government policy objectives which are related to the project objectives as listed below:

<u>Government Policy Objective</u>	<u>Project Objectives.</u>
1. Renewable Energy Supply Provision.	Provision of seeds, seedlings and woodfuel.
2. Reduction of effective Energy Demand	Effective Promotion of Fuel conserving jiko's improved charcoal burning Kilns, utilization of crop residues, brickets, sawdust, coffee mills, etc with the aim of "eating less from fuel substitution" with locally available fuel sources.
3. Development of viable Renewable Energy Provisional infrastructures and institutions	Creation and mobilization of Regional Centres and district programme, and involvement of the NGO and PSO agencies interested in this area. These centres, programmes and institutions become delivery points for technology and provide facilities for manpower training and development. Learning elements (resource materials) are in the process of being developed with the ILO for conservation, agroforestry, stoves and tree planting.

IV Project Strategy

To meet these objectives, the following overall strategies have been adopted:

1. National Level Strategy

KREDP is housed in the Ministry of Energy to be close to this policy coordination centre.

Inclusion of the project in the printed estimates has underscored the project's total acceptance by Government.

Establishment of close working relationships with the MALD and MENR to facilitate implementation at the extension level as these ministries have an extension infrastructure while MOERD does not.

Project has retained one Research and Extension officer and one Training and extension officer at Headquarters to coordinate with the Centres.

Funding largely through Government procedures to buttress the project within the MOERD.

2. Regional (Provincial Level Strategy)

Establishment of six Agroforestry Centres two sub-centres and development of working arrangements with three established institutions and with NGO's to promote Research, Training and extension at Centre level and below - the AF Centres are based on, and represent Kenya's six major agro-climatic zones.

The major drawback is that the KREDP has no links with provincial monitoring and evaluation units.

3. District Level Strategy

Centre managers brief the DDC's on their activities under ad-hoc arrangements so that they are called to DDC meetings when they are needed and can be ignored otherwise.

Absorption of staff needs to take place and has started in the Eastern Region.

Centres endeavour to serve districts where they are physically housed to ensure reciprocal support from the DDC and thus make themselves stronger.

V Specific Project Activities

The project implements the above strategies through the activities listed below:

<u>Activity</u>	<u>Type and Location</u>
1. <u>Planning</u>	<p>KRDP has good relations with the Planning Division of the Ministry Headquarters from where centre and field activities are coordinated.</p> <p>Regional agro-forestry Research Centres plan and programme for training extension and research.</p> <p>Some measure of land-use planning, training is given to farmers and extension officers of MOALD and to a lesser extent those of MENR.</p>
2. <u>Research and Development</u>	<p>RD&D work is based on agro-ecological zones and carried out through the 6 centres, 2 sub-centres and 3 institutions.</p> <p>RD&D activities include (a) species trials (b) agro-forestry trials on the most appropriate planting configurations (c) on-farm trials.</p>
3. <u>Energy Supply</u>	<p>Activities include (a) tree seed distribution (b) nursery establishment and management (6 large central nurseries and 213 small self-help nurseries) (c) on-farm tree planting extension (d) seed distribution through central seed service unit. These activities are distributed to farmers, schools, institutions and organized groups.</p>

4. Energy Demand

Activities include (a) jiko programme (JCJ) which incorporates training and extensions in all centres (b) the Kunimbili sub-programme (in early stages of development) (c) cooperative arrangements with GTZ on charcoal kilns and biogas training and extensions.

5. Monitoring and Evaluation

M&E strategies have included (a) a midterm evaluation in December 1983 (b) quarterly reports from the field (c) monthly budgets from centres (d) consultant reports on the jiko programme.

6. Personnel Development and Training

Formal training has included (a) 2 masters level trainings in A/F (b) 2 courses for MOALD staff covering 400 Training Assistants (b) one week course for community leaders, NGO leaders etc. of programmes of FTC's etc. (c) several one week MOERD sponsored courses (d) Training in improved jikos for 140 artisans (e) Training in energy conservation (various courses) Non-formal training has included (a) participation in all Provincial and District ASK shows increases of KREDP's operation (9 shows) attended (b) 16 field days per year at the rate of 2 per (sub) centre per year.

VI Project Resources

7

The following resources have been employed and/or have been earmarked in implementing the above activities from the Kenya Government and the donor Government, at the local and foreign levels over the period from October 1981 to December 1986.

	<u>Local</u>	<u>Foreign</u>
1. Financial	1.7 mill	4.8 mill
2. Personnel		
	2 expatriates, 15 peace corps volunteers, 24 local professionals and 400 casuals.	
3. Transport		
	HQ Vehicles	3
	Centre land cruiser	6
	Centre extension leeps	6
	Bicycles	36
	Lorries	1
	Tractors	3
4. <u>Other (Technical Equipment)</u>		
	6 water pumps	
	3 computers; 1 Wang, 2 Apples.	
	1 HQ movie projector	
	6 overhead projectors (Centres)	
	6 slide Psprojectors (Centres)	
	6 cyclo-style duplicators (Centres)	
	2 photocopiers	
	6 sets of full equipment for survey and forestry research	
	1 Central seed services unit cool room	
	1 set of seed processings for CSSU	
	other relatively minor equipment.	

VII Personnel Employed on the Project

The following is a listing of personnel employed:

Expatriate

1 Team Leader PhD (AF)	HQ Cooved, reseas design etc.
1 extension cordnator. MS(AF)	
15 District Extension Officers (at Districts) (Peace Corps Volunteers)	

Local Professional

1 AF Task Leads BSC (AF)	HQ (implementation)
1 AF Research. MS (AF)	Coast
3 Centre managers BSC (AF)	Centres
2 Centre managers Dip. (AF)	Centres
17 Dist. Ext. BSC. Agric.	Districts (MAOLD)

Local Casual

Artisans	
Clarks	300 regular casuals
Headmen	
Watchmen	100 seasonal casuals
Casuals	

VIII Project Relationships with Agencies and Groups

<u>Agency/Group</u>	<u>Working Relationships with the Project</u>
MOERD and other Ministries	KREDP being part of the Ministry, works well with other departments in the MOERD headquarters however needs to appoint a senior counterpart (Director) to the Team leader to facilitate faster decision-making and information flows. Counterparts to other project (EDI paid) staff need to be appointed also. KREDP has excellent relations with MOALD. Relations with MENR are good but there is much room for improvement.
Other Donor Govts. and Agencies	KREDP have excellent relations with SEP eg in the Biogas and charcoal kilns programme GTZ provides funding and technical guidance while KREDP centres provide labour, training and extension services. Information flows and coordination of activities with KWDP need to be much improved.
Other Agencies NGO's Educational/Training Institutions	Cooperation with ILO is in the pipeline for documentation of learning elements in conservation and agroforestry. KREDP has hired 5 of KENGO's employees. KREDP has trained staff of CARE Kenya. KREDP has also at various times cooperated with and assisted NCCK, MYWO and Kanu youth wings. The philosophy of KREDP is to respond to organised programming by agencies and NGO's. KREDP also responds to legitimate needs of private sector organisations (PSO's) dealing with Renewable Energy through loans and grants.
DDC's	As indicated in section IV Centre Managers occasionally and on invitation attend DDC meetings. This arrangement is not satisfactory. There is need to find a mechanism through which centres can more effectively participate in DDC meetings (eg by making centre managers de jure and de facto members of the DDC's. Links with provincial monitoring and evaluation units also need to be developed.

AGROFORESTRY/ENERGY CENTRES AND EXTENSION:
CONSOLIDATION AND EXPANSION PROJECT.
PROJECT INFORMATION (KWDP)

CONTENTS

1. Project Identification
2. Project History
3. Project Response to Government Policy Objectives
4. Project Strategy
5. Specific Project Activities
6. Project Resources
7. Personnel Resources
8. Project Relationships with Agencies and Groups
9. General Observations.

1. Project Identification

The KWDP Project is a cooperative endeavour between the Government of Kenya and the Government of the Netherlands. The Ministry of Energy and Regional Development (MOERD) is the implementing agency on behalf of the Government of Kenya while the Beijer Institute is the implementing agency on behalf of the Netherlands Government.

The project, which is aimed at self sufficiency in woodfuel per household in project areas, was initiated in 1984 and is expected to continue until December 31st, 1986. The Project budget over this period is expected to be approximately K.Shs.50 million. The project contact personnel, their location and addresses etc. are listed below:

<u>Contact Person</u>	<u>Location</u>	<u>Address</u>	<u>Telephone</u>
Rutger Engelhard	Nairobi	Box 56212, NBI	582004 Nairobi
Boaz Shuma	Nairobi	Box 56212, NBI	582004 Nairobi
Musa Enyola	Kakamega		20456 Kakamega
Joseph Wekunda	Kisii		20094 Kisii.

2. Project History.

The following is a brief history and summary of the project since its inception:

The Project Agreement was signed between the two governments in November 1983 but the actual field activities in the first pilot District, Kakamega, began in April 1984.

Initial programme activities in Kakamega involved carrying out the District Resource Surveys (i.e. analysis of LBDA's ILUs data bank and the Agroforestry and Cultural Field Surveys) after which the district was classified into ten homogeneous agro-ecological zones out of which seven sublocations were selected. KWDP's field activities are concentrated in these sublocations. Initial field activities in Kakamega included the establishment of a nursery for raising fast growing agroforestry species, formation of contact groups, establishment of seed production units and development of technical and extension options for district wide application. The project is currently involved in testing mass awareness intervention approaches (making use of drama and ultimately film media) to motivate farmers to plant trees for the specific provision of domestic fuelwood and seed distribution.

Operations in Kisii were started in February 1985. The necessary surveys were carried out and a number of SPU's were established. Currently mass intervention approaches based on the community development concept are developed and in ten sublocations. Preliminary data collection work has also been carried out in Murang'a. Plans are under way to initiate a similar programme for Nakuru District under CIDA financing.

3. Project Response to Government Policy Objectives.

The project was designed to contribute toward meeting the following Government policy objectives which are related to the project objectives as listed below:

<u>Government Policy Objective</u>	<u>Project Objective</u>
1. Rural Development	End Goal is self sufficiency in fuelwood in rural homesteads within high potential agricultural areas, with high population densities.
2. Enhancing Supply	To develop technical options for increasing fuelwood production within the farms as well as development of extension strategies and methods for effective dissemination of the technical options.
3. Demand management (conservation)	Delayed but to be looked into during the 2nd phase of the project.
4. Institution Building (manpower development)	Manpower development for project staff members and training the existing extension personnel of other cooperating ministries.
5. Biomass Monitoring	To develop wood biomass and socio-economic monitoring methodologies.
6. Policy Planning	To develop planning methodologies for district woodfuel programmes.

In meeting these aims the KWDP is building up district related data bases the analysis of which provides for a better understanding of the actual factors causing the fuelwood problem and the potentials for effective intervention.

4. Project Strategy

To meet the project objectives, the following overall strategies have been adopted:

1. National Level Strategy

- i. Development of a sound data base for woodfuel district planning and execution.

- ii. Recruitment and training of competent local personnel.
- iii. Interaction with the Ministry of Energy - the project is administered by the MOERD through a steering committee which approves all activities.
- iv. Interaction with other institutions and NGO's.
- v. Use of Direct Funding mechanisms to speed up implementation.

2. Regional Provincial Level Strategy.

Same as (i) above. No specific regional activity though linkage with the provincial monitoring and evaluation committees is being considered for the future.

3. District Level Strategy.

Through the deployment of competent local (Kenyan) personnel and through the very good relations established between project staff members and the farmers the KWDP has been able to develop realistic and acceptable technical options that are suited to the districts. The first successful trials have been implemented with mass intervention approaches which focus on the factors causing the domestic energy problem and potential solutions, feasible and practical for small farmers. Interaction with DDC's - the District Managers have attended DDC meetings and have good relations with the DC's.

5. Specific Project Activities

The project implements the above strategies through the activities listed below:

i) Planning

Development of District wood fuel development plans subsequent to District Resource Analyses (very important)

ii) Research and Development

On farm agroforestry species trials and nursery techniques within Kakamega and Kisii Districts and research trials at the Western Agricultural Research Station and the PTC - in Kisii. Sequential trials of mass intervention approaches in Kakamega and Kisii Districts, the effects of which are closely monitored.

iii) Energy Supply

In all the 7 sublocations. Emphasis is on seed production and collection (SPU's) to bring seeds close to the people and to utilise people's knowledge.

iv) Energy Demand

To be embarked upon from 1987.

v) Monitoring and Evaluation

Monitoring is being conducted of the new agroforestry species and the effects of the extension strategies.

KWDP has a monitoring unit in headquarters who process data and develop strategies. KWDP has appointed monitors at district level (graduates) who closely cooperate with the headquarters monitoring unit.

6. Project Resources

Approximately 50m K.Shs. have been employed and/or have been earmarked for implementing the above activities from the Kenya Government and the donor Government, at the local and foreign levels over the period from 1985 - 86. This budget covers the headquarters and district activities.

7. Project Relationships with MOERD, other Ministries and NGOs Ministries

- KWDP reports to a steering committee of MOERD but day to day operations are conducted largely independently of the Ministry.
- KWDP has worked closely with MOALD in Kakamega (Western Agricultural Research Station), in Kisii and in Murang'a.
- KWDP works closely with the Forest Department of the MENR especially in training.
- KWDP works closely with MOERD in Kisii in the development of school programmes.
- Forestry is developing a social forestry training strategy for the RAES. KWDP will participate in the training and also provide materials.
- KWDP utilises existing womens groups which operate under the MOCSS.

Other Donor Governments/Agencies

- KREDP undertook to provide seedlings to KWDP but could not meet the latter's requirements so that KWDP had to find alternative ways of obtaining the seedlings.
- Not much cooperation with SEP except on exchange of information on a limited basis.
- Good relations with K/CEAP especially on provision of information useful for a fuelwood planning strategy.
- There are proposals in the pipeline for SIDA and CIDA to fund KWDP to execute a woodfuel programme in the Murang'a and Nakuru Districts respectively.

Other Agencies, NGO's Educational/Training Institutions

- KWDP has close relations with KENGO who carry out consulting assignments funded by KWDP.

- KENGO is currently looking into the matter of curriculum development under a long-term contract with KWDP, in which a number of government ministries are also involved.
- KENGO is involved in a stoves inventory project with a view to advising KWDP on what inputs they could make.
- KWDP works closely with ICRAF especially on matters of technical exchange.

9. General Observations

- MOERD needs strengthening if is to more effectively coordinate the project.
- MOERD needs strengthening in its biomass programme, an area which was ignored by the proposed DPM reorganization.
- District planning should precede the application of technical options.
- Regional plans may also need to be drawn-up based on agro-ecological zones.
- KREDP, SEP and KWDP have different strengths in different areas and each should take the lead in the area of highest competence.

AGROFORESTRY/ENERGY CENTRES AND EXTENSION:
CONSOLIDATION AND EXPANSION PROJECT
PROJECT INFORMATION (SEP)

CONTENTS

1. Project Identification
2. Project History
3. Project Response to Government Policy Objectives
4. Project Strategy
5. Specific Project Activities
6. Project Resources
7. Personnel Resources
8. Project Relationships with Agencies and Group
9. General Observations.

1. Project Identification

The SEP Project is a cooperative endeavour between the Government of Kenya and the Government (s) of W. Germany. The Ministry of Energy and Regional Development (MOERD) is the implementing agency on behalf of the Government of Kenya while the GTZ is implementing agency on behalf of the Governments of the Federal Republic of Germany.

The project, which is aimed at Energy Conservation and Promotion of RE Technologies was initiated in 1980 started in 1982 and is expected to continue until 1988. The project budget over this period, is expected to be KShs. N.A. The GTZ operates on technical Assistance basis whereby services and equipment are provided while no budgets are drawn. The project contact personnel, their location and addresses etc are listed below:

<u>Contact Person</u>	<u>Location</u>	<u>Address</u>	<u>Telephone</u>
Trygve Foss	Hurlingham (Mornings) Nyayo House (20th Floor) (Afternoons)		330547

II Project History

The following is a brief history and summary of the project since its inception:

Phase I	1987-83-84	pilot,	Demonstration
Phase II	1985-85		Dissemination
Phase III	1987-88		Handing over

III Project Response to Government Policy Objectives

The project was designed to contribute toward meeting the following Government policy objectives which are related to the project objectives as listed below:

	<u>Government Policy Objective</u>	<u>Project Objective</u>
1.	Reduction of Ecological destruction	Diminishing of Energy scarcity in rural area and reduction of overutilisation of existing wood stock.
2.	Balance of Payments stabilisation	Reduction of Kenya's dependence on imported conventional energy.
3.	Improvement of the Standard of Living of the rural population	Improvement of Energy Supply situation in the rural areas.
4.	Development and application appropriate RE Technology	Introduction, adaptation and dissemination of appropriate systems to promote the utilisation of RE Resources.

NE The main focus is on Policy Objective No. 1 as it sums up both the demand and supply sides of RE.

IV Project Strategy

To meet the project objectives, the following overall strategies have been adopted:

1. National Level Strategy

Development and implementation of coordinating mechanisms with the Ministry of Energy and Regional Development in the form of the original project document. Development and application of object oriented planning procedures to respond to indicated needs of user agencies. Development of enabling instruments of understanding with subject matter specialist ministries (mostly oral) and agencies to facilitate programme implementation at the Regional and field levels.

2. Regional (Provincial Level Strategy

Cooperation with the KREDP in the utilisation of Agroforestry Research Centres in the dissemination of RE Technologies. Development and application of a range of RE Technologies in solar, wood, biogas, charcoal kiln technologies and improved woodstoves through provision of the necessary equipment and other technical support.

3. District Level Strategy

Utilization of existing capacities within Ministerial, Development NGO institutions in the implementation of the above technologies using (usually) oral arrangements with such agencies which are nevertheless supported by the original agreement (cooperators in the field are motivated by the ability to show these projects as their own and not necessarily those of the ministry of energy). In this case and also at level 1 above the oral agreements could benefit from a translation into something on paper for continuity in the case of officer transfers.

V Specific Project Activities

The project implements the above strategies through the activities listed below:

- | <u>Activity</u> | <u>Type and Location</u> |
|---|--------------------------|
| 1. <u>Planning</u> | |
| Very little planning activity is intended in the project now. The 1st phase of the project did call for some planning in which the project leader played the role of advisor albeit it wasn't clear that he was attached to the planning division of the ministry. | |
| 2. <u>Research and Development</u> | |
| More development and less research work in the implementation of the above activities. Development work takes the form of transferring technologies from without and adapting them to fit local conditions, and as well to determine the viability of such technologies and to demonstrate their use. | |
| 3. <u>Energy/Supply and Demand Activities</u> | |
| <u>Supply Side</u> | <u>Demand Side</u> |
| Woodmills, biogas, solar, photovoltaic field tests | fuelwood plantations |
| 4. <u>Monitoring and Evaluation</u> | |
| Viewed as very important especially in development at work. M&E carried out during the first phase in the form of pilot and demonstration projects. Mid-term evaluation (3 weeks) of a combined GTZ/GOK team M&E aimed at both the technical efficiency and performance considerations as well as on social-cultural acceptance. | |
| 5. <u>Personnel Development and Training</u> | |
| At headquarters little training activity (1 planner, 1 technical officer underwent a 1 month Rural Energy Planning course). Focus is on training of trainers, contractors and farmers to handle the technologies and also existing extension workers and home economists. Thus there is more training at district and local levels where the emphasis is on-the-job training for the dissemination of know-how and not on the technologies themselves which are used more for demonstration purposes. | |

VII Personnel Employed on the Project (see also p.6 on Manpower).

The following is a listing of personnel employed:

Expatriate

2 advisors at Hqrs (longterm)
4 advisors at KIE (long term)
2 technical assistants at (MYWO)
24 man-months of short-term
consultants

Local Professional

2 counterparts (at MYWO)
2 drivers
2 secretaries
1 administrative officer.

Local (casual)

Nil.

VIII Project Relationships with Agencies and Group

Agency/Group

Working Relationships with the Project

1. MOERD AND OTHER

Ministries

Working Relations with MOERD could be improved. For example: The Steering Committee never took off the ground due to inter-officer rivalry and general non-interest from others participating ministries since this mechanism never percolated to the field level.

Working relations with other ministries in the field are very good for reasons stated earlier and also because/SEP is not perceived as a MOERD Project, but as an independent endeavour with which they can freely associate.

SEP has now proposed that the Steering Committee be represented in Energy Planning Committee which was started roughly one-and-a-half years ago and whose activities are largely complementary to those of KCEAP. The committee will meet in April.

2. Donor Govts. and Other Agencies

SEP cooperates closely with KREDP in the Centres and also at headquarters level where the Project Manager for KREDP and his counterpart are effectively SEP's counterparts on the fuelwood programme.

SEP cooperates also with KWDP albeit the level of cooperation here is hindered by structural factors. For example, in Kakamega KWDP is too strong and SEP did not see the need to duplicate.

In Kisii SEP was already interlocked with MYWO.

In Muranga KWDP is still very new and any cooperating methodologies would have to await, preliminary findings of KWDP.

Donors hold periodic meetings to discuss their common problems and to exchange experience on the same.

3. DDC'S

Only in Meru has there been direct cooperation with the DDC in constructing a biogas unit.

Proposed district orientation will enhance cooperation with DDC.

Cooperation with DDC's is otherwise ensured through the representative of subject matter specialist ministries/department who present the projects to DDC's as their own SEP has no problem with this arrangement.

4. Other Agencies

Some cooperative arrangements exist with the ATAC (Appropriate Technology Advisory Centre) at Kibera.

Discussions are underway with the World Bank geared toward the establishment of an Information Exchange Machinery on R.E.

IX General Comments

Consolidation exercise should be viewed from the context of a young and relatively understaffed Ministry which needs to pull itself up to develop implementational capacity so that instruments of consolidation are not prematurely designed to be too strong and thus hinder the good work already going on.

ANNEX 5

RESOURCE REQUIREMENTS FOR PLAN IMPLEMENTATION

This Annex provides a budget estimate for upgrading the existing energy centers and also for establishing one new center per year (assumed to be located at a Farmers Training Center). The costs reflect actual experience at the centers. No allowance has been made for any addition to the staff at the Ministry headquarters which may be required to run an expanded programme of center-based activities.

RESOURCE REQUIREMENTS FOR PLAN IMPLEMENTATION

There are three components of the plan which have important budgetary and resource implications for the Ministry of Energy and Regional Development. All of the estimates contained in this annex represent an addition to the Ministry's planned expenditures.

	1987	1988	1989	1990	1991
1. IMPROVEMENT OF EXISTING CENTERS					
			(Kenya Pounds)		
DEVELOPMENT COSTS					
Structures/Installations	69,400	0	0	0	0
Transport	57,000	0	0	0	0
Contingencies (15%)	18,960	0	0	0	0
Sub-Total Development Costs	145,360	0	0	0	0
RECURRENT COSTS					
Staff					
A. Technical	95,576	95,576	95,576	95,576	95,576
B. Support Staff	97,350	97,350	97,350	97,350	97,350
C. Labour	43,834	43,834	43,834	43,834	43,834
Sub-total	236,760	236,760	236,760	236,760	236,760
Operations					
A. Vehicle Operation and Maintenance	35,000	35,000	35,000	35,000	35,000
B. Purchase of Supplies	11,740	11,740	11,740	11,740	11,740
C. Travel and Accommodation	6,348	6,348	6,348	6,348	6,348
D. Maintenance of Plant and Equipment	6,000	6,000	6,000	6,000	6,000
E. Minor Works and Buildings	6,200	6,200	6,200	6,200	6,200
F. Publicity/Training/Shows	22,000	22,000	22,000	22,000	22,000
G. Extension and Demonstration	16,000	16,000	16,000	16,000	16,000
H. Miscellaneous	2,000	2,000	2,000	2,000	2,000
Sub-total	105,288	105,288	105,288	105,288	105,288
Sub-Total Recurrent Costs	342,048	342,048	342,048	342,048	342,048
TOTAL COSTS	487,408	342,048	342,048	342,048	342,048

	1987	1988	1989	1990	1991
2. ESTABLISHMENT OF NEW DISTRICT ENERGY CENTERS (One per Year)					
	(Kenya Pounds)				
DEVELOPMENT COSTS					
(Assuming Accommodation at an FTC)					
Structures/Installations	41,900	41,900	41,900	41,900	41,900
Transport	57,000	57,000	57,000	57,000	57,000
Contingencies (15%)	14,835	14,835	14,835	14,835	14,835
Sub-Total Development Costs	113,735	113,735	113,735	113,735	113,735
RECURRENT COSTS					
Staff					
A. Technical	14,464	28,928	43,392	57,856	72,320
B. Support Staff	23,036	46,072	69,108	92,144	115,180
C. Labour	24,038	48,076	72,114	96,152	120,190
Sub-total	61,538	123,076	184,614	246,152	307,690
Operations					
A. Vehicle Operation and Maintenance	11,500	23,000	34,500	46,000	57,500
B. Purchase of Supplies	9,380	18,760	28,140	37,520	46,900
C. Travel and Accommodation	4,125	8,250	12,375	16,500	20,625
D. Maintenance of Plant and Equipment	3,000	6,000	9,000	12,000	15,000
E. Minor Works and Buildings	3,100	6,200	9,300	12,400	15,500
F. Publicity/Training/Shows	11,000	22,000	33,000	44,000	55,000
G. Extension and Demonstration	4,000	8,000	12,000	16,000	20,000
H. Miscellaneous	1,000	2,000	3,000	4,000	5,000
Sub-total	47,105	94,210	141,315	188,420	235,525
Sub-Total Recurrent Costs	108,643	217,286	325,929	434,572	543,215
TOTAL COSTS	222,378	331,021	439,664	548,307	656,950

	1987	1988	1989	1990	1991
3. ESTABLISHMENT OF A DISTRICT ENERGY PLAN TASK FORCE (Assumes all staff are Government employees)					
DEVELOPMENT COSTS					
Vehicles	7,780	7,780	7,780	7,780	7,780
Microcomputers (incl. Training)	5,750	0	0	0	0
Contingencies (15%)	2,030	1,167	1,167	1,167	1,167
Sub-total	15,560	8,947	8,947	8,947	8,947
RECURRENT COSTS					
Staff					
A. Technical	29,410	29,410	29,410	29,410	29,410
B. Support Staff	4,658	4,658	4,658	4,658	4,658
Sub-total	34,068	34,068	34,068	34,068	34,068
Operations					
A. Vehicle Operation and Maintenance	3,920	3,920	3,920	3,920	3,920
B. Workshops	7,350	7,350	7,350	7,350	7,350
C. Travel and Accommodation	14,100	14,100	14,100	14,100	14,100
Sub-total	25,370	25,370	25,370	25,370	25,370
TOTAL COSTS	74,997	68,385	68,385	68,385	68,385

BUDGET SUMMARY					
1. IMPROVEMENT OF EXISTING CENTERS	487,408	342,048	342,048	342,048	342,048
2. ESTABLISHMENT OF NEW DISTRICT ENERGY CENTERS	222,378	331,021	439,664	548,307	656,950
3. ESTABLISHMENT OF A DISTRICT ENERGY PLAN TASK FORCE	74,997	68,385	68,385	68,385	68,385
TOTAL COSTS	784,783	741,454	850,097	958,740	1,067,383

ANNEX 6

TERMS OF REFERENCE

for

AGROFORESTRY/ENERGY CENTERS AND EXTENSION: CONSOLIDATION AND EXPANSION

KENYA/CANADA ENERGY ADVISORY PROJECT

in

THE MINISTRY OF ENERGY AND REGIONAL DEVELOPMENT

29th October, 1985

I. BACKGROUND

Three years ago the Kenyan Fuelwood Project culminated in the production of a comprehensive report on energy in Kenya. (Beijer Institute, Energy Development in Kenya: Problems and Opportunities, January 1982). This report drew attention to the predominant role played by fuelwood and charcoal in meeting Kenya's energy needs: approximately 70% of all energy used in 1980 in Kenya came from these sources. Moreover, the Beijer study stressed that wood supplies from sustainable yields were already insufficient to meet the demand and that, if action was not taken soon, a serious woodfuel crisis was inevitable. This view has been accepted by the Government of Kenya and has been embodied in the draft National Energy Policy (April 1985). It is also reflected in the importance given to the development and implementation of effective woodfuel programmes by the Ministry of Energy and Regional Development (MOERD).

One of the approaches recommended by the Beijer group to address the woodfuel problem was the widespread adoption of agroforestry by Kenyan farmers. To this end a background paper to the main study looked at the possibility of setting up agroforestry centers in Kenya as a means of stimulating the spread of agroforestry throughout the rural areas. (P.O'Keefe and D. Shakow, Fuelwood in Kenya: The Possibilities for Agroforestry Centres, October 1981).

The background paper was written in response to a request from MOERD and USAID who subsequently embarked on a joint project: the Kenya Renewable Energy Development Project (KREDP), to establish agroforestry/energy centers in each of six major agro-climatic zones: Bukura (Western intermediate elevation), Kisii (Western Lake Victoria Basin), Wambugu (Central highlands), Ngong/Jamhuri (poorly drained highland zone), Kitui (semi-arid region), and Mtwapa (Coastal zone). Two sub-centers at Matuga (Coastal zone) and Ukai (semi-arid zone) have also been established.

In 1982 a Memorandum of Understanding was signed by the Ministries of Energy and Regional Development, Environment and Natural Resources, and Agriculture and Livestock Development to ensure inter-Ministerial cooperation in running these Centers. The Memorandum of Understanding also set out the functions of the Centers. These are:

1. Acquisition of seeds and evaluation of species and food-crop/tree combinations that optimize the use of resources;
2. Distribution of seeds and seedlings directly to farmers and/or through tree planting organizations and Government extension agents;
3. Establishment of agroforestry/energy demonstration and site tests on farmers' fields in collaboration with extension agents;
4. Provision of a unified extension service and advice to farmers.

Another practical follow-up to the Kenyan Fuelwood Project was the Kenya Woodfuel Development Programme (KWDP) conducted by the Beijer Institute with the support of the Government of the Netherlands and the Ministry of Energy and Regional Development. The objectives of this programme are:

1. to develop replicable methodologies for woodfuel development planning with a district focus;
2. to develop replicable methodologies through which locally feasible technical options and locally tailored extension approaches/methods can be developed that will ensure the effectiveness of Woodfuel Development District Projects;
3. to verify the feasibility of technical options and the effectiveness of extension approaches/methods through which rural households can be encouraged to step up their woodfuel production for their own consumption and for the market, and to economize on fuel conversion and end-uses;
4. to develop a Kenyan manpower capacity (at both national and district levels) that can prepare, execute, and monitor Woodfuel Development District Projects;
5. to develop a (woody) biomass assessment and monitoring methodology that can be applied at national and district levels.

A distinguishing feature of this programme is that it operates principally at the district level. Training, organizational, and extension activities of the programme are based on the results of detailed and systematic biomass and social surveys of the district concerned.

A third programme of activities that includes woodfuel production and energy conservation, was initiated in 1980 under the Special Energy Programme of the Ministry for Economic Cooperation in the Federal Republic of Germany (SEP/Kenya) and implemented by GTZ. Phase 1 of this programme began in earnest in October 1982 with the arrival in Kenya of a team of German experts to work with Kenyan institutions on several renewable energy projects including woodfuel conservation through improved jikos and more efficient charcoal kilns. On-farm tree nurseries were also established in several districts. A wide range of other renewable energy technologies have also been explored in Phase 1 of the SEP/Kenya programme: wind and hand pumps for water supply, biogas units, and solar powered refrigerators.

These three projects (KREDP, KWDP and SEP/Kenya) represent the major efforts of Government in Kenya to respond to the woodfuel alarm sounded by the Kenyan Fuelwood Project. Furthermore, they are currently at critical stages of their respective project lives, though for somewhat different reasons. As of July 1st. 1985, KREDP entered an 18 month bridging period during which time extension work will be expanded, research results will be applied to on-farm situations, and documentation and dissemination of technologies will be intensified. This will go a long way to fulfilling the original objectives of the project. However, in the absence of a new infusion of external funding it is doubtful that the agroforestry/energy centers will be able to maintain their current level of activities beyond 1986, let alone expand them to a level commensurate with the magnitude of the woodfuel problem.

The KWDP project is also facing some new challenges now that the expansion of its activities to new districts is underway. It is expected that the approach

4. Project implementation must be in line with the Government of Kenya basic development approach as exemplified by the motto "Focus on District Development".
5. The Government of Kenya commitment should be evident in all the personnel on whose collaboration or support the SEP implementation depends both at the policy and operation levels.

II. THE PROJECT

With the experience of the past five years to draw upon, and the complementarity of these three important projects, it is timely to consider the possibility of combining the best features of each in a significantly expanded Kenyan agroforestry/energy programme.

The essential idea is to consolidate and strengthen the Ministry's agroforestry/energy centers by increasing their professional and support staff and resources so that the centers can be a more effective locus for the Ministry's agroforestry/woodfuel, conservation and other energy activities in the rural areas. (Indeed, some components of the SEP/Kenya project, notably biogas units and charcoal kilns, are already being conducted at the centers.) New centers and/or sub-centers would be added as the need arises. With regard to extension work, which is the most critical aspect of successful agroforestry/woodfuel programmes, the approach developed by the Biejler Institute would be applied across the country to encourage woodfuel production from agroforestry with the centers providing a regional base of operations and the major source of material and other support. Technologies for conservation and for other forms of renewable energy suitable for the rural areas are, in the long run, more likely to be disseminated through the private sector but even here there is an important role for the centers to play in demonstration, training and education.

To complete the picture, other MOERD rural energy projects would also be coordinated through the centers to avoid duplication of effort and to ensure that all parties benefit from the accumulating experience.

Enhancement of the centers along these lines will make it possible for them to more effectively implement the Government of Kenya's energy policy, especially with respect to agroforestry/woodfuel, and to represent the MOERD in the field. Through them the Ministry will be able to assist the Districts in defining and implementing their own energy programmes and budgets. The centers will become a much needed conduit of funds from the Government and donors, through district level projects involving DDCs, NGOs and other Ministries, to the farmers themselves. Equally, through effective monitoring and reporting of activities in the districts, the centers will be able to ensure that Ministry headquarters in Nairobi is well-informed about woodfuel, energy conservation and other energy developments throughout Kenya so that policies and programmes at the national level can better reflect the changing conditions in the country.

In summary, the following benefits from this consolidation are expected:

1. Greater sharing of knowledge and experiences among those involved in agroforestry/woodfuel, conservation and other energy projects.
2. Cost savings through more effective use of equipment, staff and other resources.
3. More complete and effective support by the MOERD for energy planning at the district level.
4. Enhanced ability to identify and manage new agroforestry/woodfuel, conservation and other energy projects.
5. Improvement in MOERD's ability to manage agroforestry/woodfuel activities and to attract funding for a wider range of energy activities.
6. Provision of a base for more effective and larger scale demonstration, training and extension programmes.

7. Greater ability to cooperate in the field with other Ministries, such as MENR and MOALD, and NGOs that are involved in energy related work.

III. PROJECT TASKS

What is being proposed here is an amalgamation of three important projects so that the best features of each are retained at the same time as the Ministry of Energy and Regional Development's commitment to and involvement in agroforestry/woodfuel, and other rural energy activities, is substantially increased. Three phases of activity are required to accomplish this objective:

1. Project review and planning.
2. Consolidation of MOERD agroforestry/woodfuel and other rural energy activities.
3. Expansion of MOERD agroforestry/woodfuel and other rural energy activities.

These terms of reference only relate to the first of these phases. Additional funding will be sought for phases two and three on the basis of the plan developed in phase one subject to its approval by the Government of Kenya.

Phase 1: Project Review and Planning

The main objective of this phase is to formulate a plan for consolidating the three projects (KREDP, KWDP and SEP/KENYA) and for developing the activities of the Ministry in the areas that these projects have addressed. This phase will be conducted by a small team comprised of the Renewable Energy (Biomass) Advisor of the Kenya/Canada Energy Advisory Project, a senior official of the Ministry of Energy and Regional Development, and a management consultant familiar with the

Kenyan system of Government and administration and with experience in programme delivery in rural areas. The team will be assisted by a full time research assistant and will be guided in its work by an advisory group drawn from MOERD, MOALD and MENR.

To fulfill the phase 1 objective the following issues will be addressed:

- coordination and/or consolidation of the management of the three projects;
- integration of the best components of each project into a coherent national wood energy/rural energy program;
- the appropriate level of autonomy of the centers to develop their own research, demonstration and extension programmes and the corresponding role of MOERD headquarters;
- reporting relationships between the centers and MOERD headquarters;
- the role of the agroforestry/energy centers in implementing the District Focus for Rural Development and their relationship to the DDCs; other Ministries, and NGOs;
- the development of planning, technical and managerial capacity in MOERD headquarters;
- resource requirements for an expanded programme including staffing, materials and equipment and a corresponding budget;

- requirements for training Kenyans for careers in agroforestry/woodfuel, conservation and other renewable energy technologies to staff the centers and the activities supported by them;
- the extent to which implementation of the proposed consolidation strategy can be accommodated within the existing agreements between the relevant donor agencies and the Government of Kenya, and whether amendments to these agreements are necessary.

In summary, the plan arising out of phase 1 will concentrate on how the projects should be consolidated, how the centers and the programmes based there should be managed, how the activities of the centers will be decided, and how the centers should relate to the DDCs, MOERD headquarters, other Ministries and NGOs. What programmes and activities should be undertaken at the centers or be supported by them and the associated resource requirements will also be considered, recognising that these will be different at each center and will change over time.

To address these issues and develop a plan that will be suitable for submission to prospective donors and to the Treasury for support the following tasks must be performed:

1. Review of the KREDP, KWDP, GTZ and other related projects.
This review will draw heavily on independent reviews of the projects that have already been undertaken (KREDP and SEP/Kenya) or are in the process of being undertaken (KWDP). Project reports will also be utilized extensively and discussions will be held with those involved in the projects at headquarters and in the field..

1.2 Planning Workshops

Workshops will be conducted by the review team involving staff from KREDP, KWDP, GTZ, MOERD, MENR, MOALD, DDCs and NGOs. These workshops will be principally concerned with planning the future development, role and management of the agroforestry/energy centers and the activities.

they should support.

1.3 Planning

Based on the project reviews and the discussions at the planning workshop the study team will prepare a draft plan for consolidating the three projects. This draft plan will be the subject of a further workshop before a final draft is prepared for submission to the Ministry.

1.4 Report Preparation

A well written report will be prepared which, subject to the review by and approval of the MOERD, will be suitable for submission to potential donors and to the Treasury to secure a substantial increase in financial and other support for the agroforestry/energy centers and their programmes.



MAZINGIRA INSTITUTE
PO Box 14550 Nairobi Kenya
Tel 47066/47097 Telegram MAZINST

KENYA CANADA ENERGY ADVISORY PROJECT
CONSULTANCY ON MINISTRY OF ENERGY AND REGIONAL DEVELOPMENT COORDINATION OF
THREE RURAL ENERGY PROJECTS

REVIEW AND PLAN FOR CONSOLIDATION

Draft for Presentation to a Workshop on
13-14th April 1986

D. Lee-Smith/G-C.M. Mutiso
20th March 1986

(P.68)

CONTENTS

1.00	INTRODUCTION	1
2.00	EVOLUTION OF RENEWABLE ENERGY POLICY 1974-1986	4
3.00	LIST OF KEY ISSUES IN RURAL ENERGY IN KENYA	6
4.00	CONTRIBUTION AND POTENTIAL OF THE THREE PROJECTS	8
5.00	DISTRICT PLANNING: PROPOSALS	12
6.00	TECHNOLOGY DEVELOPMENT: PROPOSALS	14
7.00	EXTENSION PROPOSALS	17
8.00	FUNDING MECHANISMS: PROPOSALS	20
9.00	MASS AWARENESS: PROPOSALS	25

1.00 INTRODUCTION

1.01 Woodfuel is the single most important energy source in Kenya, constituting 73% of national energy supply. The large majority of Kenya's population use woodfuel for domestic energy. This is leading to deforestation and soil erosion since wood resources are being depleted at several times the rate they are being replaced. These problems have been recognised by Kenya Government since the 1970s and are addressed in various ways and in several sectors. Apart from the national emphasis on tree planting through Rural Afforestation and Extension Service (Ministry of Natural Resources), the Presidential Commission on Soil Conservation and Afforestation, the Chiefs Nurseries, National Tree Planting Day and the Presidential Tree Fund, agroforestry and social forestry are emphasized in the 1983-88 development plan. The National Food Policy emphasizes maximum productive use of land through increased intercropping and other improved farming practices, including agroforestry, due to the need for additional land and better use of existing land for food production.

1.02 Agroforestry and increased woodfuel production are major elements in the rural energy projects under the Ministry of Energy and Regional Development (MOERD), which also include other small-scale and renewable energy technologies. In addition, several national level and many locally-based NGOs are actively engaged in tree-planting and agroforestry. Thus MOERD activities in this area are part of a much wider national effort which addresses the problems experienced by most Kenyans. These problems include the daily provision of fuel from ever decreasing sources, and the enormous amounts of labour time consumed in this effort, particularly by women.

1.03 Following on from the Fuelwood Cycle Study which began in 1980, MOERD has been involved in three major rural energy projects:
Kenya Rural Energy Development Project funded by USAID,
Kenya Woodfuel Development Program funded by Dutch government,
Special Energy Program funded by Federal Republic of Germany.
Kenya Rural Energy Development Project, KREDP, has become an integral part of MOERD structure and has established six agroforestry/rural energy centres. Kenya Woodfuel Development Program, KWDP, operates mainly independently of the Ministry to develop a woodfuel program district by district. Special Energy Program, SEP, tests and disseminates rural energy technologies in various parts of Kenya; it covers biogas, kilns, stoves, wind and solar technologies, while recognizing woodfuel as the primary problem.

1.04 The national target for tree seedling production by the Kenya Forest Department was raised from 50 to 200 million per annum a few years ago. When it was established in 1971, the Rural Afforestation and Extension Service produced only 78 000 seedlings, but by 1984 this had risen to about 80 million per annum. RAES now has 167 nurseries but is constrained by seed availability. Of the three projects, KREDP produced 2 million seedlings in 1985, while KWDP and SEP are not aimed at seedling production. SEP plans to distribute 1.5 million seedlings to women groups, while KWDP has identified the problem as one of seed production: it estimates the demand for Kakamega District alone as 150 million seedlings, and is now focussing on encouraging more on-farm Seed Production Units. KREDP also now emphasizes seed production in its nurseries.

- 1.05 NGOs that have been very active in wood production include KENGO, Care-Kenya and the Green Belt Movement. It has been observed that community-based approaches have been more effective than centre-based research and extension in reaching farmers and that "Government should use community-based projects to disseminate appropriate agroforestry technologies" (Ntayomba 1986). Data indicate that, in 1982, most Kenya households (70%) were planting trees for fuelwood, and that by far the most (30%) obtained the seeds or seedlings from their own farms or common land. 14% obtained them from Forest Department, 8% were bought, 3% were from Agriculture Stations and 2% from other sources, including KFA, Chief's Nurseries and NGOs. (30% did not plant and 13% did not respond. Mazingira Institute 1986) On-farm tree planting is more common in high potential than arid and semi-arid areas of Kenya. This is confirmed by the detailed KWDP data on Kakamega, where 38% of farms already have traditional tree seedling nurseries. Thus MOERD's rural energy program is part of the national effort on a very broad front, in which the Kenyan farmer is clearly leading the way in woodfuel production.
- 1.06 The purpose of this consultancy is to review and develop a plan for MOERD to consolidate and expand its agroforestry/energy centres and extension activities. The consultancy was initiated by the Kenya/Canada Energy Advisory Project, which is funded by Canadian International Development Agency, CIDA, to assist MOERD in planning and coordination of its energy activities. Specifically, the consultancy was called upon to advise on the coordination of three donor-funded projects: KREDP, KWDP and SEP. These three major projects which address the problems of rural energy in Kenya address complementary aspects of the problem but are related to the Ministry in different ways and are not yet formally coordinated as part of an overall program. Therefore, in addition to its terms of reference to prepare a plan for consolidating the three projects, the consultancy has attempted to define their context, namely the components of a consolidated national level plan for rural energy.
- 1.07 This emerged out of the methodology, which called for the participation of the various project personnel, as well as the consultants and the Ministry, in identifying common objectives, achievements, options and constraints. There was a commonly identified concern for a stronger MOERD framework for projects to operate within. The consultation process identified the functions of a national rural energy program as:
District Energy Planning,
Technology Development, and
Extension.

- 1.08 The methodology for developing the plan was based on consultations and discussions with Ministry and project personnel, initially during field visits, and subsequently in two half-day workshops in February 1986. Further consultations with Ministry personnel took place during the development of this draft plan, which is subject to review in the final workshop on 13th and 14th April 1986. Participants in the workshop, from the projects, KCEAF, Technical and Planning Divisions of MOERD and from other concerned Ministries, will be invited to review and amend the plan before its final submission to MOERD. It is hoped that this process will ensure a realistic and workable plan that will enable Kenya Government to move forward towards the goals of ensuring sufficient domestic rural energy supplies and the cheapest possible energy supplies to assist the growth of rural industries.
- 1.09 Section 2 of this document summarizes the development of Kenya Government policy and activities in the rural energy field. Section 3 lists the key issues to be resolved in the field of rural energy which this plan attempts to address. These issues were identified in the consultative process described above. Section 4 covers the basic data, achievements and areas for improvement of the three projects, based on project data sheets, a comparative assessment of their mid-term evaluations, and on the first workshop discussions. An additional source used was: "Agroforestry in Kenya: Need and Current Efforts" by Phocus Ntayomba, mimeo, March 1986. Sections 5, 6 and 7 contain the proposals for consolidating and extending project and Ministry activities in the three main areas of district planning, technology development and extension. Section 8 outlines proposed funding flows and mechanisms for rural energy projects, while Section 9 outlines a proposal for a national mass awareness program on rural energy issues.
- 1.10 It is hoped that this document, and the way it is laid out, will assist workshop participants in discussing the key issues and reviewing the recommendations, with amendments where necessary.

3.00 LIST OF KEY ISSUES IN RURAL ENERGY IN KENYA

Administrative:

- 3.01 The need for a national framework for donor-funded projects including planning targets and priorities.
- 3.02 The need for a DDC forum or subcommittee on renewable energy technologies including biomass.
- 3.03 The need for an information system and clear set of working relationships between all rural energy activities being undertaken by government, donor agencies and NGO's, including inter-ministerial coordination.
- 3.04 The need for less centralized ministerial control of detailed implementation of projects and more ministerial guidance on targets, and supply of information and support services, especially to small scale local activities. (NGO and donor projects can pilot such support structures for MOERD, e.g. guidelines, extension packages, credit, training.)
- 3.05 The need for a MOERD presence at District level.
- 3.06 The need to plan within existing national resources and financial and manpower constraints, including best use of donor resources.

Substantive:

- 3.07 The need for an affordable and effective District Energy Planning method.
- 3.08 The need for more seed, including the encouragement of increased local bulking.
- 3.09 The need to include women more systematically in woodfuel production and extension.
- 3.10 The need for a better system of energy technology performance assessment. This should cover technical, economic, and local socio-cultural performance, and would include pricing, user conditions, subsistence production and market development planning.
- 3.11 The need to involve users in product design, development and testing.
- 3.12 The need for more extension packages and public and technical information packages on woodfuel supply, conservation strategies and improved energy technologies. These are needed for general, District, specific institutional or other use, including training and education packages.
- 3.13 The need for a national training program on agroforestry, woodfuel and rural energy technology extension.

- 3.14 The need to assess and optimise extension strategies.
- 3.15 The need for a common data bank on biomass cover.
- 3.16 The need to promote training and credit for, and to monitor product quality of, rural energy technologies.
- 3.17 The need for a national manpower development plan in the area of rural (or renewable) energy, including public and private sector estimates, training recommendations, incorporation of categories in national planning, and provision for certification.
- 3.18 The need for better coverage of woodfuel issues and options in arid and semi-arid areas.
- 3.19 The need for large scale reseeding programs.

PROPOSALS

4.00 CONTRIBUTION AND POTENTIAL OF THE THREE PROJECTS

Kenya Rural Energy Development Project

- 4.01 KREDP began in September 1981 and comes to an end in December 1986 when its functions will be fully handed over to MOERD. The project budget of US \$4.8 million (K.Sh.76.8 million) in the form of a grant from USAID and a local contribution of K.Sh.27.2 million is being administered by MOERD with the assistance of Energy Development International, EDI, a US consultancy firm. The project objectives are to:
- . Increase renewable energy supply
 - . Modify demand through conservation strategies
 - . Set up a viable institutional mechanism to carry these out in the long term.
- 4.02 The major achievements of the project have been:
1. The establishment of six Agroforestry/Energy centres and two sub-centres in six eco-zones of Kenya.
 2. Development and dissemination of an improved energy-conserving jiko for which there is now widespread demand in Kenya.
- 4.03 Centre infrastructure provides the physical and institutional basis for the consolidation and expansion of MOERD rural energy activities. Centres carry out agroforestry species and spacing trials and produce seedlings for distribution. More recently, however, the emphasis has shifted from seedlings to seed production nurseries and seed collection. Short training courses have been held at the centres for extension workers and farmers. Peace Corps Volunteers at each centre work on nursery development and, more recently, extension activities with MOALD, MOFR, schools and model farmers.
- 4.04 The centres are used for the demonstration of renewable energy technologies and for training of artisans and orientation of users. Agroforestry techniques and charcoal jikos are the main technologies disseminated in this way but the centres also demonstrate woodstoves, charcoal kilns and biogas units in collaboration with SEP. The project is in the process of documenting and analysing its agroforestry activities. It has also contributed to the development of agroforestry training programs in Kenya's Universities and Colleges. Funding is largely through government procedures and the project is included in MOERD estimates.
- 4.05 However, although these strong institutional linkages have been built within Kenya Government structure KREDP suffers from the following problems:
1. Centre-based extension is not effective in reaching large numbers of farmers and users.
 2. Current links to the existing extension services in MOALD, MOFR and others are weak.
 3. There are no agroforestry or other extension packages as yet.
 4. Ministerial back-up and support is weak.

- 4.06 The experience of the three projects and others run by NGOs in Kenya shows that community-based projects which involve the local population are more effective than centralized research and extension methods. There need to be more off-centre and on-farm tests and demonstrations, farmers involved in developing options, and more emphasis on indigenous species. More women should be involved in the program, there should be more monitoring of activities and production of extension materials. At present the extension activities rely heavily on Peace Corps Volunteers. MOALD and RAES staff need to be more actively involved. The project provides one research and extension officer and one training and extension officer at headquarters as well as overall direction of the centres, but these functions will not easily be carried over by MOERD on termination of the project in 1986. Funds channelled through MOERD are held up through red tape and lack of ministerial capacity. All of these issues need resolving if the KREDP centres and framework are to provide a sound basis for a national program.

Kenya Woodfuel Development Program

- 4.07 KWDP began in 1984 and is expected to complete its work in two districts, Kakamega and Kisii, by the end of 1986. The budget for this activity is K.Sh.40 million provided as a grant by the Netherlands government and administered entirely by the Beijer Institute, a Swedish non-profit organization. It is planned to extend the program to two more districts, Muranga and Nakuru, with funds from other donor sources. The project objectives are:
- . self-sufficient supply of fuelwood in rural homesteads in program areas
 - . to develop technical options and effective dissemination strategies for increasing fuelwood production on farms.
- 4.08 The main achievements of the project have been:
1. Developing the district methodology (and the database in two districts) for woodfuel.
 2. Developing the methodology for a district woodfuel energy strategy.
 3. Farmers' participation in the development and testing of options for increasing woodfuel production.
 4. Creation of increased awareness and woodfuel activities on farms through a multi-media approach to the general public, followed up by intensive extension work.
- 4.09 The district resource assessments (agroforestry and cultural surveys) have been carried out in Kakamega and Kisii. Field activities in Kakamega include establishing nurseries for quick growing agroforestry species, formation of contact groups in seven sub-locations, establishment and monitoring of seed production units and developing technical and extension options through on-farm tests with farmers. A popular theatre play is also being performed district-wide, with follow-up seed distribution and monitoring. Different options are being developed in Kisii to suit local needs. It is planned to refine the method so that it is cheaper and can be applied systematically in any district.

- 4.10 Problems with KWDP are:
1. Weak linkages to MDERS and lack of national guidelines and involvement.
 2. Lack of contribution to training of local personnel.
 3. Lack of energy conservation (stove) strategies.
 4. Need for a cheaper district methodology with clearer guidelines for data collection and selection of options.
- 4.11 One problem with KWDP is the weakness of its links to MDERS. Even major decisions tend to be made more with reference to donor criteria and exigencies, rather than with consultation and guidance on national priorities, despite the nominal existence of a Steering Committee. While its autonomy allows for its flexible and adaptive approach in the field, there is a real need for better integration in the national system and exchange with other projects. The same applies to the content of the program, which might benefit from drawing in material from other sources.
- 4.12 Although the project employs local personnel and they have benefitted from their participation and contribution to the methodology, they are all relatively senior and experienced people. The project has not developed a systematic training component to train less experienced personnel in the methodology or to establish counterparts within Kenyan institutions.
- 4.13 As yet, the methodology has focussed entirely on fuelwood production and does not include energy conservation practices such as cooking methods and improved fuelwood stoves. This was an area of intervention included in the project objectives. In order to be drawn into a national program, the method would need to encompass more energy technologies and to have specific guidelines that are replicable. KWDP needs to address these shortcomings and to develop better integration with national programs and institutions so as to have a greater impact. In particular, links should be built to the national extension networks which can benefit from the project's experience.

Special Energy Program

- 4.14 SEP began in 1982 and is expected to continue until 1988. All aid is in the form of a grant from Federal Republic of Germany administered by GTZ. FRG contribution is in the form of: eight full time technical assistance personnel plus short term consultants; local salary support for four Kenyan personnel; six vehicles; wind measuring equipment; windmills; wind generators; biogas plants; charcoal kilns; solar fridges; and one computer. Kenya government contribution is in the form of three personnel and an office. The project objectives are to:
- . Reduce rural energy scarcity and overutilization of wood stock.
 - . Reduce dependence on imported energy.
 - . Improve rural energy supply.
 - . Introduce, adapt and disseminate appropriate renewable energy technologies.

- 4.15 The main achievements of the program have been:
1. Technology testing and demonstration of specific renewable energy technologies. (Biogas, charcoal kilns, fuelwood stoves, woodfuel plantations, wind and solar).
 2. Gathering of wind and solar baseline data.
- 4.16 The testing of a variety of renewable energy technologies in different parts of Kenya has permitted assessment of the viability and potential applications of these technologies. SEP has made good use of the agroforestry/energy centres established by KREDP. It is also the only one of the three projects to have made any significant contribution to technology development in the arid areas of the country. SEP has established that the major area of technology development that needs addressing is woodfuel, including plantations, stoves, and kilns. There is little potential application for wind and solar except in specific areas with institutional or community-scale demand and no access to the national electricity grid in the immediate future. Biogas has specific application for medium size farmers practising zero grazing.
- 4.17 SEP has the following problems however:
1. The dissemination programs for the various technologies have not resulted in adoption by users.
 2. The methodology of technology assessment needs refining to include economic, social and technical criteria systematically and to incorporate user participation in testing.
- 4.18 The fuelwood stoves have not been adopted by users because the program has focussed on training of trainers without an effective follow-up on training of users or monitoring in user conditions. The biogas plants have not yet been very much adopted because the conditions for adequate maintenance have not yet been worked through with users, nor have the plants been demonstrated in use (on zero-grazing farms). Only construction of the units is demonstrated and artisans trained in this skill. SEP needs to broaden its technology development method to increase its effectiveness.

5.00 DISTRICT ENERGY PLANNING: PROPOSALS

5.01 What is the contribution of the three projects?

KWDP is piloting a method of district woodfuel planning which:

- . documents district woodfuel resources
- . identifies key woodfuel problems through farmer surveys
- . generates awareness through mass media communications and extension contacts
- . identifies options for intervention with farmers participation.

Although this method is still only in development stage in two districts, it is potentially a useful and effective model which might be used in all districts. However, it has two main drawbacks:

1. It is very expensive, relying on a high level of technical expertise, both in Nairobi and in the field, and highly trained extension workers in the districts.
2. It covers only woodfuel production, and not woodfuel conservation (stoves) or other energy technologies.

In order for it to be adopted for national use it needs to be refined, adapted into a broader energy planning framework and made more economical.

5.02 What role should the Ministry play?

The main reason that different projects and donors have gone their separate ways is the lack of plans specific for different districts or ecozones. Whether district energy plans should follow administrative, cultural or ecological units is academic. The point is that there are none to be followed by donors, DDCs or NGOs. This is serious abdication of the policy, planning, and coordination roles of MOERD. Planning Division of MOERD must develop a program and a program evaluation framework and monitor all centre and donor activities in relation to it. This applies not just to KWDP, SEP and KREDP but to all present and future donor funded activities. KCEAP can assist in this task. The program should be sufficiently detailed as to specify targets and modes of operation, but should also be adaptive to accommodate innovations and update itself where needed, particularly in response to learning that takes place in the field. Also, we believe that there is enough information and informed judgement to begin generating district plans while collecting more quantitative data. The KWDP information can be used for the first plans and the methodology adopted for later ones. Towards generating district specific energy plans which should recommend what technologies are to be pushed by various actors, we recommend the creation of a **District Energy Planning Task Force**. Such a task force would work under the head of the Planning Division. MOERD should make best use of donor assistance in:

1. Developing the first round of District Energy Plans
2. Building up the capacity of the Task Force.

Of course there will continue to be energy problems in districts after the first round of planning, and an important continuing function of the Task Force will be to respond to new energy problems identified in the districts by farmers, extension services and the DDCs.

5.03 Performance Targets:Short Term:

1. District plans to be prepared using existing MOERD, District and NGO including KWDP data.
2. Plans should have clear technology recommendations and should be available for comments by DDCs, RAES, Soil Conservation Unit and NGOs active in the relevant districts during their development.

Medium Term:

1. Continuous collection and updating of quantitative biomass data for district planning.
2. Development and refinement of a scaled-down version of KWDP method for district planning.

Long Term:

1. Set up reliable system of extension feedback which incorporates on-farm agroforestry experience so as to build up a national energy planning capacity which is responsive to local problems.
2. Set up reliable system of data updating to maintain an accurate district biomass and other district energy database.

5.04 Administrative Structure and Staffing:National Level:

The District Energy Planning Task Force should consist of at least ten planners with emphasis being given to woodfuel planning and extension specialists as opposed to biogas, solar, wind and electricity which could get one each. The task force should be totally mobile - going to the various districts to do its work although being based in the Planning Division of MOERD. It will therefore need adequate transport and field allowance support. It should also have sufficiently high powered extension capacity to ensure integration of farmers' priorities into new technology options and plans. It is doubtful that MOERD can provide ten suitable planners initially and best use should be made of donor support to start the operation, with the maximum possible number of Kenyan planners. Appropriate staffing numbers and levels should be worked out in consultation with DPM.

District Level:

The most important activity at the District Level is to create District Rural Energy Sub-committees of the Executive Committee of the DDCs. Membership in this should be: DC as Chairman, DDO, DFO (RAES), DFO (if any), DAD and NGOs in the district. Where there are Rural Energy Centres, the Centre managers could act as Secretaries to the Rural Energy Sub-committee. Where there are no centres the Secretary should be the DFO (RAES). The functions of this committee should be to:

1. Collect information on rural energy activities.
2. Assist in formulating district energy programs and prepare proposals for the DDC.
3. Assist the national District Energy Planning Task Force in planning for the district.
4. Supervise and coordinate the activities of energy implementing agencies in the district.
5. Oversee activities of the District Energy Centre where applicable, including:
6. Plan rural energy committees at divisional, locational and sub-locational levels.

6.00 TECHNOLOGY DEVELOPMENT: PROPOSALS

6.01 What is the contribution of the three projects?

KREDP has established six agroforestry/energy centres and two subcentres in various ecozones to test and demonstrate agroforestry species and plot designs, improved jikos and other energy technologies. SEP has used these centres, as well as other locations in the country where GTZ projects are based, to test and disseminate renewable energy technologies including biogas, charcoal kilns, fuelwood stoves, wind and solar and fuelwood plantations. Agroforestry packages for dissemination are still in preparation. Improved jikos are in great demand, but there is still room for improvement in terms of quality control and user criteria. (Manundu and Minae, 1985) SEP has established that woodfuel technologies are the primary area to concentrate on for the majority but that solar, wind and, in particular, biogas, have some specific applications that need continued development: in areas not accessible to the national grid in the medium term, for institutional/community users, and on medium-size farms using zero grazing. However, the drawbacks of the current set-up are:

1. Centres have limited use as dissemination points unless backed up by on-farm testing and demonstration and better means of involving farmers and users.
2. The method of technology choice and testing is not sufficiently rigorous in defining social and cultural conditions of use, economic feasibility and maintenance.
3. The system of monitoring production, marketing and product life is not yet developed.

6.02 What role should the Ministry play?

There is some controversy on whether the numbers of centres should be expanded so as to have a centre in each district. One proposal suggests that it may be possible to build five centres each year until all 35 remaining districts are covered. Others see the centres as the way to show MOERD presence in the districts. Others talk about the centres in terms of physical structures which will be seen as project contribution when the donors are gone. Others justify them as meeting places for program consensus-building. Yet others see them as avenues for legitimising program activity. All these arguments have some grain of truth, but there are some practical considerations to be made clear. First, centres cannot realistically service whole regions or ecological zones. Second, centres as providers of seedlings for large areas are not efficient. Third, centre-based extension does not work, as current literature on extension amply documents; rural research in general, including KWDP research on cultural practices, specifically shows that effective extension systems have to be culture- and particular location-specific and not shotgun approaches. Finally and perhaps most importantly, the KREDP project will terminate this year leaving no headquarters personnel to manage the existing centres, for which MOERD has no capacity. As MOERD expands operations they should create District Energy Centres. Experience out of the Kitui, Kilifi, Bukura, Kisii, Ngong and Mombasa centres developed out of KREDP and the facilities planned for Nakuru and Muranga out of KWDP should help MOERD to think and plan in detail a standard module of a District

Energy Centre by FY 1987/88. Until such time plans for centres in other districts should be held in abeyance, with the exception of one for the arid/semi-arid lands for which arrangements should be made in consultation with IPAL. Links between the centres and the DDCs should be strengthened. It is not reasonable to expect centres to service regions. Adjoining districts with no centres might request specific assistance or services from a centre and pay for them (as provided for in Appendix 1 of the District Focus document).

The functions of the District Energy Centres should be:

1. To provide information in the form of extension leaflets, demonstration, library and training courses.
2. To refine species and spacing trials and other energy technologies that need those specific ecozone conditions. However, the majority of tests must be carried out on farm, in farmers conditions and in consultation with farmers.
3. To provide seed bulking, processing, buying and distribution facilities.
4. To provide a base and support facilities for district rural energy programs and projects of other ministries, donors, NGOs and community groups, which should operate through the District Rural Energy Sub-committee. It should also be the base of the District Energy Planning Task Force.

It is envisaged that donors will support projects that operate out of the centres. The idea is to provide information and services to local institutions that will form and be self-sustaining in the long run (e.g. small industries, women groups, cooperatives). Donors might assist by providing funds to NGOs that support the formation of such institutions through credit, technical and business advisory services, supplies and equipment. Donors should be encouraged to provide the necessary infrastructure for such projects which will build up the centres over time (e.g. classrooms, biogas plants with cow sheds, rental workshops, shop, local newspaper press, cooperative bulk supplies store and management system, vehicle workshop, etc.). It is not the ministry's job to run these projects, but to manage the facility and support system, and to oversee the projects. Clearly, siting of centres is crucial. (Not all projects will be physically in the centre location in the long term, though it is recommended so in the short term. Administratively, they should be related to the centres.)

Also, SEP in particular should be asked to assist MOERD in developing a technology assessment method which can be used to monitor the performance of all donor-funded technology development projects. Such monitoring should be the responsibility of Planning Division but carried out through field monitoring in collaboration with Technical Division. Criteria should cover economic, social, cultural and technical (including maintenance) performance. It is absolutely critical that technologies are developed and tested by projects in the field with the users.

7.00 EXTENSION: PROPOSALS

7.01 What is the contribution of the three projects?

The major bottleneck in woodfuel supply is seed. Kenyan farmers already plant trees for fuelwood, and are by far the largest single source of seed and seedlings. Extension needs to focus on increasing this production and providing it with the necessary support services, particularly in the areas where it is currently lowest. Although 80% or more households plant trees for fuelwood in Central, Western and Nyanza Provinces, less than 50% do so in Coast Province and under 10% in North Eastern. (Mazingira Institute 1986). KWDP has contributed to a detailed understanding of the constraints to increased farm-level woodfuel production, has begun an awareness program to address these in one district and has developed innovative mass communication methods, but has not yet produced district extension packages. However, it is unclear whether the KWDP method relies on its own intensive extension system, and how this can either be replicated on a large scale or transferred into the national extension system. KREDP developed its extension system out of the centres, relying on MOALD and MDMR extension staff and Peace Corps Volunteers. This method has not reached a great many farmers, and contacts with other extension systems are weak and ad hoc. SEP has worked through Maendeleo ya Wanawake to extend wood stoves, but its concentration on training of trainers has not yet achieved widespread adoption. Some extension training is at the moment being carried out by KREDP in short "exposure" courses as well as short courses at Universities and Colleges. Limited contacts with extension have also been made by KWDP. The useful output of these and other projects and programs need to be continuously coordinated, updated and put into usable training form nationally and for districts. There is some consensus among project personnel that there is some information available which can be extended immediately. What lacks is a coordinated mechanism for doing this.

7.02 What role should the Ministry play?

Although there is a need for dissemination of energy technologies it is not feasible for MOERD to set up its own national extension system. It must rely on other national outreach systems, specifically NOALD, RAES, MOCSS, MDLS, Institutes of Technology, Village Polytechnics, Kenya Industrial Estates, and the Schools. In particular, it has been observed that centralized extension systems that disseminate packages produced by experts are not appropriate for farmers conditions and are not readily accepted by them. Decentralized extension systems, particularly those operated by NGOs which respond to farmers' needs, have been found to be more effective, and MOERD needs a mechanism for utilizing community based projects, and energy technologies developed on farms. Furthermore, at the moment, there is no mechanism for combining the findings and outputs of the three projects (or others) into usable extension packages, even though they may be operating in the same area. Sometimes project and other Ministry personnel do not even bother to visit each others' sites. MOERD has nominal Steering Committees to guide the KWDP and SEP projects, while KREDP is directly administered by MOERD, the main substantive contact being with Planning Division. Currently the various committees designated are not effective and should cease forthwith.

It is proposed that all donors active in rural energy be coordinated by a new Rural Energy Coordination Committee in MOERD. MOERD, in conjunction with the three projects, MOALD, RAES, and others, should coordinate production of extension packages and other information. Since extension packages must be based on contacts with users, on-farm testing, and options derived with farmers, a senior extension person must be included in the proposed District Energy Planning Task Force which will advise the committee on production of the packages, based on a selection of available existing sources including the projects. In addition, it is recommended that the following immediately available information be developed into rural energy extension packages, training programs and public information campaigns:

1. Known indigenous and exotic fuelwood and multi-purpose trees.
2. Energy conservation practices, including alternative cooking systems.
3. Traditional practices which constrain production of fuelwood and biomass in general.
4. Methods of producing, collecting and storing tree seed.
5. Small nursery technology.
6. Marketing of tree seed and fuelwood.
7. Making and marketing efficient stoves and jikos.

Centres are not to be seen as the proxy for extension systems, although the existing ones should be the initial bases of district extension teams (MONR, MOALD, NGOs and others) working with MOERD to develop extension packages for the specific areas. Extension as such will be the function of other Ministry extension services, who will, however, require training and orientation sessions at the centres. The centres should therefore not only provide a classroom and teaching aids but also extension trainers. Local extension packages could also be printed at centres. Much of the initial work of generating extension material may need to be done through donor-funded projects but under MOERD leadership.

One problem not yet thought through by the projects, MOERD and NGOs is large scale reseedling. There are parts of this country where seeds are not available, because all the producing trees are being cut. There may also be cases where a tried species with highly desirable traits like good fuelwood/charcoal and nitrogen fixation can be introduced into an area by large scale seeding techniques. The cost effectiveness of this technique needs to be studied.

7.03 Performance Targets:

Short Term:

1. Abolish existing project coordination committees and set up a single Rural Energy Coordination Committee whose first task will be to establish modes of operation and detailed procedures for donor-funded projects.
2. Establish terms of reference and a working schedule for the Rural Energy Coordination Committee including its substantive program tasks and mode of servicing by Technical and Planning Divisions including the District Energy Planning Task Force.
3. Revise the Memorandum of Understanding between MOERD, MONR and MOALD on centres and extension to establish a more specific framework for the preparation and dissemination of extension and training materials.

4. Set up regular discussions and reporting sessions for projects to submit extension materials, report on project progress and achievements of plan targets. These will be technical sessions of the Rural Energy Coordination Committee.

Medium Term:

1. Review and compile existing project and other information into a training plan, through collaboration between project and MOERD personnel.
2. Compile extension and public information packages through collaboration between project and MOERD personnel.
3. Implement the training plan in collaboration with MOALD, RAES and other relevant agencies through a consultative process at Ministry HQ level, leading to combined field sessions at District level.
4. Disseminate the extension packages and public information through the appropriate extension services and media, including monitoring of impacts.

Long Term:

The energy extension system, (MOERD collaborating with other Ministries and NGOs and assisted by appropriate donor-funded projects) should:

1. Increase local tree seed bulking in high potential areas by:
 - .encouraging farmers, schools, centres and other institutions to bulk seed
 - .encouraging farming of woodfuel as a subsistence crop
 - .encouraging farming of a woodfuel surplus for sale
 - .encouraging and supporting women groups to produce and sell seed and woodfuel
 - .buying seed of fast growing species at commercial rates.
2. Focus on building up on-farm and community-based seed production in Coast province.

7.04 Administrative Structure and Staffing:

National Level:

Two new administrative mechanisms are needed. A National Rural Energy Extension Committee to review and decide on the implementation of rural energy extension training and campaigns and public information campaigns which require the cooperation of several ministries or other agencies external to MOERD. The other is the Rural Energy Coordination Committee within MOERD, whose job will be to substantively coordinate and provide a common forum for major rural energy projects in the country and the transmission of appropriate materials into useful extension, training and information materials. This committee should be made up of the Head of Technical Division, Head of Planning Division, Principal Finance Officer and Deputy Secretary Administration. The particular heads should not delegate their authority. This formula will allow the PS and Minister to play a final arbiter role.

District Level:

There is an administrative mechanism at district level, namely the Memorandum of Understanding on the establishment and operation of the Agroforestry/Energy Centres, dated February 1982. Specifically, the MOU provides for MOALD and HONR extension officers to participate in extension work and training programs related to fuelwood and agroforestry, (1(b) and 3.1(a)) and for MOERD to meet the costs of the centres and make available training centres. (3.1(b) and (d)) It is now time for the National Rural Energy Extension Committee and the Rural Energy Coordinating Committee in MOERD to update and put some teeth into this agreement.

B.00 FUNDING MECHANISMS: PROPOSALS

B.01 What are the mechanisms used for the three projects?

MOERD has in fact contracted with four donors (CIDA, GTZ, Dutch Government and USAID) different modalities of relating to it, as shown in Table B/1:

PROJECT	DONOR	PROJECT MANAGEMENT	FUNDS MANAGED BY
KREDP	USAID	MOERD (with EDI assistance)	Energy Development International (EDI) a US consulting firm; partially handed over to MOERD, complete handing over end 1986.
KWDP	Dutch govt.	Beijer Institute, a Swedish non-profit organization.	Beijer Institute
SEP	Federal Republic of Germany	GTZ	GTZ
KCEAP	CIDA	Kenya/Canada Energy project within MOERD	KCEAP with some funding items channelled through MOERD

TABLE B/1: RURAL ENERGY PROJECT INSTITUTIONAL ARRANGEMENTS

The two extreme ones are KREDP and KWDP: KREDP can operate only within MOERD structures; KWDP on the other hand operates on its own, seeking only authority on programs. SEP operates on its own, although it is housed by MOERD, and does not even discuss budgets with MOERD. KCEAP is both housed in and clears activities with Ministry, with parts of its budget being moved through MOERD structures. These separate modalities were agreed upon by MOERD for different reasons which suited the specific projects and donors involved. It is clear that there are advantages and disadvantages at the two extremes. Projects which are run through MOERD, including the channelling of funds, can be more easily managed and supervised, and are more easily absorbed into national budgets and programs. On the other hand, MOERD currently lacks the capacity for such management and supervision. Direct funding has the following disadvantages:

1. Lack of government involvement in day-to-day decision-making resulting in lack of learning in the official decision-making system.
2. Lack of government involvement in overall policy and priority decisions, resulting in lack of national coordination and the failure to build up a national policy data-base.

On the other hand, direct funding has the advantage of less bureaucratic hold-ups because of the lack of resources and decision-making capacity at national level. Projects with decision-making autonomy can be closer and more responsive to needs in the field. The channelling of funds through central government can hold up or completely disrupt actions in the field, if decisions on small items, or the approval of budgets, are delayed for months because of lack of personnel or lengthy procedures at headquarters.

8.02 What role should the Ministry play?

It is recognized that donors as agencies of sovereign states have their own procedures and policies to abide by. However, donor aid and technical assistance to a country has, virtually by definition, a moral obligation to develop the capacity for local control. A certain amount of goodwill is therefore needed on all sides in building up donor coordination mechanisms. These are needed at national and at local level. Kenya has made a significant step in the coordination of projects at the local level through establishing the District Development Committees and MOERD can utilize this mechanism. However, coordination structures at national level are still weak. Two goals should remain paramount:

1. Effective implementation of projects based on national priorities.
2. Building up of Kenyan capacity for rural energy policy, planning, management and evaluation.

We recommend that the first task of the proposed Rural Energy Coordination Committee of MOERD be to negotiate with donors an agreed modality for project and program funding. The following proposals are offered for consideration, although other options may be identified during the April Workshop or the committee negotiation process.

As outlined in the District Planning, Technology Development and Extension proposals above, the optimum mode of operation for MOERD is to maintain overall planning, monitoring and evaluation control (through Planning Division) and to develop, manage and maintain rural energy infrastructural services, namely District Energy Centres, (through Technical Division). Projects (which should fit in with MOERD policy and plans) are best run by local institutions, under the auspices of the DDCs. NGOs have a role to play in helping build up such local institutions through projects which manage and channel funds to them.

The capital development of infrastructure should also be funded directly through donor projects, as was the case with KREDP, with only recurrent and maintenance costs and functions being taken over either by MOERD or the respective local institutions on termination of the projects. An example of funding flows for a District Energy Centre is given in Table 8/2.

Overall functions of planning, programming, evaluation and data-base management which are donor-supported should have such funds channelled through MOERD. A most important consideration is

ITEM	DONOR	IMPLEMENTING AGENCY	RECIPIENT	FUNDS MANAGED BY	WITH ADVICE BY	PROJECT APPROVAL, MONITORING AND SUPERVISION
Capital development & infrastructure	Govt.A	International NGO X	MOERD	International NGO X	-	MOERD
Centre operations & maintenance	None	MOERD	-	MOERD	-	-
Seed production unit	Govt.A	International NGO X	Location Woodfuel Producers Cooperative	International NGO X	DDC Subcommittee	MOERD
Fuelwood/agroforestry extension training program	Govt.A	International MOERD/MOALD/ MONR	MOERD	MOERD	-	MOERD
Biogas demonstration unit & zero grazing farm	Govt.B	International NGO Y	MOERD	MOERD	-	MOERD
Biogas units on farms	Govt.B	International NGO Y	Farmers	International NGO Y	DDC Subcommittee	MOERD
Jiko workshops bulk store & supplies, retail shop	Govt.C	International NGO Z	Locational Jiko Coop OR individual entrepreneurs	International NGO Z	DDC Subcommittee	MOERD
Business advisory service & credit scheme	Govt.D	International NGO Z	Local women groups, coops & individual entrepreneurs	International NGO Z	DDC Subcommittee	MOERD

TABLE 8/2: EXAMPLE OF FUNDING FLOWS AT A TYPICAL DISTRICT ENERGY CENTRE

that there be substantive MOERD counterparts in place before the start of such projects, and there should be continuous and proper liaison with DFM on this. Such counterparts should take effective responsibility for the flow of funds through the Ministry to "their" projects and not abdicate such role to the donors. This provision should not jeopardize experimental pilot projects in the area of planning, for example the KWDP work in its developmental stage, which is independently funded and managed. However, such pilots should be monitored within MOERD's framework under the Rural Energy Coordination Committee and, more importantly, have a phased plan for development of a prototype method which can be adopted on a wider basis nationally in MOERD and other relevant institutions. Such plan should incorporate counterpart training and a contribution to the MOERD manpower development plan.

MOERD's Planning Division should develop, with donor support where appropriate, a comprehensive national Rural Energy Manpower Development Plan in the area of rural energy. This should include:

1. Public and private sector estimates of the various categories of technical and administrative personnel required. (Donors should be involved in discussions with respect to their proposed contribution to these estimated requirements when developing projects for funding. Such discussions should include both Technical and Planning Divisions. Relevant NGOs may also be called in to such discussions by the Rural Energy Coordinating Committee.)
2. Recommendations on training requirements to meet the planned targets, with numbers of personnel at each level and specific technical specializations required. (Donors should select from and offer contributions in accordance with these recommendations.)
3. Inclusion of training recommendations in national planning categories.
4. Provision for certification of the required new specializations and personnel categories. (Such as biogas technicians, woodfuel economists and others.)

Although the time for and scope of this consultancy have not permitted a detailed analysis of the finance and administration procedures of MOERD, it is clear from the investigation of KREDP that they leave something to be desired in terms of efficiency. The following are offered as tentative suggestions for further investigation concerning those items funded through MOERD, whether donor funded or from BOK budget:

1. Better linkages between Finance and Administration on the one side, and Technical and Planning on the other, in terms of information on financial procedures and project requirements respectively.
2. More delegation of discretionary budget items to project and/or centre personnel in the form of imprests.
3. More realistic estimating of project and/or centre expenditures, particularly transport and other operational expenditures.

8.03 Performance Targets:Short Term:

Convene the Rural Energy Coordination Committee and set up a series of meetings with donors concerned to agree on mutually acceptable funding modalities.

Medium Term:

Establish and operationalize funding mechanisms agreed and the Rural Energy Manpower Development Plan.

Long Term:

MOERD to assume effective control of national rural energy planning and provision of project support services nationwide.

8.04 Administrative Structure and StaffingNational Level:

Control and supervision of agreed funding mechanisms will be the task of the Rural Energy Coordinating Committee of MOERD with advice from Planning Division. Administration of funding for any item channelled through MOERD will be by the DFO in Finance and Administration Division, in direct communication with one designated officer responsible in Technical or Planning Division.

District Level:

District Rural Energy Subcommittees will be responsible in advisory capacities to service and oversee the funding of projects in their districts: for example, by participating in loan approval boards for credit schemes for woodfuel and biogas along with other concerned institutions. (It is not proposed that such subcommittees be directly responsible for the channelling of funds as they will have the same problem of capacity and consequent slowing down of project administration as is currently experienced in the Ministry. They should, however, have all substantive project data and be involved in monitoring and review.)

9.00 MASS AWARENESS: PROPOSALS

What is the contribution of the three projects?

KWDP has contributed to the development of innovative mass awareness techniques on an experimental basis among rural populations in one district. The impacts remain to be monitored and replicated on a wider basis but are anticipated to be effective. KREDP has contributed to the establishment of six agroforestry/energy centres but awareness of these is limited. Although substantial awareness of the need for tree planting and soil conservation has been generated nationally through the various agencies listed in the Introduction and through the media, there has not yet been a concerted effort to give rural energy issues a high visibility nationally.

9.02 What role should the Ministry play?

For MOERD to give rural energy visibility nationally we propose that provincial seminars be held by the top officials of MOERD including the Minister and PS on problems of rural energy with special emphasis on fuelwood. After the seven provincial seminars there should be a national seminar on rural energy. This should include MPs, KANU District Leaders, Permanent Secretaries and top business leaders. Provincial Seminars should include District Commissioners, District Development Officers, District Forest Officers (RAES, Ministry of Natural Resources), District Agricultural Officers and all NGOs with Energy Projects in the particular province. Inputs to the Provincial Seminars should be:

1. Explain MOERD policies and strategies.
2. Get advice on implementation problems including local practices.
3. Develop provincial-specific mass campaign strategies to support the rural energy program.

Outputs of the Provincial Seminars should be:

1. Inventory of field programs and their impacts.
2. Review of MOERD impacts on rural energy.
3. Development of a field responsive strategy for expanding MOERD rural energy program.

Inputs to the National Seminar should be to:

1. Debate the role of rural energy program in national development with specific reference to District Focus Strategy.
2. Rationalize relations between conservation and energy strategies.
3. Solicit and consolidate support by the government and party for MOERD's policy planning and coordination role.

Output of the National Seminar should be:

1. Agreement by government and party on a mass campaign strategy for supporting rural energy activities.

During the provincial and national seminars MOERD ought to support extensive mass media (Radio/T.V. & Print) coverage so as to highlight the problems, strategies and long term solutions.

9.03 Performance Targets:Short Term:

Carrying out of the provincial and national rural energy seminars by the end of six months.

Long Term:

Increased awareness throughout Kenya of rural energy, specifically woodfuel, problems and strategies and the role of MOERD.

9.04 Administrative Structure and Staffing

The seminars should be planned and implemented by MOERD Planning and Technical staff, with participation in the seminars by project personnel and other NGOs concerned with rural energy.

REPORT
JOINT ENERGY FORMULATION MISSION

DRAFT

MISSION LEADERS

P. O'KEEFE (THE NETHERLANDS)

B. GATUNDU (KENYA)

MISSION MEMBERS

A. BOEREN (THE NETHERLANDS)

P. LAMMERS (THE NETHERLANDS)

G-C.M. MUTISO (CANADA)

A. ZERAI (SWEDEN)

F. NJOROGE (KENYA)

R. NEILD (KENYA)

DECEMBER 1987

TABLE OF CONTENTS

1. Summary of Conclusions and Recommendations	1
2. Introduction	3
3. MOERD policy	16
4. Research for Implementation	28
5. Training for Action	33
6. Indicative Budget	41

Annex I JEFM Terms of Reference

Annex II MOERD Policy Statement to JEFM

Annex III Training Budgets and Costs

Annex IV BFFP Budget

Annex V JEFM Timetable

Annex VI Personnel Consulted

initiatives can be implemented at district level. To facilitate MOERD intervention, the DEDO will focus activities, especially training, around the district Energy/Agroforestry Centre (E/AC).

In such cases where a DEDO is not appointed, the District Development Officer (DDO) will hold the MOERD brief. Current budget proposals do, however, indicate that this DDO brief will be short lived since, over the next three years, MOERD proposes DEDO deployment in 30 districts.

1.5 The E/AC's main function will be as a locus for demonstration and training with particular emphasis on woody biomass management and supply enhancement. Demonstration and training will be offered to staff on DDC approved energy/agroforestry projects.

1.6 The Energy Development Fund (EDF) will follow established Government of Kenya regulations and procedures as existing in the Rural Development Fund (RDF) and District Development Fund (DDF). The EDF has an important role to play in realising the national objectives of MOERD.

The JEFM, however, thinks that, at the onset of the district energy initiatives, it is best to utilise window financing for specific district activities. The DEDO can approach MOERD, through the DDC, for such financing.

In the current proposals, the size of this window financing controlled by MOERD, can be calculated as a portion of the training funds plus all funds controlled as MOERD Project Steering Committee (PSC) Managed Funds.

2. Implementing the MOERD District Strategy.

2.1 In considering the implementation of the MOERD district strategy, careful consideration was given by the JEFM to the optimal location for action. Three existing levels of activity governed the final selection of districts, namely:

(1) Completed, on-going or planned DEPTAF activities existing in the district.

(2) Other MOERD activities, particularly energy/agroforestry activities. These were defined in the JEFM's Terms of Reference (TOR) as Kakamega, Kisii, Nyeri/Muranga, Nakuru, Ngong and Mtwapa. In addition, the JEFM recommends the inclusion of Baringo district which was also covered by the TOR.

(3) The final consideration was provided by Donor indications of budget commitment to the MOERD district energy strategy.

2.2 In reviewing the evidence before it, the JEFM recommends support of district energy support of district energy strategy in:

- (1) Kakamega
- (2) Kisii
- (3) Muranga
- (4) Nakuru
- (5) Baringo

To create a level of consistency with regard to ongoing MOERD activities the JEFM recommends that GOK actively seeks donor support at costs laid out in the model budget, for Ngong, Mtwapa, Nyeri and Kitui.

2.3 The move to district level requires considerable training initiatives. The JEFM sees the major training requirements as one that will enhance district capacity to implement energy/agroforestry projects at district level. The JEFM recommends that a strong mobile training team is established, operating from MOERD, for a period of three years. This team will assist the DEDO in each district.

The JEFM has identified training needs in two broad categories namely planning and implementation. The first category requires least funding but is important if the DEDO is to effectively plan, coordinate and manage the district initiative. It is recommended that the Kenyan Institute of Administration (KIA), a leading national training resource, undertakes such training with by contracting, on MOERD advice, relevant expertise.

The most important training component is that which supports action at district level. This category of training requires strong support for:

- (1) The Training of Trainers so the MOERD initiative is self sustaining,
- (2) The training of line Ministries to implement the MOERD strategy, and
- (3) The provision of training material.

The mission recommends that funding of such activity, especially the preparation and production of training material be within the normal cost range associated with existing extension materials.

2.4 To operationalise the MOERD district initiative, the DEDO should design project proposals based on DEPTAF and other information. These proposals should be brought through the DDC to the national MOERD's Project Steering Committee (PSC). PSC can recommend either EDF or window financing.

In such proposals, the DEDO should indicate the nature and extent of training requirements to facilitate project implementation. Training can be provided at either E/AC district level or national level depending of the nature of the request and PSC's

response to that request.

Details of the integrated training programme, and budget, are contained in the main report.

3. KWDP

3.1 MOERD's policy with regard to the role and function of KWDP can be detailed as follows:

- (i) KWDP is definitively a project, not an institution, under control of MOERD.
- (ii) The Beijer Institute is currently proposed by MOERD as the contracting agency to execute the KWDP project. Responsibility for KWDP project formulation is, however, clearly the responsibility of MOERD.
- (iii) KWDP activities, in Kakamega and Kisii, will be absorbed by MOERD at the end of the proposed three year activity.
- (iv) KWDP activities, in Muranga and Nakuru, should follow a phase-in: phase-out model (for 4 years) that is designed to enhance MOERD's presence at district level.
- (v) KWDP is not responsible for training .
- (vi) As KWDP activities are absorbed by MOERD, KWDP should not undertake activities (e.g. extension) that can not be absorbed into MOERD's own line activity.
- (vii) At district level KWDP will be a provider of services coordinated by the DEDO; KWDP will be supervised by the PSC at national level.

KWDP will be supervised, as a provider of services to the district, by the appropriate district officials with the support of the MOERD headquarter staff.

3.2 With these policy guidelines in mind, the JEFM formulated operational criteria to assess KWDP proposals within the context of MOERD's district initiative. These were:

- (i) That as KWDP was a project, with a designated life of 4 years in any particular district, KWDP proposals must provide a strict sense of project cycle.
- (ii) That, for Kakamega and Kisii, such a strict sense of project cycle implied a phase-out.
- (iii) That, for Muranga, such a strict sense of project cycle implied phase-in but on the new model of MOERD district intervention.

(iv) That, for Nakuru, the proposed model is the old KWDP intervention practice which the mission was requested to support.

(v) That during phase-out, the essential activity is the transfer of knowledge and methodologies under the direction of the DEDO. Consequently, KWDP's own activities, directly in research and indirectly in support of planning, must be designed for transferability in both a content and a cost sense.

(vi) That, on phase-out, a small core of KWDP professional staff will remain either for further assistance to MOERD in the district or for transfer into MOERD district level activities elsewhere.

3.3 To reformulate KWDP Kakamega, Kisii and KWDP Headquarter budgets the original proposals were adjusted as follows:

(i) Requested funds for activities which were MOERD'S, not KWDP's, responsibility were transferred to MOERD's PSC Managed Fund.

(ii) Staff adjustments in light of the proposed phase-out model which emphasises the transfer of knowledge and method, particularly where such staffing was in activities incompatible with MOERD's own line responsibility at district level.

(iii) Proportional adjustment to KWDP district and Headquarter other itemised expenditure in line with staffing adjustments.

(iv) Requests for funds which implied that KWDP was an institution not a project.

In addition, although the mission did not adjust KWDP's projected figures, it was concerned that the level of expenditure in the Mass Intervention activities was clearly beyond a level of sustainable finance in other districts with regards to transfer. Consequently the JEFM has formulated a separate note which leaves it open to MOERD to reformulate the Mass Intervention activity.

The reformulation of the Muranga budget followed similar lines except that, because it was a new initiative, staffing levels were designed to reflect the phase-in: phase-out model with an emphasis on early transfer of skills and knowledge to other line ministries in the district.

The Nakuru budget remains as in the original KWDP formulation. The JEFM would emphasise its dissatisfaction with this approach which is not truly representative of a joint initiative and would, therefore, recommend that the research purpose, programme activities, personnel, equipment and budget be reformulated to follow the consistent model developed for other

KWDP activities.

3.4 The mission was unable to discuss the KWDP budgets in detail with KWDP management and staff. Consequently the JEFM initiated its own KWDP budget reformulation according to the principles, operational criteria and adjustments outlined above for the purpose of forward planning within the next six months.

The JEFM noted that KWDP detailed budgets did not correspond to any detailed workplan. The mission recommends that detailed costed workplans are provided, including job descriptions for individual members of staff, within six months.

The mission also noted, with some alarm, the inability of KWDP management to interpret and implement the reports of previous missions and instructions of the Project Steering Committee, to judge the changing institutional framework, and positively respond to that changing framework and to judiciously inform their staff of the implications of those changes. In short, the JEFM recommends a review of KWDP management by an external consultant, within the next six months, to ensure the effective participation of KWDP professional staff in the MOERD's district initiative.

The implied criticism in the mission recommendations must not detract from the excellent professional effort produced by KWDP. If the JEFM recommendations are followed, there is no reason why KWDP should not enhance its national and district level reputation by continuing to provide insightful intellectual leadership into the energy and energy related problems.

4 Baringo

4.1 The mission has also detailed proposals for Baringo. The JEFM also recommends, to facilitate proposal finalisation a short term consultancy- the TOR for this consultancy are contained in the Annexes to the main report.

5 National District Steering Committee

5.1 In order to safeguard on-going activities, to rapidly implement the proposed projects and to control new initiatives it is proposed that one committee be established at national level chaired by the Deputy Secretary (Development) of MOERD. Such a unified committee would limit the number of project steering committees which can effectively deny or fragment MOERD's coordination efforts.

The chair could call other members of MOERD (Head of Biomass Technical Division and Head of Planning Division), district officials (District Commissioner, DEDO or DDO), donor representatives and relevant project staff according to the agenda. Essentially, MOERD staff would be permanent members with other persons determined by agenda involvement. Such a unified

steering committee would control both the EDF and PSC Managed Funds.

6. Related Energy Agroforestry Activities

6.1 MOERD is currently planning two workshops for 1988 to:

(i) Discuss Energy/Agroforestry initiatives with other line ministries

(ii) Discuss R & D strategies

The mission draws the attention of concerned parties to the well developed proposals of the National Council of Science and Technologies (NCST) to hold a seminar in conjunction with the International Council for Research in Agroforestry (ICRAF) in November, 1988.

6.2 The mission notes that wood conservation projects are currently concentrated within the Special Energy Project. The mission approves such project concentration because it allows technical specialization whilst allowing MOERD to direct such technical expertise towards its district initiatives.

7. Update of MOERD Activities

7.1 MOERD is currently coordinating final signatures on the Memorandum of Understanding so that it is effectively implemented at national and local level.

7.2 DEPTAF is very much operational with a level of activity in 27 districts. The JEFM has recommended a level of training support to the planning effort which particularly focuses on rapid appraisal techniques so that intervention and action programmes can be more speedily determined.

7.3 MOERD has requested the Directorate of Personnel Management (DPM) for DEDO and posts to support the DEDO position at district level.

8.0 Programme proposals are defined according to four broad areas. These four broad areas are direct support to MOERD activities, training, MOERD Projects Steering Committee Managed Funds and KWDP. The total cost is K. Pound 9,069,113. A schedule of activities necessary to ensure prompt and effective programme implementation are outlined in the main report.

CHAPTER II

INTRODUCTION

2.0 Joint Energy Formulation Mission (JEFM)

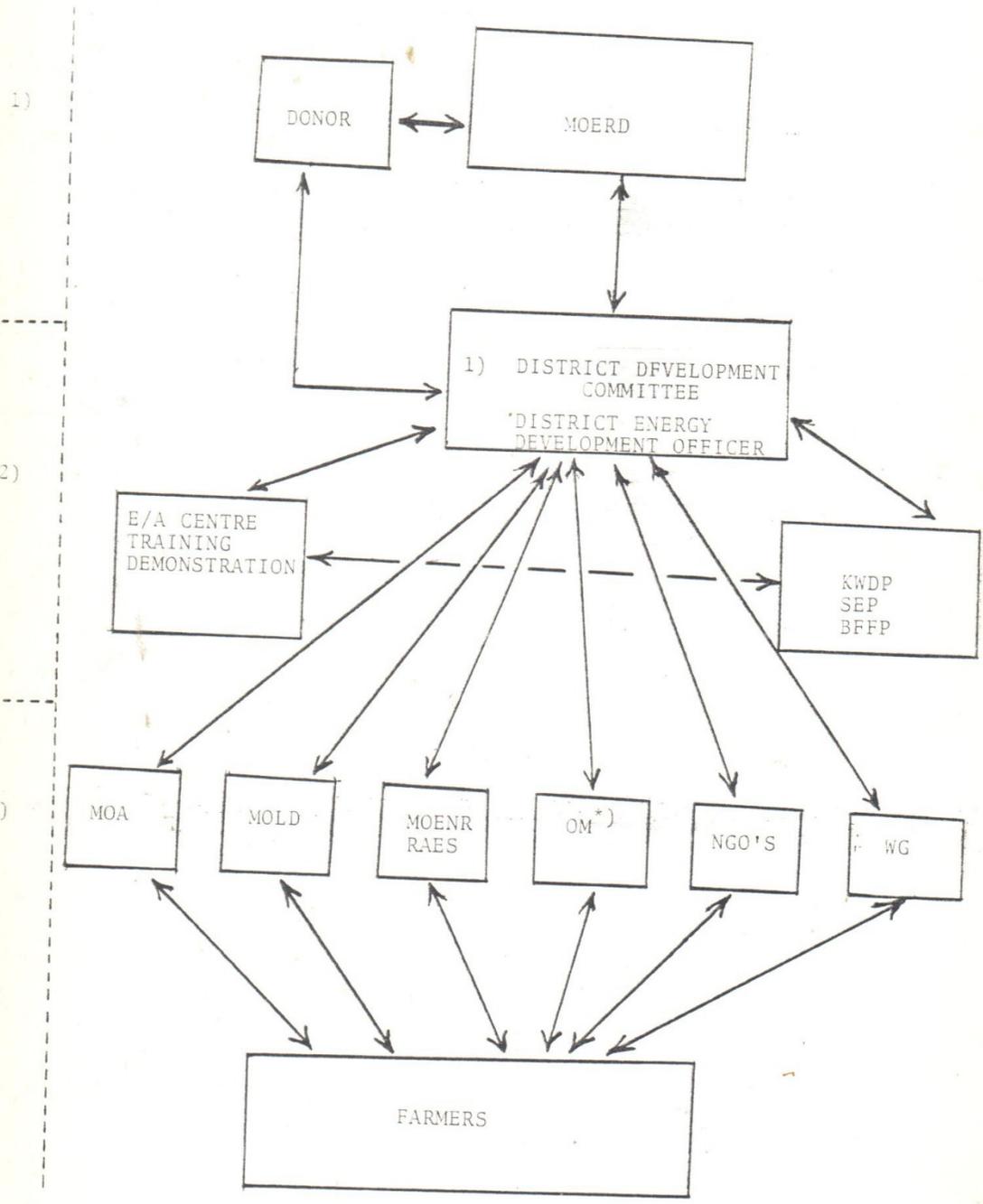
2.1 The purpose of the JEFM is to strengthen Ministry of Energy and Regional Development (MOERD) capacity to implement energy policy at district level. The challenge to JEFM is to formulate a mechanism whereby MOERD has not simply a presence at district level but a mechanism to articulate energy planning and management and most important coordination of the implementation of energy and energy related projects within the district.

2.2 The context for MOERD's district strategy is provided by the Government of Kenya (GOK) policy to focus most development activity at district level. Two important policy statements which have guided MOERD's district strategy are:

- (1) Economic Management for Renewed Growth (Sessional Paper 1, 1986)
- (2) District Focus for Rural Development

2.3 District level interventions from MOERD have to date been concentrated in the Planning Division and the Biomass Technology Division under the control of the Deputy Secretary (DS) Development. The JEFM has benefited from direct guidance by DS development and from active participation by personnel from both the Biomass Technology and Planning Divisions. (See Figure 2.1)

ORGANIZATIONAL SCHEME FOR MOERD DISTRICT STRATEGY



= Other ministries

Activity 1 = Planning and coordination; Activity 2 = Management and Activity 3 = Implementation

2.4 The JEFM's Terms of Reference (TOR) are contained in Annex I. While working to the TOR, the JEFM was encouraged to think strategically about a three year rolling programme of investment. This programme to run from mid 1988 to mid 1990, was to be based on MOERD's accelerating involvement at district level coupled with a formulation exercise which would allow existing projects to be brought more directly under MOERD's control. The JEFM sees the next six months (January- June 1988) as the critical period during which a unified approach to district energy intervention can be defined.

2.5 The JEFM has attempted to provide guidelines that will build such a unified approach by:

- (1) Defining a simplified model for district strategy
- (2) Providing TOR for a number of supporting projects
- (3) Structuring a research policy that focuses on implementation
- (4) Establishing a training programme for extension
- and (5) Calculating broad budget parameters that seek to establish proportionality of the district strategy and simultaneously allow concerned parties to earmark funds for a mid 1988 startup.

2.6 The JEFM is proposing a wide programme, within MOERD, which is made up of a number of projects. MOERD will direct the overall programme and manage individual projects through a single Project Steering Committee. The projects are based around four subprogrammes namely direct support to MOERD, training, MOERD Project Steering Committee Managed Funds and KWDP. In detail, these are made up of individual project components detailed below.

(A) DIRECT SUPPORT TO MOERD

(1) Support for the establishment of five (5) District Energy Development Officers (DEDO) in Kakamega, Kisii, Nakuru, Muranga, and Baringo which will include a decreasing contribution from donors, to staff costs, with other support going to start-up and micro-projects costs in each district.

(2) Support to finance consultancy (short term) to facilitate the start up of the DEDO programme.

(3) Support to facilitate transport at the Energy Agroforestry Centres.

(4) Support to develop an Energy Agroforestry Centre and subcentres, in Baringo.

(B) TRAINING

(5) Support to develop a MOERD Mobile Training Team.

(6) Support to develop professional skills in the MOERD Biomass Technology Division.

(7) Substantial support to implement training for District Energy Programme implementation at district level.

(8) Support to produce information material for district level training.

(C) MOERD PROJECT STEERING COMMITTEE MANAGED FUNDS

(9) Support for Project Steering Managed Funds to transfer project experience to MOERD and other line ministries.

(10) Support for Project Steering Committee Managed Funds for Energy Conservation.

(11) Support for Project Steering Committee Managed funds for Research.

(12) Support for Project Steering Committee Managed Funds for Agricultural Show Publicity.

(13) Support for Projects Steering Committee Managed Funds for staff development (Human Resource Development Fund)

(D) KWDP

(14) Support for KWDP Kakamega on a phase out model

(15) Support for KWDP Kisii on a phase out model

(16) Support for KWDP Muranga on the new MOERD intervention model

(17) Support for KWDP Nakuru on the old KWDP model

(18) Support for KWDP Headquarters to support MOERD's district initiative and more specifically work in Kakamega, Kisii, Muranga, and Nakuru.

(E) BFFP

(19) Support to continue Baringo Fuel and Fodder Project and enable a research component to be added to it .

Details of the Budget are contained in Table 5.9.

2.7 To facilitate the MOERD district energy initiative; the JEFM has established a timetable for the next six months. Details of this timetable, which identifies agency decision and action, are contained in Table 2.

Table 2 The JEFM suggested Action Plan

(1)

Date: December 4, 1987.

Agency: MOERD/Donors.

Decision: Accept JEFM Draft Report including implications of a stronger Project Steering Committee.

Required Action:

(a) MOERD

Inform Districts, ensure nominated staff available for MOERD positions, especially training in BTD. Inform DPM of DPM build-up. Ensure coordination on MOU with line Ministries and DDC knowledge of that MOU.

Install the broader Project Steering Committee including a budget under the Managed Funds to operationalize the recommendations of the JEFM.

(b) Donors

Request broad funding from their own national government in line with proposed budget.

(2)

Date: December 11, 1987.

Agency: Projects Steering Committee.

Decision: Inform Executing Agency (The Beijer Institute) of reports acceptance: detail implications of this for KWDP and request KWDP response to detailed TOR's of the JEFM.

Required Action:

Executing Agency (Beijer) to formulate all district workplans and budgets; within new model by January 15, 1988 in conjunction with relevant DDO's. Executing Agency to provide work plan and budget for Headquarter by January 15.

Executing Agency (Beijer) to provide detailed response on mass intervention programme with emphasis on transferability.

(3)

Date: Late January, 1988.

Agency: MOERD/ Line Ministries/ Donors.

Decision: none

Required Action:

Agency: MOERD/Donors/ Other projects

Decision: Determine formal start up date on district intervention.

Required Action:

Finalise District Workplans and appoint 5 DEDO's

(8)

Date: April 15, 1988

Agency: MOERD/Donors

Decision: Determine final real costs and institutional routing of funds in light of MOERD proven activity.

Required Action:

(a) MOERD

-Induct initial 5 DEDO's and related staff from PSC Managed Funds

-MOERD request donors to submit plan plus budget for on 3 year period.

(9)

Date: July 15, 1988

Agency: MOERD/ Donors/ Other projects

Decision: Start up

Required Action:

Project Steering Committee in a new mode directing and controlling district initiative.

On acceptance of the JEFM report, MOERD must ensure a Project Steering Committee to implement the recommendations. MOERD need to take a series of steps detailed in the JEFM report, and donors need to inform their relevant national ministries. MOERD should immediately call the executing agency for KWDP to a Project Steering Committee and explain MOERD'S intentions. It should be asked to reformulate proposals within MOERD guidelines under the direction of the relevant District Development Officer.

MOERD should lead a seminar in January 1988, to discuss the implications of the district initiative with other line ministries. By February 1988, MOERD has prepared final work plans for the five (5) districts. During March 1988, MOERD finalises start-up procedures within the districts. In April MOERD and donors review the situation and determine progress. If all is on course, work begins in July, 1986.

There are bridging funds to support KWDP during this period of re-orientation. A small amount of funding that can be drawn from the overall training fund is need to support DEDO start up.

CHAPTER III

THE DISTRICT ENERGY STRATEGY

3.0 Introduction

A major National Energy Policy Strategy of The Ministry of Energy and Regional Development, in keeping with the overall National Development Strategy of a District Focus for Rural Development, is the Ministry's District Energy Strategy.

The overall objective of the District Energy Strategy is :

To strengthen the relationship between energy planning and programme formulation at the National level, and energy planning and programme implementation at the District level, in order to better support district level development:

This overall objective will be addressed by:

Strengthening the capacity of the District Development Committee to plan, implement, monitor and evaluate energy related development programmes and projects for all forms of energy, including: wood energy; rural electrification; petroleum product distribution; energy conservation; and alternative energy sources;

Strengthening the capacity of the Ministry to operate effectively, in collaboration with the District Development Committees, at the District level.

The overall District Energy Strategy has many components, involving all divisions of MOERD, including:

- The District Energy Planning Task Force Programme (DEPTAF)
- District Energy Plans (DEP)
- The District Energy Development Officer (DEDO)
- Energy/Agroforestry Centres Programme (E/AC)
- District Energy Surveys (DES)
- Liaison Programmes with Extension Services of Other Ministries
- Energy Development Fund (EDF)
- District Energy Projects e.g. KWDP

Clearly, the commitment of the Ministry to become involved actively in district development activities has many important implications for all divisions of the Ministry, including additional manpower requirements just as it has had for all other ministries which have become involved in the "District Focus " strategy.

3.1 District Energy Development Officer

Essential for the success of the Ministry's District Energy Strategy is the placing of District Energy Development Officers

(DEDO) in all districts.

At present, district level energy planning and programme formulation and implementation is severely handicapped by the absence of a suitable trained officer at the district level who can represent the Ministry on all aspects of energy matters on the District Development Committee, work with the other District Officials on identifying needed programmes and coordinate MOERD projects in the district.

As part of the current round of activities associated with the drafting of the District Development Plans, the Ministry has been working with the Ministry of Planning and National Development and meeting extensively with the District Development Officers throughout the country. These officers are outspoken in their view that the MOERD is long overdue in terms of the posting of the District Energy Development Officers, and that until such time as such officers are in the field, trained to represent the Ministry's interests across all energy forms, it will prove impossible to undertake the critically needed district level projects dealing with:

- the formulation of the District Energy Plans;
- coordination amongst concerned ministries, NGO's and donor projects;
- wood energy (including agroforestry and commercial energy plantations);
- the rural electrification programme;
- petroleum production distribution enhancement;;
- energy conservation programmes, particularly in terms of fuel efficient wood energy stoves and jikos;
- the identification of suitable locations for alternative energy applications (solar, wind, biogas, min-hydro, etc.);
- district energy surveys.

Overall, the job of the District Energy Development Officer can be described as being of a planning and coordination nature, with the officer having to be familiar with all energy forms, but particularly biomass energy.

It is recognised by MOERD that suitable training programmes will be required to develop the broad energy planning, programme formulation, coordination, and implementation capability on the part of these officers.

The job is not seen, in the main, as a technical position although clearly there is a technical component present. Rather, as noted above, the priority is planning and coordination across all energy forms, among all concerned Ministries, NGO's and Donor funded projects. The technical aspects of district level energy programmes and projects will be addressed by suitable trained, specialist MOERD officers, based either at the District Energy Centres (6 presently in operation) or at MOERD Headquarters.

Given these characteristics of the job, it is believed that the District Energy Development Officer could be drawn from the Government of Kenya's Planning Scheme of Service, or the Forestry Scheme of Service or the Agriculture Scheme of Services.

3.2

The MOERD will provide policy and technical guidelines to the districts and will provide material support in the form of personnel, offices, transportation and operational support for the District Energy Development Offices and for the Energy Agroforestry Centres (EACs).

The MOERD will provide assistance to the DDC in the preparation of the District Energy Plans.

The MOERD will provide technical assistance to the districts through the Planning Division and the District Energy Development Officer (DEDO) and through the Biomass Technology Division, which will be responsible for assisting the districts set up and run their EACs.

The MOERD will make money available to other Ministries to carry out energy related projects in the districts.

Through the Energy Development Fund and through the Project Steering Committee Managed Funds the MOERD will make money available to other projects, agencies or groups.

The District Energy Plan, prepared by the district, will provide the guidelines for the implementation by the district of the MOERD district programmes.

The District Energy Plans will also be used as inputs in formulating the National Energy Policy.

3.3

Central to the District Energy Strategy of the Ministry of Energy and Regional Development is the development of a detailed District Energy Plan, for each district.

Preliminary District Energy Plans, based on a limited data base, are currently (December 1987) being prepared for inclusion into the forthcoming District Development Plans which are also currently being prepared as part of the forthcoming Five Year National Development Plan.

However, more detailed District Energy Plans are required, based on a more comprehensive data base and data analysis.

In outline, the wood energy component of a District Development Plan will:

a) Undertake baseline data surveys to establish the current situation with respect to :

- i) Woody biomass stocks in the District;
- ii) Amount of woodfuel and charcoal being consumed in the District, by end use;
- iii) Sources of wood energy, within and from outside the District
- iv) Extent of tree woody biomass planting, including agroforestry currently underway in the District;
- v) Cultural and socio-economic determinants of behavior with respect to trees/wood energy, currently prevailing within the District;
- vi) Economic factors regarding current purchase/ sales of wood energy as well as fuel substitution determinants (crop residues for wood energy; charcoal for kuni; paraffin for wood energy; lpg or electricity for wood energy);
- vii) Current level of adoption of fuel efficient wood stoves and charcoal jikos.

b) Establish trends in and develop projections for the future pattern of wood energy use in the District, including consideration of:

- i) Impact of demographic and socio-economic factors, including population growth, land tenure changes, land use changes, pricing policies, urbanisation and growing affluence, fuel substitution, trends in the district on wood energy use;
- ii) Future impact of existing and proposed agroforestry/ wood energy production efforts in the District;
- iii) Future impact of fuel efficient wood stoves and jikos;
- iv) Estimate of future requirements for wood energy, taking into account the above with a 20 year time horizon.

c) Identify wood energy supply/demand imbalance problems and related supply/demand constraints of a technical, socio-economic and cultural nature, both current and future.

d) Formulate measures which are District specific and appropriate, to address these problems and constraints, including recommendations for specific programmes and projects.

e) Ensure that the process of formulating the District Energy Plan is a interactive and collaborative one, involving the District Officials, the Energy/Agroforestry Centre staff, local NGO's including women's and church groups, cooperatives, agricultural organizations, etc. Action Research methods should be employed, to ensure that joint learning on the part of all key actor's takes place, and that the final Energy Plan thereby is both widely understood and supported.

3.4 The District Energy Agroforestry Programmes

The Energy Agroforestry programmes will be coordinated by the DEDO. Where an Energy Agroforestry Centre (EAC) exists, the DEDO

will coordinate with the EAC Manager. If a DEDO has not been appointed the district energy and energy related projects will fall under the responsibility of the DDO.

It is the policy of the MOERD to have an EAC in all districts where the districts and the MOERD agree that one is necessary. The timing will depend on the availability of money and trained people and the urgency of district needs relative to other districts.

The decision as to whether an EAC is required will be first and foremost a district decision, made with the assistance of the Biomass Technology Division of the MOERD. The content of the EAC work plans will depend on the District Energy Plans.

The work plans of these existing EACs have at present been prepared in the absence of a District Energy Plan. As soon as these district plans are prepared, the EACs will begin to alter their plans to conform to the district plans.

3.5 The Role of the Energy Agroforestry Centres

The Energy Agroforestry Centres (EACs) will have the following functions:

- (i) Training in agroforestry of existing extension staff in government and NGOs and farmers participating in FTC course.
- (ii) Demonstration of agroforestry technologies suitable for the relevant farming systems in the region to support the above mentioned training.
- (iii) Seed production, collection, storage, distribution and improvement if this is insufficiently undertaken by other appropriate organizations or private farmers.
- (iv) Limited applied research under the direction of the national research institutions.
- (v) Demonstration of energy conservation and renewable energy technologies as far as they are appropriate to the region.
- (vi) Provision of facilities to NGOs involved in agroforestry.
- (vii) Other activities deemed appropriate by the DDC and included in the District Energy Plan.

The layout, staff, facilities and work plans at the centres will result from a detailed study of the farming systems and wood energy supply and conservation needs in the district.

Where possible, this information will be derived from the

District Energy Plan and the studies carried out by projects in or relevant to the district, such as KWDP and the Baringo Fodder and Fuelwood Project.

There should be close integration of EAC activities with district energy related activities. This will be achieved by assigning staff as centre managers who are senior enough and sufficiently well trained to participate in the proposed agroforestry and energy sub-committee of the DDC. The EAC managers will be at the same level of seniority as the District Energy Officers, who will also have a large measure of responsibility for integration of EAC and district energy activities.

3.5.1 Personnel and Facilities of the EAC's

The EAC's will have a relatively large staff to carry out the activities assigned to them. The senior staff at an EAC will include a Centre Manager, Research/Training TA, Seed Programme/Demonstration TA, Energy Conservation Technologies TA, and Jiko/Biogas Artisan. In addition there will be a secretary, clerk/store keeper, driver and casual labourer.

The EAC district personnel will be supported by the Headquarters staff of the Biomass Technology Division in Nairobi, consisting of the Head of the Division, a Deputy Head, who will be directly responsible for the EACs, and under a Wood Energy Supply Officer and Agroforestry Training and Extension Officer, an Agroforestry Research Officer, an ASAL Projects Officer, a Seeds Programme Officer, a District Energy Task Force Officer, a Commercial Woodfuel Officer, and a Data Analysis Officer.

Under the necessary buildings, the most important requirement of the EACs is good transportation in order to enable the EAC staff carry out their most important tasks of training, demonstration, and coordination, covering all of the districts.

3.5.2 Phasing of EACs into MOERD

The EACs were considered as important resource centres to develop and test technical, agroforestry packages for the broad ecological zones they represent and as training and demonstration loci for these packages and other energy forms. The District Focus for Development, however, dictates that their primary focus should be the districts in which they are located. This, however, does not preclude them from serving other districts as demonstration centres in the short run.

The establishment of new EACs and the running of the existing centres require a level of financing that puts heavy budgetary burden on MOERD at the present moment. It is therefore, necessary to introduce the following phased transfer of EACs over a three to four year period:

a) Existing EAC's

- Donor financing will be required for purchase of vehicle and minimal infrastructure development in 1988 and costs after that being borne by MOERD.
- Recurrent budget is borne by MOERD.

b) New EAC's

- Donor financing is required for purchase of vehicle(s) as well as infrastructural development.
- Recurrent budget assistance by donors is 100%, 75% and 50% over the three years and complete absorption there after by MOERD.

In order to minimize the budgetary burden to MOERD, a scaled down manning is suggested (3.1) above.

3.6 The Role of the Donors

The task of the MOERD of building up an organisation which can support the district energy programmes is large. The donors can assist by providing technical assistance and training and by helping with infrastructure development and operating costs.

The districts require District Energy Offices and EACs. Part of the process of setting up functioning EACs will probably include establishing a KWDP type presence in the district for approximately a four year period. Apart from exceptional circumstances, the KWDP type presence should be temporary and short term. Therefore donor projects would most usefully be seen as projects to set up and support EAC's.

The MOERD is very concerned that the donor project activities and functions, including those of the KWDP, ultimately be absorbed into the GOK agencies. Since the District Offices and the EACs will be permanent parts of the district government apparatus, the MOERD would like to see these as the basis around which the donor projects are built rather than around projects which will have only a temporary presence in the districts.

Therefore any support for offices and buildings should be towards what will eventually be EAC or DEDO facilities. These facilities may be used in the beginning by projects but it is felt that if it is clearly understood that these are or will be GOK offices this will help with the eventual transfer from project facilities to GOK facilities.

3.7. The Role of KWDP

The objectives of the KWDP should remain essentially as they were

in 1983. In brief these were:

- to develop replicable methodologies for fuelwood planning with a district focus;
- to develop replicable methodologies and locally feasible agroforestry recommendations;
- verify feasibility of agroforestry recommendations and the effectiveness of extension approaches/methods which increase fuelwood production and decrease consumption;
- to assist in the development of Kenyan manpower capacity to prepare, execute and monitor district fuelwood projects;
- develop a low cost, replicable monitoring methodology at district and national level.

The MOERD feels that these objectives should be operationalised more specifically to emphasize transferability to GOK.

The KWDP should carry out district oriented R & D work on site-specific agroforestry solutions to wood energy and other agroforestry problems. It should develop and test solutions including technologies and extension methods and transfer them to the EACs which can guarantee a permanent transfer to the agencies directly involved in farmer extension work.

The MOERD is the lead and coordinating agency for agroforestry development in the country. The KWDP should be a general agroforestry applied research and development project (or projects) to support the needs of the MOERD and other relevant agencies. The MOERD expects that KWDP will continue to develop expertise in the areas of district resource analysis, woodfuel supply and demand management, including development and transfer of methods for monitoring MOERD agroforestry woodfuel supply and demand management programmes, development and transfer of extension methods relating to woodfuel supply and demand, and training of MOERD staff.

The KWDP should maintain its original approach of phasing in to a district for one year, operating for two years and phasing out in one year for a total KWDP presence in the district of four years. This will be the goal. This may vary as circumstances require, but in general a long term presence for KWDP in any one district is not foreseen. There should be a transfer of the KWDP functions to the GOK staff in the district within the four year period.

It is therefore foreseen that KWDP would at most at any one time be phasing in to one district, operating in two districts and phasing out of one district. This capability should form the operational ceiling for funding levels.

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It is therefore foreseen that KWDP would at most at any one time be phasing in to one district, operating in two districts and phasing out of one district. This capability should form the operational ceiling for funding levels.

It is the MOERD position that, in the normalized legal status brought about by the local incorporation of the Beijer Institute in Kenya, that the Beijer Institute be recognized as a non-profit contractor of services through KWDP to the MOERD.

KWDP services provided to MOERD will be based on a tri-partite agreement between MOERD, the Beijer Institute and the financing (donor) agency. This would operate as follows:

i MOERD and The Beijer Institute would draw up a specification and agreement on the services which The Beijer Institute through KWDP is to provide and their costs. This is signed by both parties.

ii A contract is signed between The Beijer Institute and the financing agency to provide the services signed in (i) above. The agreement forms an appendix to the contract which specifies payment methods to The Beijer Institute.

In this approach, the relationships between the parties is clear. The question of a KWDP Board does not arise. The Beijer Institute/KWDP is free to organise itself as it thinks fit to perform its contracted functions.

3.9

Most of the institutional recommendations about the organisation of the MOERD to facilitate direct intervention made in the, REPORT ON JOINT ENERGY MISSION MARCH APRIL 1987, are already in place. The salient ones with respect to this mission's work are the strengthening of the Biomass Division, district energy planning and incorporation of donor funds into the forward budgeting process.

In the view of this JEFM, the district programme for the next three years will be heavily developmental as the MOERD, Donors, DDC's and communities will interact defining new modalities of work, training, prioritising and finally implementing projects on the ground. To support such a programme there is need for policy coordination at the national level, programme supervision and management at the district level and, of course, energy and energy related outputs at the project level.

National Level.

MOERD already has the structure within which to conduct the projects identified. The Biomass Technology Division, the Planning Division and the Office of the Deputy Secretary Development will be central in programme development over the next three years.

The JEFM sees a need for systematic policy and programme coordination of the many donors who are likely to be active over the next three years. Consequently the mission recommends that:-

1. A SINGLE STEERING COMMITTEE BE FORMED BY THE MOERD TO SUPERVISE POLICY AND COORDINATE ALL PROJECTS. THIS WILL AVOID THE PAST PROBLEMS WHERE DIFFERENT PROJECTS HAVE OPERATED IN MANY DIFFERENT WAYS. THE COMMITTEE WILL BE CHAIRED BY DS DEVELOPMENT.

2. THE BIOMASS TECHNOLOGY DIVISION AND THE PLANNING DIVISION AND THE OFFICE OF THE D/S DEVELOPMENT BE THE REGULAR MINISTRY REPRESENTATIVES IN THIS COMMITTEE.

3. THE STEERING COMMITTEE SHOULD HAVE THE POWER TO CO-OPT FROM THE DISTRICTS WHERE THERE WILL BE PROGRAMME REPRESENTATIVES OF THE RELEVANT DDC AS NEEDED. THE DDC'S CAN SEND THEIR CHAIRMAN (DC), SECRETARY (DDO) OR THE DISTRICT ENERGY DEVELOPMENT OFFICERS.

4. SINCE THERE IS CONFUSION AT MANY DISTRICT LEVELS ABOUT THE DIRECT FUNDED RESEARCH AND DEVELOPMENT PROJECTS, DURING THE FIRST STEERING COMMITTEE MEETING IT SHOULD INTER ALIA:

A. INVITE REPRESENTATIVES OF THE DDC'S TO BRIEF THEM ON THE R&D COMPONENTS WHICH ARE NATIONAL AND THEREFORE MINISTRY'S RESPONSIBILITY.

B. THE RESPONSIBILITIES OF DDC'S IN PLANNING AND IMPLEMENTING ENERGY AND ENERGY RELATED PROJECTS IN THEIR DISTRICTS

C. THE MODALITIES OF COORDINATION AND REPORTING BOTH TO MINISTRY AND DONORS DEPENDING ON TYPE OF PROJECT FUNDING. FIGURE 2.1 OUTLINES THE ORGANISATIONAL SCHEME AND DEDO ACTIVITY AT EACH LEVEL.

District Level.

The most urgent business at the district level is for the DDC's to assist in the production of District Energy Plans and to coordinate energy and energy related activities in the districts. These matters will be greatly assisted by the posting of the District Energy Development Officers who are discussed elsewhere in the report.

The mission therefore recommends that:-

1. IN THE FIVE DISTRICTS WHICH WILL INITIALLY GET DEDO'S THE DDC'S FORM A DISTRICT ENERGY SUBCOMMITTEE TO SUPERVISE ENERGY AND ENERGY RELATED PROJECTS AND PROGRAMMES.

2. AT A MINIMUM THE COMMITTEE BE FORMED OF THE DISTRICT MINISTERIAL OFFICERS FOR THE LINE MINISTRIES WHO HAVE SIGNED THE MOU AND ANY OTHER MINISTRIES WITH SIGNIFICANT INPUTS INTO ENERGY RELATED ISSUES E.G. WATER DEVELOPMENT IN ASALS. WHERE NGOS HAVE PROGRAMMES THEY SHOULD BE CO-OPTED.

3. THE DISTRICT ENERGY COMMITTEES BE CHAIRED BY THE DC WITH

EITHER THE DISTRICT ENERGY OFFICER OR THE DISTRICT DEVELOPMENT OFFICER ACTING AS SECRETARY.

4. MANAGERS OF R&D PROJECTS BE CO-OPTED MEMBERS OF THE DISTRICT ENERGY COMMITTEES WHATEVER THE MODALITY OF FUNDING FOR THE PROJECTS.

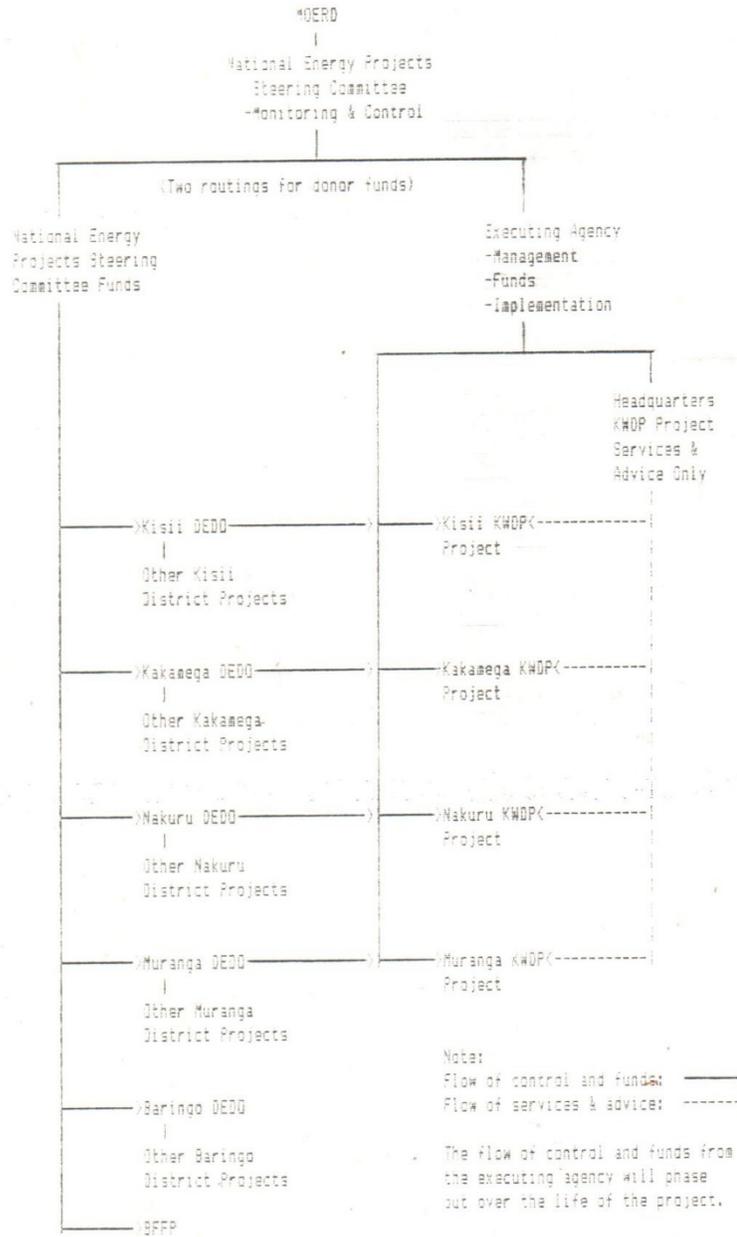
5. PROJECT ACTIVITIES BE DISCUSSED WITH THE DISTRICT ENERGY COMMITTEES AND THE LINE MINISTRIES.

Project Level.

At the project level there will be activities which are of R&D nature for particular districts or general regional application. It is important that the dictates of R&D be understood by the DDC's so that they do not countermand them in the context of DDC requirements. This can only be achieved by serious discussions by projects with the line ministries, who are the MOERD extension arms at the project design stage. IT IS RECOMMENDED THAT THE MODALITIES OF WHAT PACKAGES AND HOW THEY ARE TO BE FITTED INTO LINE MINISTRIES MUST BE PART OF THE DESIGN OF R&D PROJECTS.

The mission is particularly interested in the anchoring of energy and energy related activities in the particular communities. THUS THE JEFM RECOMMEND THAT IN THE DESIGN OF ENERGY AND ENERGY RELATED PROJECTS AND PROGRAMMES SPECIFIC DETAILS OF HOW ACTIVITIES ARE TO BE CONTINUED BY THE VARIOUS COMMUNITIES MUST BE SPECIFIED OVER AND ABOVE THE SPECIFICATION OF RELATIONSHIPS BETWEEN PROJECTS AND LINE MINISTRIES.

Organisation Chart Showing the Responsibilities and Flow of Funds to KWDP and Other District Energy Projects



methodologies of line ministries.

4.6. Research in woody biomass supply enhancement should, of necessity, be defined on the basis of resolving location-specific problems both in the sense of ecological and socio-cultural as well as existing and future farming/agricultural practices. Some useful insights into the contextual issues have been provided by MOERD field activities, namely, KWDP in Kisii and Kakamega and Baringo Fuel and Fodder Project. Similar locational problem insights on which research agenda can be defined are also available from the field activities of the Soil Conservation Programme, the Rural Afforestation and Extension Services and the Kenya Range Management Unit.

4.7. The report of the Joint Energy Mission of March/April recommended the formulation of a National Agroforestry Strategy which would, among others, include an agroforestry research strategy. Although this task will be undertaken in due course, certain elements of the research strategy with a district or location focus could tentatively be outlined. However, the elements of a research strategy will require an identification of existing practices and problem areas. Although it is not exhaustive, the following areas where research can/should be focused can be identified:

- a) high potential/high population density areas where there is a tradition of integration of woody biomass with energy content into farming system;
- b) medium to high potential, high population density areas with little or no tradition of integration of woody biomass to increase agricultural production; and
- c) low potential, low population density silvi-pastoral areas with little or no tradition of integration of woody biomass into agricultural systems.

4.8. Research efforts in high potential/high population density areas where there is a tradition of integration of woody biomass with energy content into existing and future farming/agricultural systems should address themselves to:

- a) development of silvi-cultural and management packages of woody biomass already integrated;
- b) broadening the species base of woody biomass integration through fast screening of indigenous and exotic species adaptable for the various end-users including energy; and
- d) development of agroforestry package for the newly introduced species.

4.9. In the medium to high potential high population areas, with little or no tradition of integration of woody biomass in the

agricultural/farming practices, research efforts may have to be oriented towards watershed management and integration of woody biomass to increase fodder, fruit and tree production. Research areas may specifically be related to:

- a) development and broadening species for enrichment plantation;
- b) development of species base that would maintain/increase woodfuel and timber supply; and
- c) development of management package in support of (a) and (b) above.

4.10. Research efforts in arid and semi-arid lands have to be defined with fodder as the primary focus. The nature of these areas and the existing socio-economic and cultural practices that obtain require that research efforts be geared to:

- a) development of management schemes that takes into account current and future land use;
- b) an assessment of native fodder trees and their systematic integration through enrichments planting; and
- c) development of new technical packages that would increase the carrying capacity of the arid and semi-arid lands including introduction of fodder tree crops.

4.11. Some research effort in assessing the performance of exotic and indigenous species for environmental protection, soil fertility improvement, fodder production, fruit production and wood production is being carried out by the national research institutions, the EAC's and non-governmental institutions more or less on agro-ecological basis. Further, limited research effort is underway in developing management techniques to enhance woody biomass production. However, the research agenda is primarily set by the individual institutions and there is not only a danger of duplication but also that of questionable quality of work because of the dearth of trained researchers in some of these institutions. It is, therefore, imperative that the roles of the various research institutions is defined and a coordination mechanism introduced.

4.12. The role of the Ministry of Research, Science and Technology (MORST) can be conceived as formulation of national research policy, setting up of priority research areas and programmes and facilitating their implementation. The role of national research institutes, namely, KARI, KEFRI and the Kenya Range Management Unit with respect to supporting the efforts of MOERD would be:

- a) preparation of guidelines for the collection of seeds of indigenous forest, fruit and fodder trees;

- b) bulk importation of seeds of forest, fruit, fodder and soil fertility improving species;
- c) fast screening and provenance trials of same for the broad ecological zones;
- d) design of experimental lay-out for Research Stations and EACs as well as strategically located experimental plots;
- e) design of crop management trials including, thinning, pruning, coppice management, etc.; and
- f) training of EAC and other MOERD staff in research management, data collection and analysis.

4.13. The research role of the MOERD programmes (BFFP, KWDP, SEP and Agroforestry/Energy Centres) will be of on-station and on-farm nature under the guidance of the national research institutions. This will include:

- a) species screening and provenance trials (both indigenous and exotics) at district and subdistrict levels;
- b) on-station performance trials of the most promising multi-purpose species;
- c) on-station espacement, intercropping, other configuration trials as well as other management techniques such as pruning, thinning and coppice management;
- d) on-farm performance trials of the most promising species and development of management techniques on representatives farms in the district; and
- e) systematic data collection and analysis in the form it can be used by end-users.

An area that needs special attention is that of rehabilitation arid and semi arid lands. The Baringo Fuel and Fodder Project has a number of promising fodder tree species that have impact outside its geographical location. It has developed a technically feasible range rehabilitation approach. The research capacity of the Project is, however, very limited. It is, therefore, necessary more research efforts should be put in the following areas:

- a) environmental monitoring including vegetation survey;
- b) fodder and pasture development; and
- c) applied socio-economic research.

The recruitment of a full-time fodder specialist is recommended. It is further recommended that an institutional linkage be

established with Egerton University and/or Moi University and funds are made available to carry out priority arid and semi arid research programmes.

4.14. Research and development in other renewable technologies as well as energy conservation technologies is being carried out by SEP and technical institutes under the guidance of the MOERD. The Ministry's role is seen as facilitative through the provision of requisite funds.

4.15. It is clear that MOERD has a coordinating and facilitating role the implementation of research programmes with energy content. For MOERD to have an effective coordinating and facilitating role, the following conditions must be obtained:

- a) creation of a mechanism that would allow MOERD to participate and influence the research agenda. This should be an operating Research Committee of the Ministry bringing together all key divisions in MOERD to make policy;
- b) establishment of a small unit to coordinate research efforts woody biomass development and energy conservation; and
- c) creation of fund that could be channeled to research institutions to carry out research in energy and energy-related areas.

4.16. Applied research or experimentation in energy and energy-related areas in general and woody biomass enhancement in particular will be guided by the research agenda of MORST which reflects MOERD priorities. Further, experimental designs, data collection and analysis will be supervised by relevant national research institutions for which funds will be made available from the Project Steering Committee managed funds. The research officer in MOERD will play an important facilitative role. It is important to stress that research/experimentation programmes content be defined on the basis of eventual transfer of results implementing agencies of GoK with a minimal of incremental cost. Consequently, KWDP and other projects must always be "content" and "cash" conscious when defining its programme so that on transfer, the results of such exercises can easily marry with MOERD institutional and financial capacity.

CHAPTER V
TRAINING FOR ACTION

5.1. Mandate of MOERD

The MOERD is the lead and coordinating agency for agroforestry development in the country. Its major role is to formulate policies and to allocate resources that will stimulate the development of indigenous energy resources and promote energy conservation. The Ministry will primarily make use of other organizations for the implementation of the formulated policies, strategies and programmes.

At the district level, the MOERD will be represented by the DEDO the Energy Agroforestry Centre. Through these institutions, the Ministry will assist the DDC's in planning, coordination, implementation and monitoring of wood-energy and energy-related programmes. The MOERD will provide technical assistance to the DDC's, for example, in training other organisations in agroforestry and extension techniques related to agroforestry.

5.2. MOERD and Extension

In line with its primarily coordinating role, the MOERD will not have its own extension network. Instead, it intends, to rely on other organizations at district level to convey relevant agroforestry messages and practices to the household level. With relevant line ministries, a MOU will be signed to formalize the level and content of cooperation in this respect. Apart from MOERD, the following ministries are involved in the agreement: Ministry of Agriculture, Ministry of Livestock Development and the Ministry of Environment and Natural Resources.

The MOERD will facilitate the activities and responsibilities of the line ministries in agroforestry extension by creating, in agreement with Treasury, of a vote item "Extension Services" in the MOERD budget. The Ministries at district level are hampered in their operations by a lack of mobility.

By facilitating their transport, hence creating circumstances for increased efficiency in field operations, the ministries will be in a better position to incorporate agroforestry activities into their own schedules.

KWDP is involved in agroforestry extension in Kisii and Kakamega districts, but with the prime aim to design and test extension methods and techniques that will prove useful to other organizations in the district. So far, research has concentrated on the effectiveness of strategies, with very interesting and promising results. Little attention has been directed to questions of cost-effectiveness or whether line ministries can afford or integrate KWDP extension techniques, given their present system and resources.

As a project under the MOERD, its concern should be to assist the ministry in developing extension packages that are relevant to district conditions (technical as well as socio-cultural) and suitable to prevailing extension operations of line ministries.

5.3. Training for Extension

At present, six EAC are operational, five of them headed by a Centre Manager. Apart from doing research, their main functions are to demonstrate agroforestry techniques, to train on energy conservation and to distribute seedlings. All activities take place at the Centres or nearby FTC's.

With the planned installation of a DEDO in each district, and the proposed EAC staffing (see 3.5.1), the MOERD will be in a position to identify and address agroforestry and extension training needs in the district. Over the years 1988/89-1990/91, the MOERD plans to have 30 DEDO's, 30 AEDO's, 12 Centre Managers and 72 Technical Assistants posted in the districts.

It is proposed that the DEDO in consultation with governmental and non-governmental organizations identifies training needs and coordinates training activities.

The EAC Manager and his technical staff will, in collaboration with participating organizations, plan, organize and conduct the training courses in agroforestry and extension training. Other resource persons or organizations can be contracted to provide technical input for the courses if this knowledge is lacking in EAC.

In this way, the MOERD at district level will be the focal point for planning and coordination of agroforestry and extension training, and EAC staff at the heart of all training activities.

In the districts, know-how and experience with regard to agroforestry techniques and extension methods are present in various projects, GoK's and NGO's. It will be the task of MOERD to assess and consolidate and mobilize this know-how and experience and channel it through training and publications to front line extension workers.

5.4. Mobile Training Team

For the MOERD to take up its planning and coordinating role in training for agroforestry extension, it is necessary that its district staff are properly trained in planning, extension, training and agroforestry. The responsibility for this training lies with the Planning and Biomass Technical Division of MOERD. At present, one post for a training officer has been approved in BTD, but has not yet been filled.

In view of the need for fast and effective input of MOERD to energy and energy related programmes at district level, it is

proposed that concurrent with the installation of DEDO's and Technical Assistants in the districts, a strong central Training Team is created around the BTM Training Officer. The aim is to develop, through the training of the district MOERD staff, planning and training capacity at district level. It is foreseen that besides the BTM Training Officer, two additional professionals will be needed to man the Mobile Training Team (MTT). The Team should be composed of professional expertise to represent the following knowledge areas:

- agroforestry
- training/extension
- curriculum development
- extension support material development
- extension monitoring and evaluation

The MTT will operate for a period of three years. After this period, it is expected that enough MOERD training capacity will have been developed to enable inter-district training conducted by MOERD district staff. The BTM Training Officer will remain in place for coordination and stimulation of inter-district training activities.

Since it is foreseen that the training on energy planning/technology project formulation and management will be conducted by specialized agencies in Kenya, the main training focus of the MTT will be aimed at EAC staff, e.g. the Centre Managers and TA's, Research, Training, demonstration and Seed Programme. The TOR for the Mobile Training Team are contained in Table 5.1.

5.5. Training System

The training system for extension will have to be organized in such a way that the trainees (Centre Managers and TA's) will be able to independently plan, organize and conduct training activities within period of 2 years, and take over MTT's role in 3 years. To accomplish this, the following training system is suggested:

Year 1

1. The MTT organizes and partly conducts a training course on agroforestry/energy related issues and extension methods, the content of which is laid in a syllabus.
2. The newly appointed Centre Managers and TA's are seconded for a period of 4 weeks to relevant agencies in the districts, to get acquainted with the district specific ecological and socio-cultural characteristics, and district specific agroforestry/extension techniques. The MTT organizes and supervises these secondments.
3. The MTT organizes and conducts a training course on Training

Methods and Techniques, and the Development of Training and Extension Materials.

4. The MTT assists the DEDO and EAC staff in identifying district training needs in agroforestry and extension.

Year 2

5. The MTT assists the MOERD district staff in planning and organizing district training courses.

6. The MTT advises the EAC staff in developing training materials for the training courses.

7. The EAC staff conducts district training courses under close supervision of MTT.

8. The MTT assists EAC staff in the development of district relevant extension materials.

Year 3

9. MOERD district staff will assist the MTT in conducting training courses for newly appointed MOERD staff in other districts.

Year 4

10. Trained MOERD district staff will take over MTT's role in training new MOERD staff at district level.

Although training courses at district level have to be based on specific district needs, the following broad categories of training activities can be distinguished:

- short courses on agroforestry/energy related issues for district officials, departmental heads of line ministries and heads of NGO's.
- training of trainers of GOK's and NGO's.
- training of extension staff of GOK's and NGO's.
- short courses on agroforestry/energy related issues for chiefs in the district.
- integration of agroforestry into FTC organized courses.
- demonstration of agroforestry/wood conservation techniques to extension services, groups, schools and chiefs.

In planning training courses for district agencies, special attention must be given to prevailing extension practices of those agencies. The Ministries of Agriculture and Livestock Development's extension and training practice is based on a carefully planned and mechanical Training and Visit system. The MOERD organized training should not only accommodate the T & V training system, but also provide content and information packages that can be effectively integrated into the existing

extension practice of those ministries.

3.6. The Role of MOERD Projects in Training for Extension

The MOERD has made it clear that also in the field of training for agroforestry extension, she regards herself as the lead and responsible agency in the districts.

The response to KWDP's plans to venture into district training activities MOERD stipulated clearly that:

- KWDP should not evolve into a training organization.
- KWDP will play a crucial shorter term role in training Energy Agroforestry Centre staff.
- KWDP should develop and test solutions including technologies and extension methods and transfer them to the EAC's, and line ministries which can guarantee a permanent transfer to the agencies directly involved in farmer extension work. (see Annexe 2).

This leaves little doubt with respect to the role KWDP, and similar R & D projects, are to play in training for extension according to the Ministry. Research data and developed methods are to be channeled to district extension agencies through MOERD, and KWDP training should primarily focus on MOERD staff (EAC and DEDO).

The training system as explained under 5 provides the structure for integrating data and methods generated by research projects into an overall agroforestry/extension training strategy. The research projects will be called upon to provide training manpower and technical inputs for the training of MOERD staff and district training courses, or will be requested to organize and conduct training courses on behalf of the Ministry.

The MOERD Draft Policy Report also stipulates that the major function of the KWDP in the districts is to develop acceptable and feasible methods, which is in conformity with the original T.O.R. of KWDP. Since the MOERD will rely on the extension staff of the line ministries to carry the agroforestry message to the farmers, it implies that the methods should organically fit into the extension system and practice of those ministries. From a logical point of view, it follows that the research into extension methods should take the consumers situation as its bottom line, and that appropriate methods should be planned and tested in close cooperation with the ministries. This certainly will enhance the feasibility and acceptance of those developed methods. The KWDP project proposals for Nakuru and Murang'a should follow this approach to extension research.

The situation to date in Kisii and Kakamega gives a different picture. Extension methods are developed and tested in isolation from the line ministries in the districts, and doubts can be expressed whether these methods are feasible in relation to the ministries extension practices, and can be afforded by the same

ministries considering their limited resources. The Kisii and Kakamega Research Model implies the need for quite considerable numbers of extension staff for the implementation and consequent testing of extension methods. This, not only has consequences for the light of the research budget, but also for the phasing out of the project from a personnel management point of view.

The alternative of implementing and testing methods through line ministries, not only minimize research staff requirements, but also ensures greater feasibility of research results.

It is against this background that the JEFM feels the need for, and urgently recommends an evaluation of Kisii and Kakamega extension research strategies and to take stock of the research results to date and to recommend procedures that will result in the smooth transfer of accumulated research data to district extension agencies.

5.7. Training for District Planning, Coordination and Management

The MOERD will be represented at district level by the DEDO and his staff (or DDO), EAC staff and DEPTAFin the short term. In broad terms, the tasks of the MOERD representation consists of:

- planning and coordination
- training
- facilitating district energy/agroforestry programmes

The bulk of the planning and coordination of district energy/agroforestry programmes will be the responsibility of the DEDO office and the Centre Managers. In absence of a DEDO, the energy planning task falls upon the DDO.

The MOERD plans to recruit for the DEDO position young graduates with background in planning mainly. Taking this background, their experience with the subject matter and seniority of the post into consideration, an intensive training programme is needed to prepare them for their job. Looking at the tasks the Ministry envisages them to perform, the following areas of training seem necessary:

- general background in agroforestry/energy related issues
- energy policy and technology for Kenya's District Energy Strategy
- project planning and management
- general planning, organizational, budgeting, monitoring, evaluation, report preparation skills
- district focus policy
- effective communication in management
- district level information gathering
- word processing; lotus budget spread sheet

Most of this training can be grouped into one induction course

running for 6 months. It is however, preferable to split the course into two parts over a period of 2 years.

The Centre Managers will need similar background training in Agroforestry, Energy Policy/Technology, Management, Information Gathering and Computer skills. In addition they will need to know Extension Methods and Techniques, and possess Training Skills.

The DDO's will be responsible for energy planning in those districts where there is no DEDO. Considering their heavy workload, their training will have to be limited to the minimum. A 2 days seminar focussing on energy policy and technology and their role in the annual energy planning/budgeting exercise is suggested.

Training courses enumerated above, can be organized by the Kenya Institute of Administration (KIA) in Kabete. Courses on Planning and Management, District Focus, Effective Communication in Management already form part of the regular training activities the Institute.

5.8. Training of MOERD Headquarters Staff

The district energy programmes will need effective professional support in planning, research and evaluation from MOERD Headquarters. The DEDO office falls under the responsibility of the Planning Division and the EA Centres under that of the Biomass Technical Division. The staffing of these Divisions is to date minimal. The BT Division is scheduled to consist of 15 professionals. Only five of the posts are being filled. Five more posts are approved but not yet filled, and five post await approval.

In the light of MOERD projection for establishing energy programmes in the districts over the next five years, it is mandatory that the vacant headquarters posts need to be filled with suitable candidates immediately.

Training for the newly appointed as well as the sitting staff will be required. This will be general as well as specific training. It is suggested that all BTD staff follows the courses on Energy Policy/Technology and Agroforestry/Energy related issues.

The JEFM finds it difficult at the moment to propose more specific training courses for the professionals, for two reasons. First, it is extremely difficult to define training needs for people who have not been appointed, not knowing their professional background and experience. Secondly, for the remaining filled posts, the MOERD did not provide the JEFM with specific information that would enable the identification of appropriate training courses. Therefore, the JEFM acknowledges that there is a need for training at headquarter level, proposes to reserve funds for this training with the understanding that

T.O.R. Mobile Training Team

Overall Task:

To create at district level MOERD capacity to conduct training and demonstration activities and develop information materials on agroforestry/extension techniques.

Activities.

1. Identify at national and district level research and training resources on agroforestry/extension techniques.
2. Organize and coordinate training courses on agroforestry/energy related issues and extension methods for MOERD district staff.
3. Identify at district level suitable agencies for hosting AEC staff on secondment, to acquaint them with district specific conditions and agroforestry/extension techniques.
4. Organize and conduct training courses on Training methods and Techniques and the Development of Training and Extension Materials for EAC staff.
5. Compile syllabi and guides for above training courses.
6. Assist MOERD district staff in identifying district training needs and planning of training courses.
7. Assess EAC staff in the development of training materials for training courses and information/extension materials for district energy programmes.
8. Coach EAC staff in conducting training courses and demonstration activities.

Staffing:

1. Training officer - BTD, GOK
2. Trainer/extensionist (1 expatriate)
3. Education/information specialist (1 Kenyan)

Duration: 3 years

CHAPTER VI
INDICATIVE BUDGET

6.1 In this section details of the budget to support the MOERD initiative are laid out. The budget covers:

- (A) MOERD DISTRICT PLANNING ACTIVITIES
- (B) TRAINING
- (C) MOERD STEERING COMMITTEE MANAGED FUNDS
- (D) KWDP PROJECTS (KWDP)
- (E) BARINGO FUEL AND FODDER PROJECT (BFFP)

It should be noted that the KWDP budget is an indicative one not least because the JEFM could not discuss budget details against workplans for individual KWDP projects. The JEFM however, strongly argues that the overall proportionality of the budget should be retained.

6.2 Support for the District Energy Development Officer is proposed for 5 districts namely, Kakamega, Kisii, Nakuru, Muranga and Baringo. The footnotes accompanying the table provide information sources for data calculations and the assumption used in computation. The total cost is Kenyan Pound 629,000 of which KP 553,750 comes from donor funds.

Table 6.1 District Energy Development Officer 1)

	Kenyan Pounds					
	1988		1989		1990	
	Donor	GOK	Donor	GOK	Donor	GOK
<u>Kakamega</u>						
Development	27,500	-	-	-	-	-
Recurrent 2)3)	26,000	-	19,500	6,500	13,000	13,000
Micro Projects 4)	10,000	-	7,500	2,500	5,000	5,000
subtotal	63,500	-	27,000	9,000	18,000	18,000
<u>Kisii</u>						
Development	27,500	-	-	-	-	-
Recurrent 2)3)	26,000	-	19,500	6,500	13,000	13,000
Micro Projects 4)	10,000	-	7,500	2,500	5,000	5,000
subtotal	63,500	-	27,000	9,000	18,000	18,000
<u>Nakuru</u>						
Development	27,500	-	-	-	-	-

Recurrent 2)3)	26,000	-	19,500	6,500	13,000	13,000
Micro Projects 4)	10,000	-	7,500	2,500	5,000	5,000
subtotal	63,500		27,000	9,000	18,000	18,000

Muranga

Development	27,500	-	-	-	-	-
Recurrent 2)3)	26,000	-	19,500	6,500	13,000	13,000
Micro Projects 4)	10,000	-	7,500	2,500	5,000	5,000
subtotal	63,500		27,000	9,000	18,000	18,000

Baringo

Development	27,500	-	-	-	-	-
Recurrent 2)3)5)	31,000	-	23,250	7,250	15,500	15,500
Micro Projects 4)	10,000	-	7,500	2,500	5,000	5,000
subtotal	68,500		30,750	9,750	20,500	20,500

1) Figures are taken from: "District Energy Strategy, District Energy Officer Programme". In this budget only 5 of the 10 proposed in the first year are staffed. Unit costs for establishing a District Energy Development Officer for 3 year period are Kenyan Pound 145,500 of which KP 118,500 are donor and KP 27,000 are GOK. Thus to staff 30, in a rolling 3 year Programme will be KP 3,395,000. Recurrent costs are KP 780,000 under the same assumptions.

2) Discussions with DS Development ;first year 100 % donor funded, 2nd year 75% , 3rd year 50%.

3) Includes micro-computer and photocopier rather than typewriter and duplicator.

4) Micro Projects are funds administered by DEDO.

5) Because of the size of the district KP 5,000 per annum additional travel and vehicle maintenance.

6.3 External assistance is needed to help newly appointed DEDO's and facilitate the transfer and integration of donor projects into the EAC's and DEDO's. DS (Development) expressed a preference for the assistance to be in the form of consultancies. Local Consultants are preferred because of necessary knowledge of district focus; 6months/annum at KP 7,000/ month. The total cost of the consultancies donor funded, is KP 126,000 and is shown in Table 6.2.

	1988		1989		1990	
	Donor	GOK	Donor	GOK	Donor	GOK
Consultancies	42,000	-	42,000	-	42,000	-
Total period 1988-1990 :	KP 126,000					

6.4 To facilitate the work of the EAC, which are funded through the MOERD there is need to provide transport. Combi vehicles are provided to four districts and, in addition, motorcycles are provided to Baringo. Total cost is KP 163,000 of which KP 138,750 are met from donor funds.

Table 6.3 ENERGY AGROFORESTRY CENTRES TRANSPORT 1) 2)

	Kenyan Pound					
	1988		1989		1990	
	Donor	GOK	Donor	GOK	Donor	GOK
Kakamega						
Development 3)	22,500	-	-	-	-	-
Recurrent 4)	-	2,000	-	2,000	-	2,000
Kisii						
Development 3)	22,500	-	-	-	-	-
Recurrent 4)	-	2,000	-	2,000	-	2,000
Muranga						
Development 3)	22,500	-	-	-	-	-
Recurrent	2,000	-	1,500	500	1,000	1,000
Nakuru	-	-	-	-	-	-
Baringo						
Development 3)5)	32,500					
Recurrent	15,000		11,250	3,750	7,500	7,500
Total	117,000	4,000	12,750	8,250	8,500	12,500

1) EAC's are financed (for 4 years) from US counterpart shillings. Additional funding is needed for transportation.

2) KWDP vehicles should be transferred to EAC's as KWDP phases out.

3) Combi vehicles for transportation of goods and people.

4) Taken from MOERD Forward Budget.

5) Baringo costs include the purchase of 3 motorcycles

6.5 Baringo needs to establish an Energy/Agroforestry Centre so that it is in line with the other districts. Given the wide ranging ecology and travel distances in Baringo District, the budget also contains details of subcentres. Costs are derived from the experience of existing Energy Agroforestry Centres. Table 6.4 shows the total costs as KP 233,500.

Table 6.4 Baringo Energy/Agroforestry Centre 1)
Kenyan Pounds

	1988		1989		1990	
	Donor	GOK	Donor	GOK	Donor	GOK
Marigat Centre						
Development	50,000	-	-	-	-	-
Recurrent	32,000	-	24,000	8,000	16,000	16,000
Three Sub-centres						
Development	50,000	-	-	-	-	-
Recurrent	12,500	-	9,375	3,125	6,250	6,250
subtotal	144,500		33,375	11,125	22,250	22,250

Total period 1980-1990 is KP 233,500

1) Detailed costs except transport

6.6 The overall costs of the Training Budget are KP 2,372,863. All costs are donor supported. The training programme assumes MOERD staffing levels are met at district level. The budget is divided into 4 parts namely,

- (A) Strengthening the mobile training team
- (B) Training BTD Headquarter Staff
- (C) Training for District Energy Programme
- (D) Information Materials

Details of the assumptions behind the budget are contained in Annex 3. Table 6.5 contains a summary of the budget.

Table 6.4 Overall Training Budgets

	Kenya Pounds
(A) Strengthening the mobile training team	578,400
(B) Training BTD Headquarter Staff	30,000
(C) Training for District Energy Programme	1,504,463
(D) Information Materials	260,000
Total	2,372,863

6.7 Steering Committee Managed Funds to cover knowledge transfer, energy conservation, research, agricultural show publicity and human resource development fund are detailed in Table 6.6. These funds are essentially funds transferred from KWDP requests to

MOERD.

KWDP or other organisations can apply for these funds. The total fund is KP 573,300.

Table 6.6 Project Steering Committee Managed Funds

	Kenyan Pounds
KWDP knowledge transfer	97,900
Energy Conservation	115,250
Research	164,550
Agricultural Show Publicity	69,350
Human Resource Fund	126,250
Total	573,300

6.8 Details of the KWDP budget for Kakamega, Kisii, Muranga and Nakuru are contained in the accompanying volume. Given that the KWDP are being asked to reformulate workplans to support MOERD activity the budgets should be regarded as indicative. Table 6.6 contains the indicative budget amounting to KP 4,450,900.

The JEFM wishes to emphasize that this is a considerable programme to support KWDP professionals.

Table 6.7 Indicative KWDP Budget

	Kenyan Pounds
Kakamega	795,000
Kisii	762,000
Muranga	882,800
Nakuru	1,076,300
KWDP Nairobi	933,900
Total	4,450,900

6.9 Table 6.8 contains the costs of the existing budget and the suggested expansion of the Baringo Fuel and Fodder Project. The project is currently funded for 1988 and 1989. Additional funding

is requested for the 1990 and for the projected research. The total budget requested is KP 738,250. Details of the BFFP budget is contained in Annex 4.

Table 6.8 Baringo Fuel and Fodder 1)

	Kenyan Pounds					
	1988		1989		1990	
	Donor	GOK	Donor	GOK	Donor	GOK
Present budget	316,420	-	256,020	-	477,750	-
BFFP expansion 2)						
Development 3)	77,500	-	-	-	-	-
Recurrent	64,000	-	48,000	12,000	32,000	32,000
subtotal	136,500		48,000	12,000	509,750	32,000

Total cost period 1988-1990 KP 738,250

1) 1988 and 1989 figures are from the agreed BFFP Work Plan for this period. The 1990 figures are based on a prorata 30% increase and an assumption that 3 times as many hectares will be cleared. Since this is direct funded all funds are from donors.

2) Fodder specialist and his operational costs plus 8 m/m per year research consultancies for MOI and Egerton Universities are included.

3) Including transport for BFFP fodder specialist.

6.10 Table 6.9 contains a budget summary. The total cost is KP 9,349,813.

Table 6.9 INDICATIVE BUDGET in Kenya Pounds.

	DONOR	GOK	TOTAL
A) DISTRICT ENERGY PLANNING ACTIVITIES			
1) DEDO (i)	553,750	138,250	692,000
2) DEDO SUPPORT CONSULTANCY	126,000	-	126,000
3) EAC TRANSPORT	138,750	24,750	163,000
4) EAC BARINGO	200,125	33,375	233,500
	SUBTOTAL (A)		1,214,500
B) TRAINING			
5) STRENGTHENING MTT	578,400		
6) TRAINING BTD, HG-STAFF	30,000		
7) TRAINING FOR DISTRICTS	1,504,463		
8) MATERIALS	260,000		
	SUBTOTAL (B)		2,372,863
C) STEERING COMMITTEE MANAGED FUNDS			
9) KWDP KNOWLEDGE TRANSFER	97,900		
10) ENERGY CONSERVATION PROJECT	115,250		
11) RESEARCH PROJECT FUND	164,550		
12) AGRICULTURAL SHOW PUBLICITY	69,350		
13) HUMAN RESOURCE FUND	126,250		
	SUBTOTAL (C)		573,300
D) KWDP (ii)			
14) KAKAMEGA	795,900		
15) KISII	762,000		
16) MURANG'A	882,800		
17) NAKURU	1,076,300		
18) KWDP HEADQUARTERS	933,900		
	SUBTOTAL (D)		4,450,900
E) BFFP			
19) BFFP PROJECT	738,250		
	SUBTOTAL (E)		738,250
	TOTAL		9,349,813

COMMENTS

- (i) Only 5 DEDO are included (i.e. JEFM Specific Districts).
- (ii) KWDP Budgets, except Nakuru, reflect JEFM adjustment.

BUDGET NOTES

1) The Budget is divided into 4 distinct parts. Different funding routes and financial control mechanisms are assumed for distinct parts.

2) The reorganization of KWDP proposals is based on the following premises:

a) a transfer of knowledge KWDP to MOERD:

b) KWDP contacts in Kisii and Kakamega; Murang'a follows the new KWDP model; Nakuru remains an exception to proposed KWDP practice;

c) Staffing levels at Kisii, Kakamega and Headquarters have been adjusted on the following criteria:

- (i) a phase out model to incorporate KWDP into MOERD;
- (ii) no expansion at Kisii, Kakamega and headquarters;
- (iii) no operations that MOERD will not eventually be able to incorporate at district level e.g. extension.

d) other costs have been proportionally adjusted as a percentage reduction that parallels staff reduction after certain items have been transferred to MOERD (KWDP accounting lines 6.2, 6.7, 6.8, 6.9 and 8) and other budgeted items removed.

The items removed are:

(i) 7.2 - Public relations are not a justified project expense but an "institutional" expenditure.

(ii) 6.1 - EAC support is covered in Part A of indicative budget.

e) JEFM remains concerned about item 6.4 (Mass Intervention and Film programme) which requires firm management control but as an interim measure, continues to include this item in KWDP expenditure.

ANNEX I

29 October 1987

TERMS OF REFERENCE FOR A JOINT DONOR MISSION TO KENYA
TO FORMULATE PROJECTS IN
THE FIELD OF ENERGY AND RELATED ACTIVITIES

Note: These TOR are the same as those of 12 October 1987.
Only the numbering of the paragraphs has been simplified.

BACKGROUND

1. The Government of Kenya has requested support in the field of biomass energy. To this end a joint mission of Kenya, the Netherlands, Canada and Sweden was fielded in March/April 1987.
2. The joint mission's report specified a broad framework for future assistance including a work plan for the provision by donors of biomass energy/agroforestry and related services to the Ministry of Energy and Regional Development (MOERD).
3. The report was accepted by MOERD. According to the above mentioned work plan, detailed projects have now to be formulated through which the donors can provide assistance to MOERD in the near future.
4. It is proposed that a joint mission be convened to formulate these detailed projects, with reference to the 1988 work plan of the Biomass Technology Division (BTD).
5. The objectives of these projects should be in line with the national policies of the Government of Kenya, with particular reference to the district focus for rural development.

OBJECTIVES

6. The overall objective of the mission is to formulate a technical assistance programme in the biomass energy/agroforestry area, covering a number of projects according to the work plan of the joint energy mission in March/ April 1987.

In particular the mission will address the following subjects:

Biomass Technology Division (BTD)

7. Based on the MOERD's plan to strengthen the BTD, both at the MOERD headquarters and in the field, a project should be formulated to provide technical assistance for BTD programme implementation. Training of new and existing BTD officers as well as financial and material support (vehicles, computers, etc.) are important elements of such technical assistance.

8. Of importance will be the formulation of a coordination mechanism for programme implementation between GOK and the donors. This mechanism should also address the role of the BTd in coordinating agroforestry activities in relation to the Energy/Agroforestry Centres and other related biomass energy projects within MOERD.

Energy/Agroforestry Centres (in the BTd)

9. Based on suggestions made in the joint energy report, project proposals specifying the detailed nature of the operations of the Energy/Agroforestry Centres should be written for the following centres: Kakamega, Kisii, Nyeri/Muranga, Nakuru, Ngong and Mtwapa.

10. It will be important to formulate a proposal for bridging finances for the Energy/Agroforestry Centres to cover the period before the identified project finances are available.

Kenya Woodfuel Development Programme (KWDP)

11. In accordance with the joint energy mission recommendations, the function and role of KWDP in relation to MOERD should be defined. Subsequently a project proposal specifying the activities of KWDP in relation to the overall BTd work plan should be written for the second phase of KWDP in Kakamega and Kisii and the first phase of KWDP in Nakuru and Muranga.

12. It will be important to formulate a KWDP steering mechanism involving the project, GOK and the donors concerned, which reflects the particular situation under which KWDP operates.

Baringo Fuel and Fodder Project (BFFP)

13. Recommendations should be made with respect to the role of BFFP and how it is to be incorporated into the overall BTd work plan and the MOERD district energy programmes.

Related Energy/Agroforestry Activities

14. The mission will write a work plan to formulate other biomass energy activities in the near future as addressed in the March/April report, including:

- A National Agroforestry Work Shop
- Wood Energy Conservation Projects
- The Energy Development Fund
- Assistance with the formulation of District Energy Plans.
- Up-date of MOERD Activity

15. The mission will review with the MOERD the present status of the recommendations made in the joint mission report referring to:

the three donor countries will write separate drafts on project proposals to be funded by the respective donors.

24. The combined draft report will be discussed with the Kenyan authorities and respective representatives before the departure of the donor members of the mission.

25. The co-leaders will be responsible for the final editing. The final report will be submitted not later than one month after the discussion of the draft report.

26. The mission report will provide a document for programme implementation and will be the base for further project negotiations between the GOK and the respective donors involved.

ANNEX II

MOERD POLICY STATEMENT

MOERD ENERGY AGROFORESTRY DEVELOPMENT POLICY

1.0 Introduction

The MOERD will provide policy and technical guidelines to the districts and will provide material support in the form of personnel, offices, transportation and operational support for the District Energy Development Offices and for the Energy Agroforestry Centres (EACs).

The MOERD will provide assistance to the DDC in the preparation of the District Energy Plans.

The MOERD will provide technical assistance to the districts through the Planning Division and the District Energy Development Officer (DEDO) and through the Biomass Technology Division, which will be responsible for assisting the districts set up and run their EACs.

The MOERD will make money available to other Ministries to carry out energy related projects in the districts.

Through the Energy Development Fund and through the Project Steering Committee Managed Funds the MOERD will make money available to other projects, agencies or groups.

The District Energy Plan, prepared by the district, will provide the guidelines for the implementation by the district of the MOERD district programmes.

The District Energy Plans will also be used as guidelines for formulating the National Energy Policy.

1.1 The District Energy Agroforestry Programmes

The Energy Agroforestry programmes will be coordinated by the DEDO. Where an Energy Agroforestry Centre (EAC) exists, the DEDO will coordinate with the EAC manager. If a DEDO has not been appointed the district energy and energy related projects will fall under the responsibility of the DDO.

1.2 Establishing Energy Agroforestry Centres (EACs)

It is the policy of the MOERD to have an EAC in all districts where the districts and the MOERD agree that one is necessary. The timing will depend on the availability of money and trained people and the urgency of district needs relative to other

districts.

The decision as to whether an EAC is required will be first and foremost a district decision, made with the assistance of the Biomass Technology Division of the MOERD. The content of the EAC work plans will depend on the District Energy Plans.

The Kenya Renewable Energy Development Project (KREDP) established six energy agroforestry centres and two subcentres:

Centres	Subcentres
Bukura	
Kisii	
Wambugu	
Ngong	
Kitui	Ukai
Mtwapa	Matuga

It is currently proposed by the MOERD that all of the centres except Kitui continue as full centres. Kitui may be given a research function.

It is currently proposed by the MOERD that new EACs be established at Nakuru, Muranga, and Baringo.

The work plans of these existing EACs have at present been prepared in the absence of a District Energy Plan. As soon as these district plans are prepared, the EACs will begin to alter their plans to conform to the district plans.

1.3 Support to MOERD District Initiatives

Because of the District Focus policy of the government the original role of the KREDP EACs are in section 2.0. Except for the preliminary plans as described in the Biomass Technology Division work plan the specific details for each EAC work plan, tailored to fit the needs of the districts, have not yet been developed.

The EAC work plans for 1988 have been prepared by the Biomass Division. In the future it is expected that the DEDO will work with the EAC manager to develop these plans. They will require information on suitable technologies, training and extension methods. It is here that the capabilities of KWDP will be most useful. More details on the role of KWDP are given in section 3.0.

1.4 The Role of the Donors

The task of the MOERD of building up an organisation which can support the district energy programmes is large. The donors can assist by providing technical assistance and training and by helping with infrastructure development and operating costs.

The districts require District Energy Offices and EACs. Part of the process of setting up functioning EACs will probably include establishing a KWDP presence in the district for approximately a four year period. Apart from exceptional circumstances, the KWDP presence should be temporary and short term. Therefore donor projects would most usefully be seen as projects to set up and support EACs.

The MOERD is very concerned that the donor project activities and functions, including those of the KWDP, ultimately be absorbed into the GOK agencies. Since the District Offices and the EACs will be permanent parts of the district government apparatus, the MOERD would like to see these as the basis around which the donor projects are built rather than around projects which will have only a temporary presence in the districts.

Therefore any support for offices and buildings should be towards what will eventually be EAC or DEDO facilities. These facilities may be used in the beginning by projects but it is felt that if it is clearly understood that these are or will be GOK offices this will help with the eventual transfer from project facilities to GOK facilities.

2.0 The Role of the Energy Agroforestry Centres

Continuation of the differentiation in function between district centres, subcentres, and on-farm demonstration plots should continue.

The EACs will have the following functions:

- i Training in agroforestry of existing extension staff in Government and NGOs and farmers participating in FTC courses.
- ii Demonstration of agroforestry technologies suitable for the relevant farming systems in the region to support the above mentioned training.
- iii Seed production, improvement and storage if this is insufficiently undertaken by other appropriate organisations or private farmers.
- iv Limited applied research under the direction of the national research institutions.
- v Demonstration of energy conservation and renewable energy technologies as far as they are appropriate to the region.
- vi Provision of facilities to NGOs involved in agroforestry.
- vii Provision of two Demonstration Technical Assistants to work in adjacent districts with similar agro-ecological zones for which the district technologies and methods developed are appropriate.
- viii Other activities deemed appropriate by the DDC and included in the District Energy Plan.

The layout, staff, facilities and work plans at the centres will result from a detailed study of the farming systems and wood energy supply and conservation needs in the area.

Where possible this information will be derived from the District Energy Plans and other studies.

There should be improved integration of centres in district activities. This will be accomplished by assigning staff as centre managers who are senior enough and sufficiently well trained to participate in the proposed agroforestry and energy sub-committee of the DDC. The DEDOs will also contribute to integration of centre and district activities.

3.0 The Role of KWDP

The objectives of the KWDP should remain essentially as they were in 1983. In brief these were:

- to develop replicable methodologies for fuelwood planning with a district focus;
- to develop replicable methodologies and locally feasible agroforestry recommendations;
- verify feasibility of agroforestry recommendations and the effectiveness of extension approaches/methods which increase fuelwood production and decrease consumption;
- to assist in the development of Kenyan manpower capacity to prepare, execute and monitor district fuelwood projects;
- develop a low cost, replicable monitoring methodology at district and national level.

The MOERD feels that these objectives should be stated more specifically to emphasize transferability to GOK.

The KWDP should carry out district oriented R & D work on site-specific agroforestry solutions to wood energy and other agroforestry problems. It should develop and test solutions including technologies and extension methods and transfer them to the EACs which can guarantee a permanent transfer to the agencies directly involved in farmer extension work.

The MOERD is the lead and coordinating agency for agroforestry development in the country. The KWDP should be a general agroforestry applied research and development project (or projects) to support the needs of the MOERD and other relevant agencies. The MOERD expects that KWDP will continue to develop expertise in the areas of district resource analysis, woodfuel supply and demand management, including development and transfer of methods for monitoring MOERD agroforestry woodfuel supply and demand management programmes, development and transfer of extension methods relating to woodfuel supply and demand, and training of MOERD staff.

The KWDP should maintain its original approach of phasing in to a district for one year, operating for two years and phasing out in one year for a total KWDP presence in the district of four years. This will be the goal. This may vary as circumstances require, but in general a long term presence for KWDP in any one district is not foreseen. There should be a transfer of the KWDP functions to the GOK staff in the district within the four year period.

It is therefore foreseen that KWDP would at most at any one time be phasing in to one district, operating in two districts and

phasing out of one district. This capability should form the operational ceiling for funding levels.

KWDP will not expand its R & D activities in fuelwood conservation.

Interagency coordination is not the function of KWDP but of MOERD. MOERD will for each district specify the services required in each district from KWDP in order for MOERD to be able to fulfill its coordination mandate for agroforestry development.

KWDP should not evolve into a training organisation. However the KWDP will play a crucial role in supporting the training of Energy Agroforestry Centre staff, particularly when an EAC is being set up.

A major function of the KWDP in the districts is to develop institutionally acceptable and feasible methods (see section 3.3) and to transfer these to the appropriate GOK staff (primarily to the EAC staff and possibly to the DEDO) before leaving the district. It will therefore be necessary that the KWDP work plans be specific in how the GOK staff will be incorporated into the KWDP programme for the district, starting from the beginning of the KWDP operations in the district.

The KWDP would be initially supervised, as a provider of services to the district project, entirely through the project, by the executing agency and the steering committee.

As the project and the KWDP are phased out, the appropriate district officials, mostly EAC and DEDO staff, will assume more and more responsibility for the functions of the project until in the end the project and KWDP will be completely phased out.

The actual timing of the phasing out process will be worked out in the mutually agreed upon project and district DEDO and EAC work plans.

KWDP's own measures of success make it crucial that methods and criteria for the formulation and transfer of usable R & D outcomes are explicitly stated in the phase 2 proposal for operations of KWDP, after discussion with the Ministries concerned. The emphasis, above all, will be on transferability, so that the project and KWDP will operate within a content and cash framework that more closely reflects Gok's own operations.

4.0 KWDP as an MOERD Project

As noted above it will be necessary for the KWDP to adopt a more interactive approach with MOERD and district officials in the design, development and testing of their methods and approaches. This will require direct participation of district and MOERD staff in KWDP activities and possible periodic secondment of KWDP staff to the district or MOERD.

It is the MOERD position that, in the normalized legal status brought about by the local incorporation of the Beijer Institute in Kenya (BICEDA), that ~~MOERD~~ be recognized as a non-profit contractor of services through KWDP to the MOERD.

KWDP services provided to MOERD will be based on a tri-partite agreement between MOERD, ~~BICEDA~~ and the financing (donor) agency. This would operate as follows:

- i MOERD and ~~BICEDA~~ would draw up a specification and agreement on the services which ~~BICEDA~~ through KWDP is to provide and their costs. This is signed by both parties.
- ii A contract is signed between ~~BICEDA~~ and the financing agency to provide the services signed in (i) above. The agreement forms an appendix to the contract which specifies payment methods to BICEDA.

In this approach, the relationships between the parties is clear. The question of a KWDP Board does not arise. ~~BICEDA/KWDP~~ is free to organise itself as it thinks fit to perform its contracted functions.

ANNEX III

TRAINING BUDGET AND COSTS*

1. Table 1. Overall Training Budget.

	Year 1	Year 2	Year 3	Total
	Ks	Ks	Ks	\$
A. Strengthening Mobile Training Team	4,176,000	3,696,000	3,696,000	723,000
B. Training BTD HQ Staff	200,000	200,000	200,000	37,500
C. Training for District Energy Programmes				
1. Course on Agro-forestry/extn.	427,950	196,250	196,250	51,353
2. District familiarization	250,000	70,000	70,000	24,375
3. Course on Training/Packages	275,260	24,520	62,080	26,366
4. District office courses	570,000	570,000	570,000	106,875
5. Training of trainers courses		1,418,000	1,772,500	199,406
6. Chief's courses		184,000	230,000	25,875
7. FTC courses		1,728,000	2,160,000	243,000
8. T.A. Demonstration	2,280,000	5,700,000	6,840,000	926,250
9. Course on Energy Policy/Tech.	407,200	195,100	195,100	49,837
10. Induction Courses DEDO	515,600	1,031,200	1,031,200	161,125
11. Management Course Centre Managers		251,000		15,687
12. D.D.O. Seminar	77,900			4,868
13. Computer Courses	192,200	156,500	156,500	31,612
14. DEPTAF Workshop	117,200	52,700	52,700	13,950
Subtotal (C)	5,114,510	11,637,870	13,336,930	1,880,597
D. Information Markets Districts	800,000	2,000,000	2,400,000	325,000
Total A, B, C, D				2,966,079

* Budget prepared on the basis of MOERD staffing projections at a district level, as per attached Table 2. "District Staffing Needs".

Table 2. District Staffing Needs

Position	Total Number of Positions for All Districts (Fiscal Year)					
	87/88	88/89	89/90	90/91	91/92	92/93
DEDO *	-	10	20	30	41	41
AEDO *	-	10	20	30	41	41
Secretary *	-	10	20	30	41	41
Messenger *	-	10	20	30	41	41
Driver *	-	10	20	30	41	41
Centre Manager **	6	8	10	12	14	16
Research Tech. Assistant **	6	8	10	12	14	16
Training Tech. Assistant	6	8	10	12	14	16
Seeds Program Tech. Asst.	6	8	10	12	14	16
Demonstration Tech. Asst.	6	8	10	12	14	16
Demonstration Tech. Asst.***	6	8	10	12	14	14
Demonstration Tech. Asst.***	6	8	10	12	13	11
Jiko/Biogass Artisan **	6	8	10	12	14	16
Secretary **	6	8	10	12	14	16
Clerical Officer **	6	8	10	12	14	16
Stores man **	6	8	10	12	14	16
Foreman **	6	8	10	12	14	16
Driver **	6	8	10	12	14	16
Mechanic	6	8	10	12	14	16
Mechanics Helper	6	8	10	12	14	16
Subordinate Staff **	108	144	180	216	252	288
Total	198	314	430	546	666	726

- * Priority districts for 1988 are Baringo, Kakamega, Kisii, Murang'a and Nakuru.
- ** Currently approved for the existing centres.
- *** These demonstration technical assistants will each be responsible for another district.

2. Manpower Development HQ staff.

The annual costs of developing the manpower of the BTD of MOERD (on the job training courses etc.) are estimated at Ksh 200,000 a year. At the time of preparing the budget no detailed information on the training needs of BTD HQ staff were made available to the Mission (see attached proposal of the Head of BTD).

3. Funds for District Material Production.

For this Ksh 200,000 per year per district is budgetted.

Costs Year (1)

8 Districts (with EAC) x 1 year x Ksh 200,000 = Ksh 800,000

Year (2)

10 Districts x Ksh 200,000 = Ksh 2,000,000

Year (3)

12 Districts x Ksh 200,000 = Ksh 2,400,000

4. BTD HQ Staff Training Proposal.

MINISTRY OF ENERGY AND REGIONAL DEVELOPMENT

NYAYO HOUSE
P.O. BOX 30582
NAIROBI

25th November, 1987

TRAINING REQUIREMENTS
BIOMASS TECHNOLOGIES DIVISION

- Head of Biomass Division - Management
- 4-6 weeks; Overseas study tour on experience and cases in areas of energy, agroforestry and conservation.
- Suggested areas: Mexico, Israel, Australia.
- Computer Experience
- 1-3 weeks in Canada
- Agroforestry Research and Management
- China and Japan
- Deputy - Management
- 2-3 weeks KIA
- Agroforestry/Conservation training
- Indonesia and Philippines
- I/C Wood Energy Conservation - Management
- 2-3 weeks at KIA
- Agro/Conservation
- ICRAF/Course 2-4 weeks
- I/C Wood Energy Supply - Same as above

- Courses for:
- 1. Energy Development Officer
 - 2. Stoves and Kilns
 - 3. Project Training Officer
 - 4. Socio-economic Prog. Officer

- Management and Agroforestry
- Courses and Workshop by ICRAF
 - Course at KIA - 2 weeks medium level
 - Organized 1-2 weeks field course with SEP/GTZ
 - Short duration courses by NGO's

- Training Courses for:
- 1. Agro. Research Officer
 - 2. Agro. training extension officer
 - 3. Seed programme officer
 - 4. Agroforestry Centre Managers

- Management and Agroforestry
- 1-3 weeks induction courses Departmental or KIA.
 - Course at ICRAF/Agroforestry intervention.
 - NGO courses
 - 1-3 months management experience in Philippine or India.

- Courses for:
- 1. District Energy Task Force Officer.
 - 2. Data Analyst
 - Department course - sponsored or organized. Data Management and analysis in Agroforestry/Conservation technique/Computer use.
 - 1-3 weeks KIA on Management and induction in system management.
 - Short induction NGOs - Department courses.

- Courses for:
- 1. Commercial woodfuel officer
 - 2. Asal Project Officer
 - 1-2 months orientation course in Middle East, e.g. Israel, or Central America Venezuela, etc.
 - 1-3 weeks course - Departmental NGOs.
 - Courses with ICRAF, KEFRI, KARI
 - An interdepartmental induction or orientation courses.

Courses for:

- 1. Research Officers
- 2. Training/Research Assistant
- 3. Demonstration Assistants

Courses at:

- KEFRI, KARI, ICRAF
- Department/NGO sponsored course
- Courses on induction at Gok training institute 2-3 weeks.

5. Training Activity Proposals

TRAINING ACTIVITY 1

- Description: General courses on:
- agroforestry, solar, wind, biogas and fuel efficient stoves, tree seed project, etc. for details see attached MOERD's proposal).
 - extension methods
- Duration: - 3 weeks, of which 1 week field trips
- Frequency: - Annual
- Participants: - DEDO's, Assistant AEDO's, Centre Managers, Centre T.A.'s
- Teachers: - Mobile Training Team, Resource persons from organizations like ICRAF, KWDP, SEP, BFFP, CARE
- Syllabus: - To be compiled by M.T.T.
- Venue: - Central Training Facility, like KIA.
- Unit Cost: - Per person per day
- | | | |
|----------------------|-------|--------|
| Accommodation + food | K.sh. | 180.00 |
| Travel | K.sh. | 40.00 |
| Pocket Money | K.sh. | 50.00 |
| Total | K.sh. | 270.00 |

Cost - Year 1

- Participants: 10 DEDO's, 10 AEDO's, 8 Centre Managers, 48 Centre T.A.'s
- 76 participants x 15 days x K.sh. 270.00 = K.sh. 307,800
- Trainers: 3 M.T.T. staff x 15 days x K.sh. 270 = K.sh. 12,150
- Allowance: 5 External Resource Persons x 5 days x K.Sh. 2,000 (1 day lecturing, 5 days preparation) = K.sh. 50,000
- Training Materials: 76 x K.Sh. 500 = K.sh. 38,000

Transport Field trips:

Fuel (Government vehicles) = K.sh. 20,000

Total = K.sh. 427,950

Year 2

Participants: 10 DEDO's, 10 AEDO's, 2 Centre Managers, 12 Centre T.A.'s
34 participants x 15 days x K.sh. 270 = K.sh. 137,700

Trainers: 3 M.T.T. staff x 15 days x K.Sh. 270 = K.sh. 12,150

Allowance: 5 External Resource persons x 2 days x K.sh. 2,000 (1 day lecturing + 1 day preparation) = K.sh. 20,000

Training Materials: 34 x K.sh. 500 = K.sh. 17,000

Transport
- Field trip (fuel only) = K.sh. 10,000
Total = K.sh. 196,850

Year 3

Participants: 10 DEDO's, 10 AEDO's, 2 Centre Managers, 12 Centre T.A.'s
Costs are the same as in Year 2 = K.sh. 196,850

TRAINING ACTIVITY 2

Introductory Agroforestry Course

This introductory course is for District Energy Development Officers, Assistant District Energy officers, all Energy Agroforestry Center Officers, and all Biomass Technology Division Headquarters Officers.

1. Introduction

Given the importance of woody biomass energy in Kenya and the major role that agroforestry must play in the production of woody biomass, it is essential that all officers involved with energy planning and

production in Kenya should have a basic understanding of what agroforestry is, what its potential is, and how it is and can be used in the energy sector.

2.0. The Topics to be Covered

2.1. The Agroforestry Resource

Definition of agroforestry. The land resources to which agroforestry applies. The agro-ecological zones of Kenya. The farming systems. The socio-economic and cultural factors.

2.2. The Agroforestry Potential for Woody Biomass Production

Discussion of stocks and yields, current and future. Rural and urban supplies.

2.3. Policies, Laws, Regulations, and GoK Programmes Related to Agroforestry

2.4. Agroforestry Technical Topics

Products

Fodder

Woodfuel

Construction materials

Fruit

Species selection

Seed collection, storage, and distribution

Nurseries

Planting strategies

Hedgerows

Intercropping

Woodlots, etc.

Harvesting

Agroforestry and grazing land management

TRAINING ACTIVITY 3

Description: Training courses on:

- design of training courses and training materials
- training skills, methods and techniques
- development of extension packages and information materials

Duration: - 12 days

Frequency: - Once a year

Participants: - Centre Managers, Centre T.A.'s, KWDP and BFFP

staff members

Trainers:	-	Mobile Training Team	
Syllabus:	-	To be prepared by M.T.T.	
Venue:	-	Central Training Facility	
Unit Cost:		Per person per day - Accomodation +	
		Food	K.Sh. 180.00
		Travel	K.Sh. 40.00
		Pocket Money	K.Sh. 50.00
		Total	K.Sh. 270.00

Cost - Year 1

Participants:	8 Centre Managers, 48 Centre T.A.'s, 15 KWDP/BFFP staff members		
	71 participants x 12 days		
	x K.sh. 270.00	=	K.Sh. 230,040
Trainers:	3 trainers x 12 days x		
	K.Sh. 270.00	=	K.Sh. 9,720
Training Materials:	71 x K.sh. 500.00	=	K.sh. 35,500
	Total		K.Sh. 275,260

Year 2

Participants:	2 Centre Managers, 12 Centre T.A.'s, 6 KWDP staff		
	20 participants x 12 days x		
	K.sh. 270.00	=	K.sh. 64,800
Trainers:	3 trainers x 12 days x		
	K.sh. 270.00	=	K.Sh. 9,720
Training Materials:	20 x K.sh. 500.00	=	K.sh. 10,000
	Total	=	K.sh. 84,520

Year 3

Participants:	2 Centre Managers, 12 Centre T.A.'s		
	14 participants x 12		
	days x K.sh. 270.00	=	K.sh. 45,360

Trainers:	3 trainers x 12 days x K.sh. 270.00	= K.sh. 9,720
Training Materials:	14 x K.sh. 500.00	= K.sh. 7,000
	Total	= K.sh. 62,080.

TRAINING ACTIVITY 4

Description: Introductory course on agroforestry/wood energy for district officials and department heads.

Duration: 2 days, of which 1 day field trip

Frequency: Once

Participants: DCC Committee members, heads of G.O.'s and NGO's in the district.

Trainers: D.E.O., Centre Manager and Centre T.A.'s

Booklet: To be prepared by district MOERD staff

Venue: District

Unit Cost: Per person per day
Accommodation + Food
+ Travel = K.Sh. 400.00
Pocket Money = K.sh. 200.00
Total = K.sh. 600.00

Costs per district:

40 participants x 2 days x K.Sh. 600.00	= K.sh. 48,000
Transport field trips (fuel only)	= K.sh. 5,000
Booklets 40 x K.sh. 100	= K.Sh. 4,000
Total	= K.sh. 57,000

Cost - Year 1:	10 districts x K.sh. 57,000.00	= K.sh.570,000
Year 2:	10 districts x K.sh. 57,000.00	= K.Sh.570,000
Year 3:	10 districts x K.sh. 57,000.00	= K.sh.570,000

TRAINING ACTIVITY 5

Description: Courses on agroforestry/extension techniques for trainers and extension officers of governmental and non-governmental organizations.

Duration/Frequency: Dependent upon topic and circumstances

Participants: Trainers/extension workers from MOA, MOLD, MOENR, MOCSS, MOW, MOC, teachers from MOE and trainers NGO's.

Trainers: EAC Centre Staff

Syllabus: To be developed by EAC Centre Staff

Venue: District

Cost Per District per Year:

5 training days per year	
7 GoK's and 10 NGO's per district	
5 participants per organization	
DSA per person day	K.sh. 300.00
Pocket money per person per day	K.sh. 50.00
Total	K.Sh. 350.00

5 days x 17 orgar x 5 participants x K.sh. 350.00	= K.sh. 148,750
Training materials: 85 participants x K.sh. 100.00	= K.sh. 2,500
Transport field trips (fuel only)	= K.Sh. 20,000
Total	= K.Sh. 177,250

Costs - Year 2	8 districts (districts with EA centre)	
	8 x K.sh. 177,250.00	= K.sh. 1,418,000

Year 3	10 districts (districts with EA centre)	
	10 x K.sh. 177,250.00	= K.sh. 1,772,500

TRAINING ACTIVITY 6

Description: Introductory course on agroforestry and energy related issues for district chiefs.

Duration: 2 days of which 1 day field trip.

Frequency: Once a year
 Participants: Chiefs
 Trainers: EAC staff
 Leaflets: To be prepared by EAC staff
 Venue: District

Cost per district per year

Number of participants: 20
 DSA per person K.Sh. 300
 Pocket money: K.Sh. 50

20 participants x 2 days x K.sh. 350.00	=	K.sh. 14,000
Travel 20 participants x K.sh. 100	=	K.sh. 2,000
Transport field trip (fuel only)	=	K.sh. 5,000
Materials: 20 x K.sh. 100.00	=	K.sh. 2,000
Total	=	K.sh. 23,000

Costs - Year 2

8 Districts
 8 x K.sh. 23,000.00 = K.sh. 184,000

Year 3

10 districts
 10 x K.sh. 23,000 = K.sh. 230,000

TRAINING ACTIVITY 7

Description: Short course on agroforestry/woodenergy techniques for farmers integrated into TTC courses.

Duration: 2 days

Frequency: Monthly

Participants: Farmers participating in FTC courses

Trainers: EAC staff

Leaflets: To be prepared by EAC staff

Venue: FTC/EAC

Cost per district per year:

Number of participants per month: 40

DSA per participant:	K.sh. 300	
12 months x 40 participants x night x K.sh. 300	=	K.sh. 144,000
Travel 12 x 40 participants x K.sh. 100	=	K.sh. 48,000
Leaflets 12 x 40 x K.sh. 50	=	K.sh. 24,000
Total	=	K.sh. 216,000

Costs - Year 2

2 districts (districts with EAC)	
2 x K.sh. 216,000	= K.sh.1,728,00

Year 3

10 districts	
10 x K.sh. 216,000	= K.sh.2,160,000

TRAINING ACTIVITY 8

Description: On location demonstration - contact farmers, schools etc. (Not to individuals but groups).

Duration:

Frequency: Continuous

Trainer: T.A. Demonstration

Venue: On location

Field expenses for a T.A. + Driver on a yearly basis:

- Room and board:		
12 months x 10 days x K.sh. 350.00	=	K.sh. 42,000
- Transport:		
12 months x 2,500 kilometers x K.sh. 5/kilometer	=	K.sh. 150,000
Total	=	K.sh. 190,000
		US\$ 14,294

Costs - Year 1

6 months (first half year they will be occupied by undergoing training)

Number of T.A.'s demonstration: 24	
1 x K.sh. 190,000.00 x 24 T.A.'s	= K.sh. 2,280,000

Year 2

30 T.A.'s Demo x K.sh. 190,000.00	=	K.sh. 5,700,000
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Year 3

36 T.A.'s Demo x K.sh. 190,000.00 = K.sh. 6,840,000

TRAINING ACTIVITY 9

Description: Training course on energy policy and technology
(Details are written down in attached MOERD's paper)

Duration: 3 weeks = 15 days

Frequency: Once a year

Participants: DEDO's, AEDO's, Centre Managers, Centre T.A.'s

Trainers: Contracted by KIA

Syllabus: To be compiled by KIA

Venue: KIA

Unit Costs:	Per person per day		Lecture costs
	Accommodation + Food	K.sh. 180.00	Per day (8hrs)
	Travel	K.sh. 40.00	K.sh. 1,560.00
	Pocket money	K.sh. 50.00	
	Total	K.sh. 270.00	

Cost - Year 1

Participants: 10 DEDO's, 10 AEDO's, 8 Centre Managers, 48 T.A.'s

76 x 15 days x K.sh. 270.00 = K.sh. 307,800

Lecturers:

15 days x K.sh. 1,560 = K.sh. 23,400

Materials:

76 participants x K.sh. 1,000.00 = K.sh. 76,000

Total = K.sh. 407,200

Year 2

Participants: 10 DEDO's, 10 AEDO's, 2 Centre Managers, 12 T.A.'s

34 x 15 days x K.sh. 270.00 = K.sh. 137,700

Lecturers: = K.sh. 23,400

Materials:

34 x K.sh. 1,000.00

= K.sh. 34,000

Total = K.sh. 195,100

Year 3

Same costs as year 2

K.sh. 195,100

Attachment to Training Activity 9

MINISTRY OF ENERGY AND REGIONAL DEVELOPMENT

DISTRICT ENERGY STRATEGY

TRAINING PROGRAMME: ENERGY POLICY AND TECHNOLOGY COURSE

Introduction

The District Energy Strategy of the Ministry of Energy and Regional Development calls for the placing of officers at the District level.

Various categories of officers are required by the Strategy, including:

A. District Energy Officers

1. District Energy Officers
2. Assistant District Energy Officers

B. Energy/Agroforestry Centre Officers

1. Energy Agroforestry Centre Managers
2. Research Technical Officers
3. Training Technical Officers
4. Demonstration Technical Officers
5. Seed Programme Technical Officers

Training programmes for these various categories of officers are essential to allow them to address their responsibilities effectively.

Another paper identifies the different types of training required. The purpose of this paper is to specify the details of one training course, concerned with providing these above officers with a broad background in energy policy and energy technology, as it pertains to their district level activities.

Course Description: Energy Policy and Technology for Kenya's District Energy Strategy

Course Topics:

1. Introduction to energy in Kenya; an overview of this important sector.

2. Basics of energy including: What is energy? Types of energy. Measurement of energy (units); Energy conversion; Basic Thermodynamics; Energy and Power.
3. Energy in Kenya: Types of energy used in Kenya; Supply/Demand considerations; Trends in energy supply/demand; problems facing Kenya today and tomorrow in the energy sector.
4. Details of Kenya's energy institutions and existing GOK programmes: MOERD; Development Authorities; KPLC; NCCK; Wood Energy Programmes; the Rural Electrification Programme; etc.
5. Energy Technology review, for all energy forms; Capabilities and limitations of energy technology; focus on rural energy technology;
6. National Energy policy
7. District Energy Strategy; including the role of the officer trainees in this Strategy;
8. District Energy Needs
9. The District Energy Plan; Energy planning, Forecasting, and the limitations of these methods;
10. Role of Non-governmental Organizations and the Energy Development Fund.

It is estimated that the course would last for a total of three weeks. Home work assignments: daily tests, and a final evaluation should be included. Quantitative exercises: involving district typical data manipulation, calculation, etc. should be included. Discussion of economic considerations regarding energy forms, technology, pricing, etc. should be included.

TRAINING ACTIVITY 10

Description:

Induction course for District Energy Officials
(Details are discussed in attached MOERD's paper on
"Training Requirements for District Energy Officials
Planning and Management Training".

Duration: 6 months in total to be split in 2 parts of 3 months divided over 2 years.

Frequency: Annual

Trainers: Contracted by KIA

Attachement to Training Activity 10

MINISTRY OF ENERGY AND REGIONAL DEVELOPMENT

DISTRICT ENERGY STRATEGY

TRAINING REQUIREMENTS FOR DISTRICT ENERGY OFFICIALS
PLANNING AND MANAGEMENT TRAINING

1. Introduction

The purpose of this discussion paper is to identify certain broadly useful planning and management training (as opposed to specialized technical training) which would assist District Energy Officials, particularly District energy officers, Assistant District Energy officers, Energy Agroforestry Centre Managers and (probably) the Technical Officers based at the Energy Agroforestry Centres in the discharge of their responsibilities.

A number of planning and management type courses are offered by KIA. A review of the detailed nature of these KIA courses is required to determine which courses are most appropriate for meeting the needs of the officers in the District Energy Strategy.

In particular, it is not clear which KIA course would provide District Officials with appropriate training in economic/financial analysis and procedures, including project budgeting procedures. As well, training on the selection and monitoring of contractors at the district level, if not provided by any of the following KIA courses would be required.

2. Possible Courses for District Energy Strategy Officials

A. Energy Policy and Technology for Kenya's District Energy Strategy

This broad background course which includes consideration of the District Energy Strategy, and the role of these officers in the Strategy, as well as the nature and role of the District Energy Plan, is described elsewhere.

It is expected that this course will need to be specially formulated and presented by a local training organization such as the University of Nairobi, Urban and Regional Planning Department, Mazingira Institute, etc.

Duration: Three to four weeks, estimated

B. District Focus Training Course

This course, offered by KIA, provides a forum in which the District Focus for Rural Development Strategy is discussed at length, with a view to ensuring that all its dimensions are understood by its implementors.

The course contains discussions of Administration and Management skills, as well as Project Planning, Implementation, Monitoring and Evaluation.

Duration: unknown

C. Project Development and Management

This course, offered by KIA, aims at equipping the officers with skills needed for efficient and effective handling of project planning, appraisal, implementation and evaluation.

Duration: 10 weeks

D. Monitoring and Evaluation of Projects

This course, offered by KIA, focusses on monitoring and evaluation of projects.

Duration: 2 weeks

E. Effective Communication in Management

This course, offered by KIA, deals with the theory and practice of verbal and written reports.

Duration: unknown

F. Speech Writing and Public Speaking Seminar

This seminar, offered by KIA, attempts to improve the capability of speech writing and public speaking of GOK officers.

Duration; 2 weeks

G. Resource Management Development Course

This course, offered by KIA, is designed to increase organizational efficiency and effectiveness among middle managers and concentrates on the planning and management process.

Duration: 8 weeks

H. Work Plan Preparation

This short course, offered by MOERD Headquarters staff, will provide the District Energy Officials with an understanding of the nature and importance of a Work Plan for their activity area. As part of this Work Plan activity, time management skills would be imparted.

Duration: One week, including time to develop their own Work Plans.

I. Computer Skills

Participants: 10 Centre Managers		
10 x 70 days x K.sh. 190.00	=	K.sh. 133,000
Lecturers fees:		
50 x K.sh. 1,560.00	=	K.sh. 78,000
Materials:		
10 x K.sh. 4,000.00	=	K.sh. 40,000
Total	=	K.sh. 251,000

TRAINING ACTIVITY 12

Description: Seminar on: a) Energy policy and technology
 b) Role of DDO in annual Energy planning/budgeting exercise.

Duration: 2 days
 Frequency: Once
 Participants: DDO's
 Trainers: DEPTAF staff MOERD
 Syllabus: Prepared by DEPTAF
 Venue: Central Training Facility

Costs - Year 1

Participants: No. - 41		
41 x (DSA) K.sh. 400.00 x 2 days	=	K.sh. 32,800
41 x 2 days x K.sh. 200.00 (pocket money)	=	K.sh. 16,400
41 x K.sh. 200.00 (travel)	=	K.sh. 8,200
Materials:		
41 x K.sh. 500.00	=	K.sh. 20,000
Total	=	K.sh. 77,900

TRAINING ACTIVITY 13

Description: Training course on computer skills
 - Basic computer knowledge
 - Word processing
 - Notes spread sheet competence
 - D BASE

Duration: 3 x 1 week
 Frequency: Annual
 Participants: DEDO's, EAP's, Centre Managers

Trainers: KIA contracted and MOERD Headquarters staff

Syllabus: KIA/MOERD complied

Venue: KIA

Costs per Unit

Per person		Trainers fees
Food + accommodation	= K.sh. 180.00	average
Travel	= K.sh. 40.00	
Pocket money	= K.sh. 50.00	
Total	= K.sh. 270.00	

Costs - Year 1

Participants;
 10 DEDO's, 10 AEDO's, 48 Centre Managers
 28 x 15 days x K.sh. 270.00 = K.sh. 113,400

Lecturers fees:
 15 x K.sh. 1,560.00 = K.sh. 23,400

Materialss:
 28 x K.sh. 2000.00 = K.sh. 56,000

Total = K.sh. 192,800

Year 2

Participants:
 10 DEDO's, 10 AEDO's, 2 Centre Managers
 22 x 15 days x K.sh. 270.00 = K.sh. 89,100

Lecturers fees:
 15 x K.sh. 1,560.00 = K.sh. 23,400

Materials:
 22 x K.sh. 2,000.00 = K.sh. 44,000

Total = K.sh. 156,500

Year 3: Same as Year 2 = K.sh. 156,500

TRAINING ACTIVITY 14

Description: Workshop on District Energy Planning Methods and District data gathering techniques and procedures.

Duration: 5 days

Frequency: Once a year

Participants: DEDO's, AEDO's, Centre Managers and Centre TA's.

Trainers: MOERD staff Planning Task Force

Syllabus: Prepared by MOERD
Venue: Central Training Facility

Unit Costs Per person per day
Accommodation + Food = K.sh. 180.00
Travel = K.sh. 40.00
Pocket Money = K.sh. 50.00
Total = K.sh. 270.00

Costs - Year 1

Participants;
76 x 5 days x K.sh. 270.00 = K.sh. 102,600

Materials:
76 x K.sh. 200.00 = K.sh. 15,000
Total = K.sh. 117,800

Year 2

Participants:
34 x 5 days x K.sh. 270.00 = K.sh. 45,900

Materials:
34 x K.sh. 200.00 = K.sh. 6,800
Total = K.sh. 52,700

Year 3

Same as year 2 = K.sh. 52,700

ANNEX IV

BFFP PROJECTED EXPENSES
(1988 and 1998 are already budgeted)

Budget estimate: Jan-Dec 1988

230	Wages Project Staff	1,625,000
232	Social Security & Insurances	190,000
260.2	Per Diem	48,000
290	Travel & Study Abroad	100,000
270	Consultancies	250,000
620	Training & Extension Activities	180,000
533	Nursery Materials	70,000
553.1	Seeds	50,000
520	Machine Operation	30,000
440	Field Preparation	1,500,000
440	Fencing	405,000
540	Office & Stationary	20,000
413	Building Materials	30,000
531.1	Vehicle Operation	196,000
531.3	Vehicle Services	80,000
531.5	Vehicle Insurances	90,000
560	Small Tools	30,000
411	Building House	250,000
410	Building Storage Barn	500,000
411	Building 15 Staff HOUSES	400,000
411	Building Office	70,000
591	Bank Charges	2,400
590	Miscellaneous Expenditure	24,000
	5% Contingency	188,000
	Total	6,328,400

Budget estimate: Jan-Dec 1989

230	Wages Project Staff	1,652,000
232	Social Security & Insurances	196,000
260.2	Per Diem	48,000
290	Travel & Study Abroad	100,000
270	Consultancies	250,000
620	Training & Extension Activities	180,000
533	Nursery Materials	70,000
553.1	Seeds	50,000
520	Machine Operation	30,000
440	Field Preparation 300 ha	1,500,000
440	Fencing	405,000
540	Office & Stationary	20,000
413	Building Materials	60,000
531.1	Vehicle Operation	196,000
531.3	Vehicle Services	80,000
531.5	Vehicle Insurances	90,000
560	Small Tools	30,000
591	Bank Charges	2,400

590	Miscellaneous Expenditure	24,000
	5% Contingency	137,000
	Total	5,120,400

Budget estimate: Jan-Dec 1990

230	Wages Project Staff	2,148,000
232	Social Security & Insurances	255,000
260.2	Per Diem	63,000
290	Travel & Study Abroad	150,000
270	Consultancies	325,000
620	Training & Extension Activities	234,000
533	Nursery Materials	100,000
553.1	Seeds	65,000
520	Machine Operation	90,000
440	Field Preparation 900 ha	4,500,000
440	Fencing	530,000
540	Office & Stationary	30,000
413	Building Materials	100,000
531.1	Vehicle Operation	510,000
531.3	Vehicle Services	105,000
531.5	Vehicle Insurances	200,000
560	Small Tools	90,000
591	Bank Charges	10,000
590	Miscellaneous Expenditure	50,000
	5% Contingency	477,750
	Total	10,032,750

ANNEX V

Programme Joint Energy Mission Formulation Mission

Week 1

Monday, 9.11.87

m : 10.30 Mission meets first time
a : 14.00 Mission meets MOERD officials and donors

Tuesday, 10.11.87

m : 08.30 Mission meeting
a : 14.00 Mission meeting

Wednesday, 11.11.87

m : 09.00 Mission meets District Energy Mobile Task Force. (DEPTAF)
a : 14.00 Mission meets KWDP

Thursday, 12.11.87

m : 09.00 H.Hendrix, West Pokot ASAL experience
a : 15.30 R. Zimmerman, RAES project

Friday, 13.11.87

m : 09.00 T. Foss, SEP project

Week 2

		Group I	Group II
Sunday, 15.11.87	Dept.	Baringo/Muranga	Kisii/Kakamega
Monday, 16.11.87		Baringo	Kisii
Tuesday, 17.11.87		Baringo/Muranga	Dept.Kakamega
Wednesday, 18.11.87		Muranga	Kakamega
Thursday, 19.11.87		Nairobi	Dept.Nairobi

Thursday, 19.11.87

e : 18.00 Mission meets KWDP, Kenyan staff

Friday, 20.11.87

m : 10.00 Mission meets MOERD and Donors

Week 3

Monday, 23.11.87

m : 09.00 Mission meeting
a : 14.00 Mission meets KWDP and MOERD

Tuesday, 24.11.87

m : 09.00 Mission works with MOERD officials
a : 14.00 Mission works with MOERD officials

Wednesday, 25.11.87

m : 10.00 Mission briefs donors at World Bank
a : 14.00 Mission works with MOERD officials

Thursday, 26.11.87

m : 09.00 Mission meets with KWDP
a : 14.00 Mission Meets KIA to discuss training issues

Friday, 27.11.87

m : 09.00 Writing
a : 14.00 Writing

Monday, 30.11.87

m : 10.00 Mission presents recommendations to MOERD
donors
a : 14.00 Writing report

Tuesday, 1.12.87 All day writing on the report

Wednesday, 2.12.87 All day writing report

Thursday, 3.12.87

m : 10.00 Mission meets MOERD and donors
a : 14.00 Writing report

Friday, 4.12.87 Handing over draft of final report.

ANNEX VI

PERSONNEL INTERVIEWED IN THE DISTRICTS

Baringo/Muranga Sub-Team

Persons Interviewed and Date of Interview.

Baringo District 15/11/1987.

1. Mr. Murray Roberts- Baringo Fuel and Fodder Project Manager

Baringo District. 16/11/1987.

1. Mr. P. E. Mwaisaka - District Commissioner
2. Mr. J. K. OMokamba - District Agricultural Officer
3. Mr. Kamau Kibunja - District Development Officer
4. Dr. E.K. Terer - District Veterinary Officer
5. Mr. V.K. Ngurare - District Livestock Production Officer
6. Mr. J.R. Chepkieny - District Land Adjudication & Settlement Officer
7. Mr. S. Ngunyi - District Land Adjudication Officer
8. Mr. Murray Roberts - Baringo Fuel and Fodder Project Manager
9. Dr. E. Meyerhoff - BFFP Socio-Economic Consultant

Baringo District. 17/11/1987.

1. Mr. Murray Roberts - Baringo Fuel and Fodder Project Manager
2. Dr. E. Meyerhoff - BFFP Socio-Economic Consultant

Nyeri District. 17/11/1987.

1. Nursery Attendants in Wambugu FTC Agroforestry Center

Muranga District. 18/11/1987.

1. Mr. J.O. Waupari - District Commissioner
2. Mr. F.M. Munguti - District Development Officer
3. Mr. J.K. Kanjagua - District Agricultural Officer
4. Dr. Maina Ithagu - District Veterinary Officer
5. Mr. J.K. Kinoti - District Extension Coordinator
6. Mr. J.K. Nzou - Forest Department
7. Mr. R.M. Gascheru - Soil Conservation
8. Mr. C. Ikunya - District Livestock Production Officer
9. Mrs.A.W. Ngugi - Kenya Woodfuel Project- Research
10. Mrs.N.W. Mbugua - Deputy Principal Kenyatta FTC

Kisii

1. Mr. Mbaria Maina - District Commissioner
2. Mr. H.J. Sagia - District Development Officer
3. Mr. G.N. Kihoro - District Forest Officer
4. Mr. J. B. Kungu - Ass. District Forest Officer
5. Mr. F.K. Wambugu - District Agricultural Officer
- 6 All KWDP staff

7.Mr Makenzie - Centre Manager EAC Kisii

Kakamega

1.Mr. Mberia - District Commisioner
2.Mr. Okuku - District Development Officer
3.Mr. P.W. Wamahiu - District Forest Officer
4.Mr. O.G. Gor - Provincial Forest Officer
5.Mr. Pwanali - District Agricultural Officer
6.Mr. Okello - District Livestock Development Officer
7. All KWDP staff
8.Mr. Murati - Centre Manager EAC Bukura

Nairobi

1.Mr. A Vienna - DS Development MOERD
2.Mr. D. Lamba - Mazingira Institute
3.Mr. D. Kimura - Principal KIA
4.Mr. V. Ogonda - DEPTAF
5.Mr. R Macdonald - Project Manager KCEAP/MOERD
6.Mr. H.Hendrix - The Netherlands Embassy
7.Mr. R Zimmerman - MENR/RAES
8.Mr. T. Foss - Project Manager SEP
9.Mr. K. de Beer - The Netherlands Embassy
10.Mr. D. Skoog - SIDA
11.Mrs. C. McMaster - CIDA

REPORT
JOINT FORMULATION ENERGY MISSION

MISSION LEADERS

B. GATUNDU
P. O'KEEFE (THE NETHERLANDS)

MISSION MEMBERS

F. NJORGE (KENYA)
R. NEILD (KENYA)
A. BOEREN (THE NETHERLANDS)
Z. ARAYA (SWEDEN)
P. LAMMERS (THE NETHERLANDS)
G.C.M. MUTISO (CANADA)
R. NEILD (KENYA)

DECEMBER 1987

TABLE OF CONTENTS

1.	Summary of Conclusions and Recommendations	1
2.	Introduction	9
3.	MOERD policy	18
4.	Research for Implementation	32
5.	Training for Action	37
6.	Indicative Budget	46
Annex I	JFEM Terms of Reference	55
Annex II	MOERD Policy Statement to JEFM	59
Annex III	Training Budgets and Costs	66
Annex IV	BFFP Budget	92
Annex V	JFEM Timetable	94
Annex VI	Personnel Consulted	97

CHAPTER I

Joint Energy Mission Conclusions and Recommendations

1. The MOERD District Model

1.1. The driving force behind the Joint Formulation Energy Mission (hereafter referred to as JFEM) recommendations is the desire to produce a simple, effective model that will facilitate MOERD's plans for District Intervention. MOERD's District Intervention plans are in turn, driven by Government of Kenya's (GOK) determination to base most development initiatives at the district level.

The JFEM hopes that the simplicity and effectiveness of its district intervention model will facilitate rapid action in districts covered by the report as well as enable MOERD to move to other districts with support from donors not currently involved in the JFEM.

1.2 The JFEM's model is based on guidelines provided by MOERD from its own Planning Division and from its own Biomass Technology Division through the office of Deputy Secretary (DS). These guidelines emerged from discussions of the MOERD's intervention strategy which, in itself, was based on the Report of the Joint Energy Mission, April, 1987.

1.3 The focus of the model of intervention is the District Development Committee (DDC). The DDC is responsible for district planning that reflects national, and more specifically, MOERD policy. MOERD is, after agreement with Treasury, the route through which the donor community channels funds for energy/agroforestry programmes to district level. Figure 1 lays out the organisational scheme in detail.

1.4 Within the DDC, energy/agroforestry responsibilities are covered by the District Energy Development Officer (DEDO). The DEDO has responsibilities for three sets of activities namely:

- Planning and Coordination- with assistance of the MOERD Mobile District Energy Task Force (DEPTAF). Most importantly, the DEDO has responsibility for coordinating woody biomass supply enhancement.
- Management- with particular emphasis on implementing the MOERD fuel switching and conservation strategies coupled with responsibilities for project funds including training.
- Facilitate implementation- through line ministries, with extension field networks, and NGO's, frequently using the E/AC for support in training and demonstration.

In general, the DEDO will have a coordinating role to ensure that the national Memorandum of Understanding on Agroforestry initiatives can be implemented at district level. To facilitate MOERD intervention, the DEDO will focus activities, especially training, around the district Energy/Agroforestry Centre (E/AC).

In such cases where a DEDO is not appointed, the District Development Officer (DDO) will hold the MOERD brief. Current budget proposals do, however, indicate that this DDO brief will be short lived since, over the next three years, MOERD proposes DEDO deployment in 30 districts.

1.5 The E/AC's main function will be as a focus for demonstration and training with particular emphasis on woody biomass management and supply enhancement. Demonstration and training will be offered to staff on DDC approved energy/agroforestry projects.

1.6 The Energy Development Fund (EDF) will follow established Government of Kenya regulations and procedures as existing in the Rural Development Fund (RDF) and District Development Fund (DDF). The EDF has an important role to play in realising the national objectives of MOERD.

The JFEM, however, thinks that, at the onset of the district energy initiatives, it is best to utilise window financing for specific district activities. The DEDO can approach MOERD, through the DDC, for such financing.

In the current proposals, the size of this window financing controlled by MOERD, can be calculated as a portion of the training funds plus all funds controlled as MOERD Project Steering Committee (PSC) Managed Funds.

2. Implementing the MOERD District Strategy.

2.1 In considering the implementation of the MOERD district strategy, careful consideration was given by the JFEM to the optimal location for action. Three existing levels of activity governed the final selection of districts, namely:

(1) Completed, on-going or planned DEPTAF activities existing in the district.

(2) Other MOERD activities, particularly energy/agroforestry activities. These were defined in the JFEM's Terms of Reference (TOR) as Kakamega, Kisii, Nyeri/Muranga, Nakuru, Ngong and Mtwapa. In addition, the JFEM recommends the inclusion of Baringo district which was also covered by the TOR.

(3) The final consideration was provided by Donor indications of budget commitment to the MOERD district energy strategy.

2.2 In reviewing the evidence before it, the JFEM recommends support of district energy support of district energy strategy in:

- (1) Kakamega
- (2) Kisii
- (3) Muranga
- (4) Nakuru
- (5) Baringo

To create a level of consistency with regard to ongoing MOERD activities the JFEM recommends that GOK actively seeks donor support at costs laid out in the model budget, for Ngong, Mtwapa, Nyeri and Kitui.

2.3 The move to district level requires considerable training initiatives. The JFEM sees the major training requirements as one that will enhance district capacity to implement energy/agroforestry projects at district level. The JFEM recommends that a strong mobile training team is established, operating from MOERD, for a period of three years. This team will assist the DEDO in each district.

The JFEM has identified training needs in two broad categories namely planning and implementation. The first category requires least funding but is important if the DEDO is to effectively plan, coordinate and manage the district initiative. It is recommended that the Kenyan Institute of Administration (KIA), a leading national training resource, undertakes such training with by contracting, on MOERD advice, relevant expertise.

The most important training component is that which supports action at district level. This category of training requires strong support for:

- (1) The Training of Trainers so the MOERD initiative is self sustaining,
- (2) The training of line Ministries to implement the MOERD strategy, and
- (3) The provision of training material.

The mission recommends that funding of such activity, especially the preparation and production of training material be within the normal cost range associated with existing extension materials.

2.4 To operationalise the MOERD district initiative, the DEDO should design project proposals based on DEPTAF and other information. These proposals should be brought through the DDC to the national MOERD's Project Steering Committee (PSC). PSC can recommend either EDF or window financing.

In such proposals, the DEDO should indicate the nature and extent of training requirements to facilitate project implementation.

Training can be provided at either E/AC district level or national level depending of the nature of the request and PSC's response to that request.

Details of the integrated training programme, and budget, are contained in the main report.

3. KWDP

3.1 MOERD's policy with regard to the role and function of KWDP can be detailed as follows:

- (a) KWDP is definitively a project, not an institution, under control of MOERD.
- (b) The Beijer Institute is currently proposed by MOERD as the contracting agency to execute the KWDP project. Responsibility for KWDP project formulation is, however, clearly the responsibility of MOERD.
- (c) KWDP activities, in Kakamega and Kisii, will be absorbed by MOERD at the end of the proposed three year activity.
- (d) KWDP activities, in Muranga and Nakuru, should follow a phase-in: phase-out model (for 4 years) that is designed to enhance MOERD's presence at district level.
- (e) KWDP is not responsible for training .
- (f) As KWDP activities are absorbed by MOERD, KWDP should not undertake activities (e.g. extension) that can not be absorbed into MOERD's own line activity.
- (g) At district level KWDP will be a provider of services coordinated by the DEDO; KWDP will be supervised by the PSC at national level.

KWDP will be supervised, as a provider of services to the district, by the appropriate district officials with the support of the MOERD headquarter staff.

3.2 With these policy guidelines in mind, the JFEM formulated operational criteria to assess KWDP proposals within the context of MOERD's district initiative. These were:

- (a) That as KWDP was a project, with a designated life of 4 years in any particular district, KWDP proposals must provide a strict sense of project cycle.
- (b) That, for Kakamega and Kisii, such a strict sense of project cycle implied a phase-out.

- (c) That, for Muranga, such a strict sense of project cycle implied phase-in but on the new model of MOERD district intervention.
- (d) That, for Nakuru, the proposed model is the old KWDP intervention practice which the mission was requested to support.
- (e) That during phase-out, the essential activity is the transfer of knowledge and methodologies under the direction of the DEDO. Consequently, KWDP's own activities, directly in research and indirectly in support of planning, must be designed for transferability in both a content and a cost sense.
- (f) That, on phase-out, a small core of KWDP professional staff will remain either for further assistance to MOERD in the district or for transfer into MOERD district level activities elsewhere.

3.3 To reformulate KWDP Kakamega, Kisii and KWDP Headquarters budgets the original proposals were adjusted as follows:

- (a) Requested funds for activities which were MOERD'S, not KWDP's, responsibility were transferred to MOERD's PSC Managed Fund.
- (b) Staff adjustments in light of the proposed phase-out model which emphasises the transfer of knowledge and method, particularly where such staffing was in activities incompatible with MOERD's own line responsibility at district level.
- (c) Proportional adjustment to KWDP district and Headquarters and other itemised expenditure in line with staffing adjustments.
- (d) Requests for funds which implied that KWDP was an institution not a project.

In addition, although the mission did not adjust KWDP's projected figures, it was concerned that the level of expenditure in the Mass Intervention activities was clearly beyond a level of sustainable finance in other districts with regards to transfer. Consequently the JFEM has formulated a separate note which leaves it open to MOERD to reformulate the Mass Intervention activity.

The reformulation of the Muranga budget followed similar lines except that, because it was a new initiative, staffing levels were designed to reflect the phase-in: phase-out model with an emphasis on early transfer of skills and knowledge to other line ministries in the district.

The Nakuru budget remains as in the original KWDP formulation. The JFEM would emphasise its dissatisfaction with this approach which is not truly representative of a joint initiative and would, therefore, recommend that the research purpose, programme activities, personnel, equipment and budget be reformulated to follow the consistent model developed for other KWDP activities.

3.4 The mission was unable to discuss the KWDP budgets in detail with KWDP management and staff. Consequently the JFEM initiated its own KWDP budget reformulation according to the principles, operational criteria and adjustments outlined above for the purpose of forward planning within the next six months.

The JFEM noted that KWDP detailed budgets did not correspond to any detailed workplan. The mission recommends that detailed costed workplans are provided, including job descriptions for individual members of staff, within six months.

The mission also noted, with some alarm, the inability of KWDP management to interpret and implement the reports of previous missions and instructions of the Project Steering Committee, to judge the changing institutional framework, and positively respond to that changing framework and to judiciously inform their staff of the implications of those changes. In short, the JFEM recommends a review of KWDP management by an external consultant, within the next six months, to ensure the effective participation of KWDP professional staff in the MOERD's district initiative.

The implied criticism in the mission recommendations must not detract from the excellent professional effort produced by KWDP. If the JFEM recommendations are followed, there is no reason why KWDP should not enhance its national and district level reputation by continuing to provide intellectual leadership and insight into energy and energy related problems.

4 Baringo

4.1 The mission has also detailed proposals for Baringo. The JFEM also recommends, to facilitate proposal finalisation a short term consultancy- the TOR for this consultancy are contained in the Annexes to the main report.

5 National District Steering Committee

5.1 In order to safeguard on-going activities, to rapidly implement the proposed projects and to control new initiatives it is proposed that one committee be established at national level chaired by the Deputy Secretary (Development) of MOERD. Such a unified committee would limit the number of project steering

committees which can effectively deny or fragment MOERD's coordination efforts.

The Chair could call other members of MOERD (Head of Biomass Technical Division and Head of Planning Division), district officials (District Commissioner, DEDO or DDO), donor representatives and relevant project staff according to the agenda. Essentially, MOERD staff would be permanent members with other persons determined by agenda involvement. Such a unified steering committee would control both the EDF and PSC Managed Funds.

6. Related Energy Agroforestry Activities

6.1 MOERD is currently planning two workshops for 1988 to:

- (i) discuss Energy/Agroforestry initiatives with other line ministries
- (ii) discuss R & D strategies

The mission draws the attention of concerned parties to the well developed proposals of the National Council of Science and Technologies (NCST) to hold a seminar in conjunction with the International Council for Research in Agroforestry (ICRAF) in November, 1988.

6.2 The mission notes that wood conservation projects are currently concentrated within the Special Energy Project. The mission approves such project concentration because it allows technical specialisation whilst allowing MOERD to direct such technical expertise towards its district initiatives.

7. Update of MOERD Activities

7.1 MOERD is currently coordinating final signatures on the Memorandum of Understanding so that it is effectively implemented at national and local level.

7.2 DEPTAF is very much operational with a level of activity in 27 districts. The JFEM has recommended a level of training support to the planning effort which particularly focuses on rapid appraisal techniques so that intervention and action programmes can be more speedily determined.

7.3 MOERD has requested the Directorate of Personnel Management (DPM) for DEDO and posts to support the DEDO position at district level.

8.0 Programme proposals are defined according to four broad areas. These four broad areas are direct support to MOERD activities, training, MOERD Projects Steering Committee Managed

Funds and KWDP. The total cost is K. Pound 9,069,113. A schedule of activities necessary to ensure prompt and effective programme implementation are outlined in the main report.

CHAPTER II

INTRODUCTION

2.0 Joint Formulation Energy Mission (JFEM)

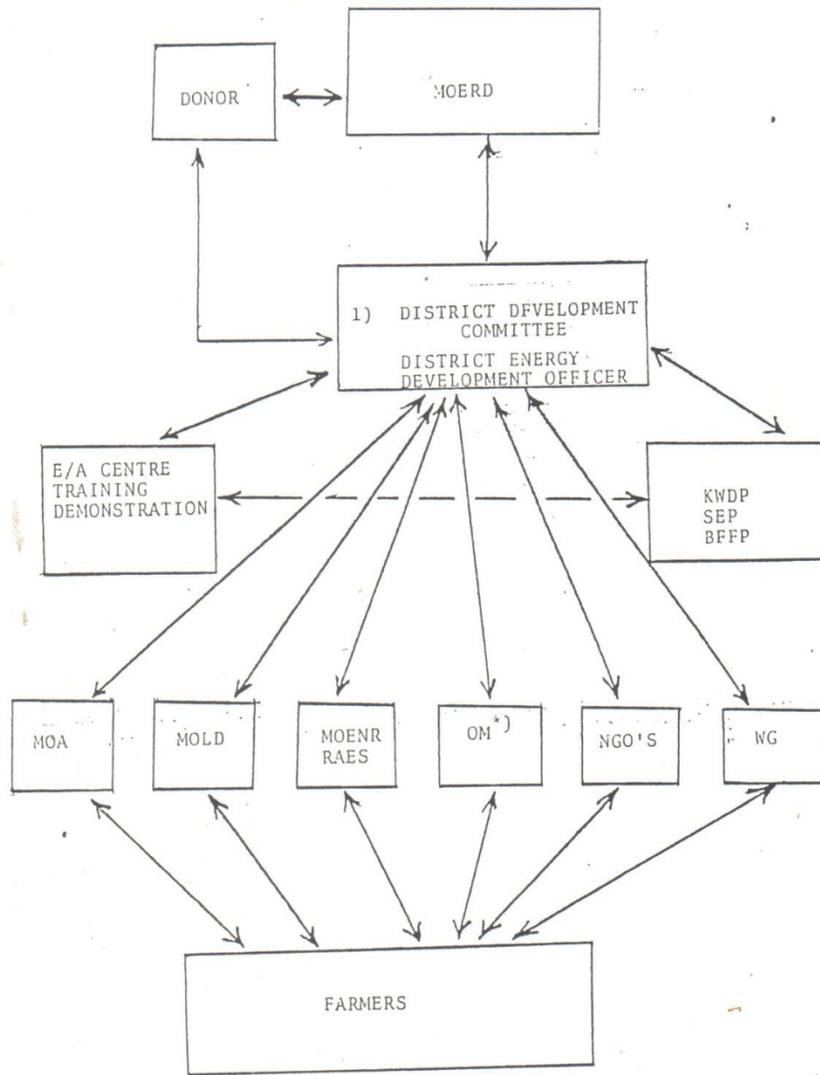
2.1 The purpose of the JFEM is to strengthen Ministry of Energy and Regional Development (MOERD) capacity to implement energy policy at district level. The challenge to JFEM is to formulate a mechanism whereby MOERD has not simply a presence at district level but a mechanism to articulate energy planning and management and most important coordination of the implementation of energy and energy related projects within the district.

2.2 The context for MOERD's district strategy is provided by the Government of Kenya (GOK) policy to focus most development activity at district level. Two important policy statements which have guided MOERD's district strategy are:

- (1) Economic Management for Renewed Growth (Sessional Paper 1, 1986)
- (2) District Focus for Rural Development

2.3 District level interventions from MOERD have to date been concentrated in the Planning Division and the Biomass Technology Division under the control of the Deputy Secretary (DS) Development. The JFEM has benefited from direct guidance by DS development and from active participation by personnel from both the Biomass Technology and Planning Divisions. (See Figure 2.1)

Figure 2.1 Organisational Scheme for MOERD District Strategy



Other ministries

Activity 1 = Planning and coordination; Activity 2 = Management and Activity 3 = Implementation

2.4 The JFEM's Terms of Reference (TOR) are contained in Annex I. While working to the TOR, the JFEM was encouraged to think strategically about a three year rolling programme of investment. This programme to run from mid 1988 to mid 1990, was to be based on MOERD's accelerating involvement at district level coupled with a formulation exercise which would allow existing projects to be brought more directly under MOERD's control. The JFEM sees the next six months (January- June 1988) as the critical period during which a unified approach to district energy intervention can be defined.

2.5 The JFEM has attempted to provide guidelines that will build such a unified approach by:

- (1) Defining a simplified model for district strategy
 - (2) Providing TOR for a number of supporting projects
 - (3) Structuring a research policy that focuses on implementation
 - (4) Establishing a training programme for extension
- and (5) Calculating broad budget parameters that seek to establish proportionality of the district strategy and simultaneously allow concerned parties to earmark funds for a mid 1988 startup.

2.6 The JFEM is proposing a wide programme, within MOERD, which is made up of a number of projects. MOERD will direct the overall programme and manage individual projects through a single Project Steering Committee. The projects are based around four sub-programmes namely: direct support to MOERD, training, MOERD Project Steering Committee Managed Funds and KWDP. In detail, these are made up of individual project components detailed below.

(A) DIRECT SUPPORT TO MOERD

- (1) Support for the establishment of five (5) District Energy Development Officers (DEDO) in Kakamega, Kisii, Nakuru, Muranga, and Baringo which will include a decreasing contribution from donors, to staff costs, with other support going to start-up and micro-projects costs in each district.
- (2) Support to finance consultancy (short term) to facilitate the start up of the DEDO programme.
- (3) Support to facilitate transport at the Energy Agroforestry Centres.
- (4) Support to develop an Energy Agroforestry Centre and subcentres, in Baringo.

(B) TRAINING

- (5) Support to develop a MOERD Mobile Training Team.
- (6) Support to develop professional skills in the MOERD Biomass Technology Division.
- (7) Substantial support to implement training for District Energy Programme implementation at district level.
- (8) Support to produce information material for district level training.

(C) MOERD PROJECT STEERING COMMITTEE MANAGED FUNDS

- (9) Support for Project Steering Managed Funds to transfer project experience to MOERD and other line ministries.
- (10) Support for Project Steering Committee Managed Funds for Energy Conservation.
- (11) Support for Project Steering Committee Managed funds for Research.
- (12) Support for Project Steering Committee Managed Funds for Agricultural Show Publicity.
- (13) Support for Projects Steering Committee Managed Funds for staff development (Human Resource Development Fund)

(D) KWDP

- (14) Support for KWDP Kakamega on a phase out model
- (15) Support for KWDP Kisii on a phase out model
- (16) Support for KWDP Muranga on the new MOERD intervention model
- (17) Support for KWDP Nakuru on the old KWDP model
- (18) Support for KWDP Headquarters to support MOERD's district initiative and more specifically work in Kakamega, Kisii, Muranga, and Nakuru.

(E) BFFP

- (19) Support to continue Baringo Fuel and Fodder Project and enable a research component to be added to it.

Details of the Budget are contained in Table 5.9.

2.7 To facilitate the MOERD district energy initiative, the JFEM has established a timetable for the next six months. Details of this timetable, which identifies agency decision and action, are contained in Table 2.

Table 2 The JFEM suggested Action Plan

(1)

Date: December 4, 1987.

Agency: MOERD/Donors.

Decision: Accept JFEM Draft Report including implications of a stronger Project Steering Committee.

Required Action:

(a) MOERD

Inform Districts, ensure nominated staff available for MOERD positions, especially training in BTD. Inform DPM of DPM build-up. Ensure coordination on MOU with line Ministries and DDC knowledge of that MOU.

Install the broader Project Steering Committee including a budget under the Managed Funds to operationalize the recommendations of the JFEM.

(b) Donors

Request broad funding from their own national government in line with proposed budget.

(2)

Date: December 11, 1987.

Agency: Projects Steering Committee.

Decision: Inform Executing Agency (The Beijer Institute) of reports acceptance: detail implications of this for KWDP and request KWDP response to detailed TOR's of the JFEM.

Required Action:

Executing Agency (Beijer) to formulate all district workplans and budgets, within new model by January 15, 1988 in conjunction with relevant DDO's. Executing Agency to provide work plan and budget for Headquarter by January 15.

Executing Agency (Beijer) to provide detailed response on mass intervention programme with emphasis on transferability:

(3)

Date: Late January, 1988.

Agency: MOERD/ Line Ministries/ Donors.

Decision: none

Required Action:

In light of issues raised by JFEM and Executing Agency (Beijer) reformulation, discuss remaining obstacles to district initiative.

MOERD to prepare short paper to interest other donors in the initiative.

(4)

Date: February 15, 1988.

Agency: MOERD/Donors

Decision: Agreement on project proposals and budgets for the period mid 1988 until mid 1990.

Required action:

(a) MOERD:

Ensure that the project and budget proposals are included in the Forward Budget.

(5)

Date: February 28 ,1988

Agency: MOERD/ DDC/ Other Projects like SEP.

Decision: Produce MOERD District Workplans

Required Action:

MOERD coordinates activities of interested parties beginning mid January

(6)

Date : March 31, 1988

Agency: MOERD/ Donors/ PSC

Decision: Operationalize new structure.

Required Action :

Late January appoint local Management Consultant to formulate a management model reflecting the phase in: phase out model of operation.

Review Consultancy Report and formulate a plan for implementation.

(7)

Date: March 31, 1988.

Agency: MOERD/Donors/ Other projects

Decision: Determine formal start up date on district intervention.

Required Action:

Finalise District Workplans and appoint 5 DEDO's

(8)

Date: April 15, 1988

Agency: MOERD/Donors

Decision: Determine final real costs and institutional routing of funds in light of MOERD proven activity.

Required Action:

(a) MOERD

- Induct initial 5 DEDO's and related staff from PSC Managed Funds

- MOERD request donors to submit plan plus budget for on 3 year period.

(9)

Date: July 15, 1988

Agency: MOERD/ Donors/ Other projects

Decision: Start up

Required Action:

Project Steering Committee in a new mode directing and controlling district initiative.

On acceptance of the JFEM report, MOERD must ensure a Project Steering Committee to implement the recommendations. MOERD need to take a series of steps detailed in the JFEM report, and donors need to inform their relevant national ministries. MOERD should immediately call the executing agency for KWDP to a Project Steering Committee and explain MOERD'S intentions. It should be asked to reformulate proposals within MOERD guidelines under the direction of the relevant District Development Officer.

MOERD should lead a seminar in January 1988, to discuss the implications of the district initiative with other line ministries. By February 1988, MOERD has prepared final work plans for the five (5) districts. During March 1988, MOERD finalises start-up procedures within the districts. In April MOERD and donors review the situation and determine progress. If all is on course, work begins in July, 1988.

There are bridging funds to support KWDP during this period of re-orientation. A small amount of funding that can be drawn from the overall training fund is need to support DEDO start up.

CHAPTER III

THE DISTRICT ENERGY STRATEGY

3.0 Introduction

A major National Energy Policy Strategy of The Ministry of Energy and Regional Development, in keeping with the overall National Development Strategy of a District Focus for Rural Development, is the Ministry's District Energy Strategy.

The overall objective of the District Energy Strategy is :

To strengthen the relationship between energy planning and programme formulation at the National level, and energy planning and programme implementation at the District level, in order to better support district level development:

This overall objective will be addressed by:

Strengthening the capacity of the District Development Committee to plan, implement, monitor and evaluate energy related development programmes and projects for all forms of energy, including: wood energy; rural electrification; petroleum product distribution; energy conservation; and alternative energy sources;

Strengthening the capacity of the Ministry to operate effectively, in collaboration with the District Development Committees, at the District level.

The overall District Energy Strategy has many components, involving all divisions of MOERD, including:

- The District Energy Planning Task Force Programme (DEPTAF)
- District Energy Plans (DEP)
- The District Energy Development Officer (DEDO)
- Energy/Agroforestry Centres Programme (E/AC)
- District Energy Surveys (DES)
- Liaison Programmes with Extension Services of Other Ministries
- Energy Development Fund (EDF)
- District Energy Projects e.g. KWDP

Clearly, the commitment of the Ministry to become involved actively in district development activities has many important implications for all divisions of the Ministry, including additional manpower requirements just as it has had for all other ministries which have become involved in the "District Focus " strategy.

3.1 District Energy Development Officer

Essential for the success of the Ministry's District Energy Strategy is the placing of District Energy Development Officers (DEDO) in all districts.

At present, district level energy planning and programme formulation and implementation is severely handicapped by the absence of a suitable trained officer at the district level who can represent the Ministry on all aspects of energy matters on the District Development Committee, work with the other District Officials on identifying needed programmes and coordinate MOERD projects in the district.

As part of the current round of activities associated with the drafting of the District Development Plans, the Ministry has been working with the Ministry of Planning and National Development and has been meeting extensively with the District Development Officers throughout the country. These officers are outspoken in their view that the MOERD is long overdue in terms of the posting of the District Energy Development Officers, and that until such time as officers are in the field, trained to represent the Ministry's interests across all energy forms, it will prove impossible to undertake the critically needed district level projects dealing with:

- the formulation of the District Energy Plans;
- coordination amongst concerned ministries, NGO's and donor projects;
- wood energy (including agroforestry and commercial energy plantations);
- the rural electrification programme;
- petroleum production distribution enhancement;;
- energy conservation programmes, particularly in terms of fuel efficient wood energy stoves and jikos;
- the identification of suitable locations for alternative energy applications (solar, wind, biogas, min-hydro, etc.);
- district energy surveys.

Overall, the job of the District Energy Development Officer can be described as being of a planning and coordination nature, with the officer having to be familiar with all energy forms, but particularly biomass energy.

It is recognised by MOERD that suitable training programmes will be required to develop the broad energy planning, programme formulation, coordination, and implementation capability on the part of these officers.

The job is not seen, in the main, as a technical position although clearly there is a technical component present. Rather, as noted above, the priority is planning and coordination across

all energy forms, among all concerned Ministries, NGO's and Donor funded projects. The technical aspects of district level energy programmes and projects will be addressed by suitable trained, specialist MOERD officers, based either at the District Energy Centres (6 presently in operation) or at MOERD Headquarters.

Given these characteristics of the job. it is believed that the District Energy Development Officer could be drawn from the Government of Kenya's Planning Scheme of Service, or the Forestry Scheme of Service or the Agriculture Scheme of Services.

3.2

MOERD will provide policy and technical guidelines to the districts and will provide material support in the form of personnel, offices, transportation and operational support for the District Energy Development Offices and for the Energy Agroforestry Centres (EACs).

MOERD will provide assistance to the DDC in the preparation of the District Energy Plans.

MOERD will provide technical assistance to the districts through the Planning Division and the District Energy Development Officer (DEDO) and through the Biomass Technology Division, which will be responsible for assisting the districts set up and run their EACs.

MOERD will make money available to other Ministries to carry out energy related projects in the districts.

Through the Energy Development Fund and through the Project Steering Committee Managed Funds, MOERD will make money available to other projects, agencies or groups.

The District Energy Plan, prepared by the district, will provide the guidelines for the implementation by the district of the MOERD district programmes.

The District Energy Plans will also be used as inputs in formulating the National Energy Policy.

3.3

Central to the District Energy Strategy of the Ministry of Energy and Regional Development is the development of a detailed District Energy Plan, for each district.

Preliminary District Energy Plans, based on a limited data base, are currently (December 1987) being prepared for inclusion into the forthcoming District Development Plans which are also

currently being prepared as part of the forthcoming Five Year National Development Plan.

However, more detailed District Energy Plans are required, based on a more comprehensive data base and data analysis.

In outline, the wood energy component of a District Development Plan will:

- a) Undertake baseline data surveys to establish the current situation with respect to :
 - i) Woody biomass stocks in the District;
 - ii) Amount of woodfuel and charcoal being consumed in the District, by end use;
 - iii) Sources of wood energy, within and from outside the District
 - iv) Extent of tree woody biomass planting, including agroforestry currently underway in the District;
 - v) Cultural and socio-economic determinants of behavior with respect to trees/wood energy, currently prevailing within the District;
 - vi) Economic factors regarding current purchase/ sales of wood energy as well as fuel substitution determinants (crop residues for wood energy; charcoal for kuni; paraffin for wood energy; lpg or electricity for wood energy);
 - vii) Current level of adoption of fuel efficient wood stoves and charcoal jikos.
- b) Establish trends in and develop projections for the future pattern of wood energy use in the District, including consideration of:
 - i) Impact of demographic and socio-economic factors, including population growth, land tenure changes, land use changes, pricing policies, urbanisation and growing affluence, fuel substitution, trends in the district on wood energy use;
 - ii) Future impact of existing and proposed agroforestry/ wood energy production efforts in the District;
 - iii) Future impact of fuel efficient wood stoves and jikos;
 - iv) Estimate of future requirements for wood energy, taking into account the above with a 20 year time horizon.
- c) Identify wood energy supply/demand imbalance problems and related supply/demand constraints of a technical, socio-economic and cultural nature, both current and future.
- d) Formulate measures which are District specific and appropriate, to address these problems and constraints, including recommendations for specific programmes and projects.
- e) Ensure that the process of formulating the District Energy Plan is a interactive and collaborative one, involving the

District Officials. the Energy/Agroforestry Centre staff, local NGO's including women's and church groups, cooperatives, agricultural organizations, etc. Action Research methods should be employed, to ensure that joint learning on the part of all key actor's takes place, and that the final Energy Plan thereby is both widely understood and supported.

3.4 The District Energy Agroforestry Programmes

The Energy Agroforestry programmes will be coordinated by the DEDO. Where an Energy Agroforestry Centre (EAC) exists, the DEDO will coordinate with the EAC Manager. If a DEDO has not been appointed the district energy and energy related projects will fall under the responsibility of the DDO.

It is the policy of MOERD to have an EAC in all districts where the districts and MOERD agree that one is necessary. The timing will depend on the availability of money and trained people and the urgency of district needs relative to other districts.

The decision as to whether an EAC is required will be first and foremost a district decision, made with the assistance of the Biomass Technology Division of MOERD. The content of the EAC work plans will depend on the District Energy Plans.

The work plans of these existing EACs have at present been prepared in the absence of a District Energy Plan. As soon as these district plans are prepared, the EACs will begin to alter their plans to conform to the district plans.

3.5 The Role of the Energy Agroforestry Centres

The Energy Agroforestry Centres (EACs) will have the following functions:

- (a) Training in agroforestry of existing extension staff in government and NGOs and farmers participating in FTC course.
- (b) Demonstration of agroforestry technologies suitable for the relevant farming systems in the region to support the above mentioned training.
- (c) Seed production, collection, storage, distribution and improvement if this is insufficiently undertaken by other appropriate organizations or private farmers.
- (d) Limited applied research under the direction of the national research institutions.

- (e) Demonstration of energy conservation and renewable energy technologies as far as they are appropriate to the region.
- (f) Provision of facilities to NGOs involved in agroforestry.
- (g) Other activities deemed appropriate by the DDC and included in the District Energy Plan.

The layout, staff, facilities and work plans at the centres will result from a detailed study of the farming systems and wood energy supply and conservation needs in the district.

Where possible, this information will be derived from the District Energy Plan and the studies carried out by projects in or relevant to the district, such as KWDP and the Baringo Fodder and Fuelwood Project.

There should be close integration of EAC activities with district energy related activities. This will be achieved by assigning staff as centre managers who are senior enough and sufficiently well trained to participate in the proposed agroforestry and energy sub-committee of the DDC. The EAC managers will be at the same level of seniority as the District Energy Officers, who will also have a large measure of responsibility for integration of EAC and district energy activities.

3.5.1 Personnel and Facilities of the EAC's

The EAC's will have a relatively large staff to carry out the activities assigned to them. The senior staff at an EAC will include a Centre Manager, Research/Training TA, Seed Programme/Demonstration TA, Energy Conservation Technologies TA, and Jiko/Biogas Artisan. In addition there will be a secretary, clerk/store keeper, driver and casual labourer.

The EAC district personnel will be supported by the Headquarters staff of the Biomass Technology Division in Nairobi, consisting of the Head of the Division, a Deputy Head, who will be directly responsible for the EACs, and under a Wood Energy Supply Officer and Agroforestry Training and Extension Officer, an Agroforestry Research Officer, an ASAL Projects Officer, a Seeds Programme Officer, a District Energy Task Force Officer, a Commercial Woodfuel Officer, and a Data Analysis Officer.

Under the necessary buildings, the most important requirement of the EACs is good transportation in order to enable the EAC staff carry out their most important tasks of training, demonstration, and coordination, covering all of the districts.

3.5.2 Phasing of EACs into MOERD

The EACs were considered as important resource centres to develop and test technical, agroforestry packages for the broad ecological zones they represent and as training and demonstration loci for these packages and other energy forms. The District Focus for Development, however, dictates that their primary focus should be the districts in which they are located. This, however, does not preclude them from serving other districts as demonstration centres in the short run.

The establishment of new EACs and the running of the existing centres require a level of financing that puts heavy budgetary burden on MOERD at the present moment. It is therefore, necessary to introduce the following phased transfer of EACs over a three to four year period:

a) Existing EAC's

- Donor financing will be required for purchase of vehicle and minimal infrastructure development in 1988 and costs after that being borne by MOERD.

- Recurrent budget is borne by MOERD.

b) New EAC's

- Donor financing is required for purchase of vehicle(s) as well as infrastructural development.

- Recurrent budget assistance by donors is 100%, 75% and 50% over the three years and complete absorption thereafter by MOERD.

In order to minimize the budgetary burden to MOERD, a scaled down manning is suggested (3.1) above.

3.6 The Role of the Donors

The task of MOERD of building up an organisation which can support the district energy programmes is large. The donors can assist by providing technical assistance and training and by helping with infrastructure development and operating costs.

The districts require District Energy Offices and EACs. Part of the process of setting up functioning EACs will probably include establishing a KWDP type presence in the district for approximately a four year period. Apart from exceptional circumstances, the KWDP type presence should be temporary and short term. Therefore donor projects would most usefully be seen as projects to set up and support EAC's.

MOERD is very concerned that the donor project activities and functions, including those of the KWDP, be ultimately absorbed into the GOK agencies. Since the District Offices and the EACs will be permanent parts of the district government apparatus, MOERD would like to see these as the basis on which the donor projects are built rather than around projects which will have only a temporary presence in the districts.

Therefore any support for offices and buildings should be towards what will eventually be EAC or DEDO facilities. These facilities may be used in the beginning by projects but it is felt that if it is clearly understood that these are, or will be, GOK offices this will help with the eventual transfer from project facilities to GOK facilities.

3.7. The Role of KWDP

The objectives of the KWDP should remain essentially as they were in 1983. In brief these were:

- to develop replicable methodologies for fuelwood planning with a district focus;
- to develop replicable methodologies and locally feasible agroforestry recommendations;
- verify feasibility of agroforestry recommendations and the effectiveness of extension approaches/methods which increase fuelwood production and decrease consumption;
- to assist in the development of Kenyan manpower capacity to prepare, execute and monitor district fuelwood projects;
- develop a low cost, replicable monitoring methodology at district and national level.

MOERD feels that these objectives should be operationalised more specifically to emphasise transferability to GOK.

The KWDP should carry out district oriented R & D work on site-specific agroforestry solutions to wood energy and other agroforestry problems. It should develop and test solutions including technologies and extension methods and transfer them to the EACs which can guarantee a permanent transfer to the agencies directly involved in farmer extension work.

MOERD is the lead and coordinating agency for agroforestry development in the country. The KWDP should be a general agroforestry applied research and development project (or projects) to support the needs of MOERD and other relevant agencies. MOERD expects that KWDP will continue to develop

expertise in the areas of district resource analysis, woodfuel supply and demand management, including development and transfer of methods for monitoring MOERD agroforestry woodfuel supply and demand management programmes, development and transfer of extension methods relating to woodfuel supply and demand, and training of MOERD staff.

The KWDP should maintain its original approach of phasing in to a district for one year, operating for two years and phasing out in one year for a total KWDP presence in the district of four years. This will be the goal. This may vary as circumstances require, but in general a long term presence for KWDP in any one district is not foreseen. There should be a transfer of the KWDP functions to the GOK staff in the district within the four year period.

It is therefore foreseen that KWDP would at most at any one time be phasing in to one district, operating in two districts and phasing out of one district. This capability should form the operational ceiling for funding levels.

KWDP will not expand its R & D activities in fuelwood conservation.

Interagency coordination is not the function of KWDP but of MOERD. MOERD will specify for each district the services required from KWDP in order for MOERD to be able to fulfill its coordination mandate for agroforestry development.

KWDP should not evolve into a training organisation. However, the KWDP will play a crucial role in supporting the training of Energy Agroforestry Centre staff, particularly when an EAC is being set up.

A major function of the KWDP in the districts is to develop institutionally acceptable and feasible methods (see section 4.3) and to transfer these to the appropriate GOK line ministry staff, to the EAC staff and to the DEDO, before leaving the district. It will therefore be necessary that the KWDP work plans be specific as to how the GOK staff will be incorporated into the KWDP programme for the district, starting from the beginning of the KWDP operations in the district.

The KWDP would be initially supervised, as a provider of services to the district project, entirely through the project, by the executing agency and the steering committee.

As the project and the KWDP are phased out, the appropriate district officials, mostly EAC and DEDO staff, will assume more and more responsibility for the functions of the project until in the end the project and KWDP will be completely phased out.

The actual timing of the phasing out process will be worked out in the mutually agreed upon project and district DEDO and EAC work plans.

KWDP's own measures of success make it crucial that methods and criteria for the formulation and transfer of usable R & D outcomes are explicitly stated in the phase 2 proposal for operations of KWDP, after discussion with the Ministries concerned. The emphasis, above all, will be on transferability, so that the project and KWDP will operate within a content and cash framework that more closely reflects GOK's own operations.

3.8 KWDP as a MOERD Project

As noted above it will be necessary for the KWDP to adopt a more interactive approach with MOERD and district officials in the design, development and testing of their methods and approaches. This will require direct participation of district and MOERD staff in KWDP activities and possible periodic secondment of KWDP staff to the district or MOERD.

MOERD's position is that, in the normalised legal status brought about by the local incorporation of the Beijer Institute in Kenya the Beijer Institute is recognised as a non-profit contractor of services through KWDP to MOERD.

KWDP services provided to MOERD will be based on a tri-partite agreement between MOERD, the Beijer Institute and the financing (donor) agency. This would operate as follows:

- a) MOERD and The Beijer Institute would draw up a specification and agreement on the services which The Beijer Institute through KWDP is to provide, and their costs. This is signed by both parties.
- b) A contract is undertaken between The Beijer Institute and the financing agency to provide the services agreed in (a) above. The agreement forms an appendix to the contract which specifies payment methods to The Beijer Institute.

In this approach, the relationships between the parties is clear. The question of a KWDP Board does not arise. The Beijer Institute/KWDP is free to organise itself as it thinks fit to perform its contracted functions.

3.9

Most of the institutional recommendations about the organisation of MOERD to facilitate direct intervention made in the, REPORT ON JOINT ENERGY MISSION MARCH/APRIL 1987, are already in place. The

salient ones with respect to this Mission's work are the strengthening of the Biomass Division, district energy planning and incorporation of donor funds into the forward budgeting process.

In the view of this JFEM, the district programme for the next three years will be heavily developmental as MOERD, Donors, DDC's and communities will interact defining new modalities of work, training, prioritising and finally implementing projects on the ground. To support such a programme there is need for policy coordination at the national level, programme supervision and management at the district level and, of course, energy and energy related outputs at the project level.

National Level

MOERD already has the structure within which to conduct the projects identified. The Biomass Technology Division, the Planning Division and the Office of the Deputy Secretary Development will be central in programme development over the next three years.

The JFEM sees a need for systematic policy and programme coordination of the many donors who are likely to be active over the next three years. Consequently the mission recommends that:-

1. A SINGLE STEERING COMMITTEE BE FORMED BY THE MOERD TO SUPERVISE POLICY AND COORDINATE ALL PROJECTS. THIS WILL AVOID THE PAST PROBLEMS WHERE DIFFERENT PROJECTS HAVE OPERATED IN MANY DIFFERENT WAYS. THE COMMITTEE WILL BE CHAIRED BY DS DEVELOPMENT.

2. THE BIOMASS TECHNOLOGY DIVISION AND THE PLANNING DIVISION AND THE OFFICE OF THE D/S DEVELOPMENT BE THE REGULAR MINISTRY REPRESENTATIVES IN THIS COMMITTEE.

3. THE STEERING COMMITTEE SHOULD HAVE THE POWER TO CO-OPT FROM THE DISTRICTS WHERE THERE WILL BE PROGRAMME REPRESENTATIVES OF THE RELEVANT DDC AS NEEDED. THE DDC'S CAN SEND THEIR CHAIRMAN (DC), SECRETARY (DDO) OR THE DISTRICT ENERGY DEVELOPMENT OFFICERS.

4. SINCE THERE IS CONFUSION AT MANY DISTRICT LEVELS ABOUT THE DIRECT FUNDED RESEARCH AND DEVELOPMENT PROJECTS, DURING THE FIRST STEERING COMMITTEE MEETING IT SHOULD INTER ALIA:

A. INVITE REPRESENTATIVES OF THE DDC'S TO BRIEF THEM ON THE R&D COMPONENTS WHICH ARE NATIONAL AND THEREFORE MINISTRY'S RESPONSIBILITY.

B. THE RESPONSIBILITIES OF DDC'S IN PLANNING AND IMPLEMENTING ENERGY AND ENERGY RELATED PROJECTS IN THEIR DISTRICTS

C. THE MODALITIES OF COORDINATION AND REPORTING BOTH TO MINISTRY AND DONORS DEPENDING ON TYPE OF PROJECT FUNDING. FIGURE 2.1 OUTLINES THE ORGANISATIONAL SCHEME AND DEDO ACTIVITY AT EACH LEVEL.

District Level

The most urgent business at the district level is for the DDC's to assist in the production of District Energy Plans and to coordinate energy and energy related activities in the districts. These matters will be greatly assisted by the posting of the District Energy Development Officers who are discussed elsewhere in the report.

The mission therefore recommends that:-

1. IN THE FIVE DISTRICTS WHICH WILL INITIALLY GET DEDO'S THE DDC'S FORM A DISTRICT ENERGY SUBCOMMITTEE TO SUPERVISE ENERGY AND ENERGY RELATED PROJECTS AND PROGRAMMES.
2. AT A MINIMUM THE COMMITTEE BE FORMED OF THE DISTRICT MINISTERIAL OFFICERS FOR THE LINE MINISTRIES WHO HAVE SIGNED THE M.O.U. AND ANY OTHER MINISTRIES WITH SIGNIFICANT INPUTS INTO ENERGY RELATED ISSUES E.G. WATER DEVELOPMENT IN ASALS. WHERE NGOS HAVE PROGRAMMES THEY SHOULD BE CO-OPTED.
3. THE DISTRICT ENERGY COMMITTEES BE CHAIRED BY THE DC WITH EITHER THE DISTRICT ENERGY OFFICER OR THE DISTRICT DEVELOPMENT OFFICER ACTING AS SECRETARY.
4. MANAGERS OF R&D PROJECTS BE CO-OPTED MEMBERS OF THE DISTRICT ENERGY COMMITTEES WHATEVER THE MODALITY OF FUNDING FOR THE PROJECTS.
5. PROJECT ACTIVITIES BE DISCUSSED WITH THE DISTRICT ENERGY COMMITTEES AND THE LINE MINISTRIES.

Project Level

At the project level there will be activities which are of R&D nature for particular districts or general regional application. It is important that the dictates of R&D be understood by the DDC's so that they do not countermand them in the context of DDC requirements. This can only be achieved by serious discussions by projects with the line ministries, who are the MOERD extension arms at the project design stage.

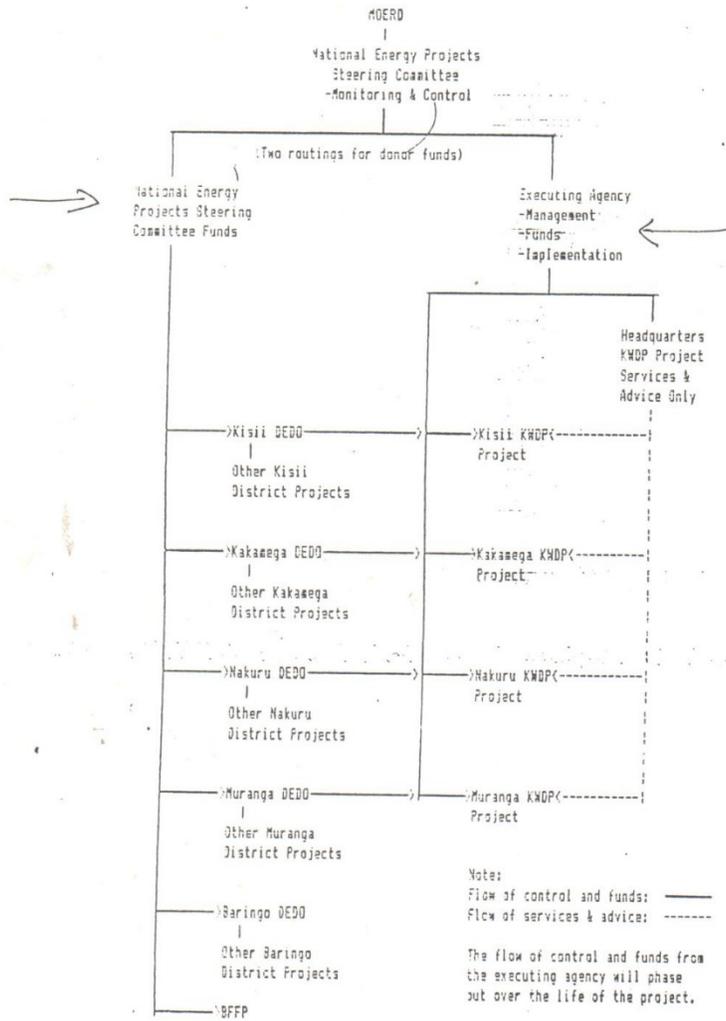
IT IS RECOMMENDED THAT THE MODALITIES OF WHAT PACKAGES AND HOW THEY ARE TO BE FITTED INTO LINE MINISTRIES MUST BE PART OF THE DESIGN OF R&D PROJECTS.

The Mission is particularly interested in the anchoring of energy and energy related activities in the particular communities.

THUS THE JFEM RECOMMEND THAT IN THE DESIGN OF ENERGY AND ENERGY RELATED PROJECTS AND PROGRAMMES SPECIFIC DETAILS OF HOW ACTIVITIES ARE TO BE CONTINUED BY THE VARIOUS COMMUNITIES MUST BE SPECIFIED OVER AND ABOVE THE SPECIFICATION OF RELATIONSHIPS BETWEEN PROJECTS AND LINE MINISTRIES.

Organisation Chart

Organisation Chart Showing the Responsibilities and Flow of Funds to KWDP and Other District Energy Projects



CHAPTER IV

RESEARCH FOR IMPLEMENTATION

4.1. The Ministry of Energy and Regional Development (MOERD) is responsible for planning, formulating, implementing and facilitating the implementation of renewable and non-renewable energy programmes, as well as supervising regional development authorities involved in the implementation of energy and energy-related programmes. MOERD has been given a leading role in the coordination of agroforestry programmes with energy content whilst its role in non-woody biomass renewable energy forms can be defined as implementing and facilitating their implementation. The Sessional Paper No. 1 of 1986, Economic Management for Renewed Growth, recognizes the importance of woody biomass and agricultural waste in meeting household energy requirements. It, further recognizes research and development needs in the area to enhance efficient woodfuel supplies, energy conservation and other renewable energy technologies.

4.2 Research and development in renewable energy forms are presently carried out by a number of research institutions. On the woody biomass side, some research connected with integration of woody biomass into the Soil Conservation Programme is found in the Kenya Agricultural Research Institute (KARI). The Kenya Forest Research Institute (KEFRI) and the Range Management Unit are also carrying limited research in forest and fodder crop improvements that have energy content. Further, the EACs of MOERD, the Baringo Fuel and Fodder Project (BFFP) and the ongoing Kenya Woodfuel Development Programmes in Kisii and Kakamega are carrying out applied research programmes in energy-related areas.

4.3. Adaptive research in energy conservation (improved charcoal and wood stoves), biogas technology development and other renewables energy forms is being carried out by the MOERD's, EAC's, the Special Energy Project (SEP) and other governmental and non-governmental institutions.

4.4. The research efforts in wood energy/agroforestry development, wood energy conservation, socio-economic issues and extension approaches have not been coordinated. The recent creation of the Ministry of Research and Development will hopefully create the necessary condition for coordinated and systematised research and development in general and of energy and energy-related aspects in particular.

4.5. The research needs of the various agroforestry, energy and energy-related district programmes for which MOERD has a coordinating and/or implementing role have been discussed with line ministries at district level. It was made clear that line

ministries would benefit from broadening of species in the integration of their activities, development of agroforestry packages including woody biomass management and new and innovative extension approaches to complement existing extension methodologies of line ministries.

4.6. Research in woody biomass supply enhancement should, of necessity, be defined on the basis of resolving location-specific problems both in the sense of ecological and socio-cultural as well as existing and future farming/agricultural practices. Some useful insights into the contextual issues have been provided by MOERD field activities, namely, KWDP in Kisii and Kakamega and Baringo Fuel and Fodder Project. Similar locational problem insights on which research agenda can be defined are also available from the field activities of the Soil Conservation Programme, the Rural Afforestation and Extension Services and the Kenya Range Management Unit.

4.7. The report of the Joint Energy Mission of March/April recommended the formulation of a National Agroforestry Strategy which would, among others, include an agroforestry research strategy. Although this task will be undertaken in due course, certain elements of the research strategy with a district or location focus could tentatively be outlined. However, the elements of a research strategy will require an identification of existing practices and problem areas. Although it is not exhaustive, the following areas where research can/should be focused can be identified:

- a) high potential/high population density areas where there is a tradition of integration of woody biomass with energy content into farming system;
- b) medium to high potential, high population density areas with little or no tradition of integration of woody biomass to increase agricultural production; and
- c) low potential, low population density silvi-pastoral areas with little or no tradition of integration of woody biomass into agricultural systems.

4.8 Research efforts in high potential/high population density areas where there is a tradition of integration of woody biomass with energy content into existing and future farming/agricultural systems should address themselves to:

- a) development of silvi-cultural and management packages of woody biomass already integrated;
- b) broadening the species base of woody biomass integration through fast screening of indigenous and exotic species adaptable for the various end-users including energy; and

- d) development of agroforestry package for the newly introduced species.

4.9. In the medium to high potential high population areas, with little or no tradition of integration of woody biomass in the agricultural/farming practices, research efforts may have to be oriented towards watershed management and integration of woody biomass to increase fodder, fruit and tree production. Research areas may specifically be related to:

- a) development and broadening species for enrichment plantation;
- b) development of species base that would maintain/increase woodfuel and timber supply; and
- c) development of management package in support of (a) and (b) above.

4.10. Research efforts in arid and semi-arid lands have to be defined, with fodder as the primary focus. The nature of these areas and the existing socio-economic and cultural practices that exist require that research efforts be geared to:

- a) development of management schemes that takes into account current and future land use;
- b) an assessment of native fodder trees and their systematic integration through enrichments planting; and
- c) development of new technical packages that would increase the carrying capacity of the arid and semi-arid lands including introduction of fodder tree crops.

4.11. Some research effort in assessing the performance of exotic and indigenous species for environmental protection, soil fertility improvement, fodder production, fruit production and wood production is being carried out by the national research institutions, the EAC's and non-governmental institutions more or less on agro-ecological basis. Further, limited research effort is underway in developing management techniques to enhance woody biomass production. However, the research agenda is primarily set by the individual institutions and there is not only a danger of duplication but also that of questionable quality of work because of the dearth of trained researchers in some of these institutions. It is, therefore, imperative that the roles of the various research institutions is defined and a coordination mechanism introduced.

4.12. The role of the Ministry of Research, Science and Technology (MORST) can be conceived as formulation of national

research policy, setting up of priority research areas and programmes and facilitating their implementation. The role of national research institutes, namely, KARI, KEFRI and the Kenya Range Management Unit with respect to supporting the efforts of MOERD would be:

- a) preparation of guidelines for the collection of seeds of indigenous forest, fruit and fodder trees;
- b) bulk importation of seeds of forest, fruit, fodder and soil fertility improving species;
- c) fast screening and provenance trials of same for the broad ecological zones;
- d) design of experimental lay-out for Research Stations and EACs as well as strategically located experimental plots;
- e) design of crop management trials including, thinning, pruning, coppice management, etc.; and
- f) training of EAC and other MOERD staff in research management, data collection and analysis.

4.13. The research role of the MOERD programmes (BFFP, KWDP, SEP and Agroforestry/Energy Centres) will be of an on-station and on-farm nature under the guidance of the national research institutions. This will include:

- a) species screening and provenance trials (both indigenous and exotics) at district and subdistrict levels;
- b) on-station performance trials of the most promising multi-purpose species;
- c) on-station espacement, intercropping, other configuration trials as well as other management techniques such as pruning, thinning and coppice management;
- d) on-farm performance trials of the most promising species and development of management techniques on representative farms in the district; and
- e) systematic data collection and analysis in the form that can be used by end-users.

An area that needs special attention is that of rehabilitation of arid and semi-arid lands. The Baringo Fuel and Fodder Project has a number of promising fodder tree species that have impact outside of their geographical location. It has developed a technically feasible range rehabilitation approach. The research capacity of the Project is, however, very limited. It is,

therefore, necessary that more research efforts should be put in the following areas:

- a) environmental monitoring including vegetation survey;
- b) fodder and pasture development; and
- c) applied socio-economic research.

The recruitment of a full-time fodder specialist is recommended. It is further recommended that an institutional linkage be established with Egerton University and/or Moi University and funds are made available to carry out priority arid and semi-arid research programmes.

4.14. Research and development in other renewable technologies as well as energy conservation technologies is being carried out by SEP and technical institutes under the guidance of the MOERD. The Ministry's role is seen as facilitative through the provision of requisite funds.

4.15. It is clear that MOERD has a coordinating and facilitating role in the implementation of research programmes with energy content. For MOERD to have an effective coordinating and facilitating role, the following conditions must be met:

- a) creation of a mechanism that would allow MOERD to participate and influence the research agenda. This should be an operating Research Committee of the Ministry bringing together all key divisions in MOERD to make policy;
- b) establishment of a small unit to coordinate research efforts woody biomass development and energy conservation; and
- c) creation of a fund that could be channelled to research institutions to carry out research in energy and energy-related areas.

4.16. Applied research or experimentation in energy and energy-related areas in general and woody biomass enhancement in particular will be guided by the research agenda of MORST which reflects MOERD priorities. Further, experimental designs, data collection and analysis will be supervised by relevant national research institutions for which funds will be made available from the Project Steering Committee managed funds. The research officer in MOERD will play an important facilitative role. It is important to stress that research/experimentation programmes content be defined on the basis of eventual transfer of results implementing agencies of GOK with a minimal of incremental cost. Consequently, KWDP and other projects must always be "content" and "cash" conscious when defining its programme so that on transfer, the results of such exercises can easily marry with MOERD institutional and financial capacity.

CHAPTER V

TRAINING FOR ACTION

5.1. Mandate of MOERD

MOERD is the lead and coordinating agency for agroforestry development in the country. Its major role is to formulate policies and to allocate resources that will stimulate the development of indigenous energy resources and promote energy conservation. The Ministry will primarily make use of other organisations for the implementation of the formulated policies, strategies and programmes.

At the district level, MOERD will be represented by the DEDO the Energy Agroforestry Centre. Through these institutions, the Ministry will assist the DDC's in planning, coordination, implementation and monitoring of wood-energy and energy-related programmes. MOERD will provide technical assistance to the DDC's, for example, in training other organisations in agroforestry and extension techniques related to agroforestry.

5.2. MOERD and Extension

In line with its primarily coordinating role, MOERD will not have its own extension network. Instead, it intends to rely on other organisations at district level to convey relevant agroforestry messages and practices to the household level. With relevant line ministries, a M.O.U. will be signed to formalise the level and content of cooperation in this respect. Apart from MOERD, the following ministries are involved in the agreement: Ministry of Agriculture, Ministry of Livestock Development and the Ministry of Environment and Natural Resources.

MOERD will facilitate the activities and responsibilities of the line ministries in agroforestry extension by creating, in agreement with Treasury, of a vote item "Extension Services" in the MOERD budget. The Ministries at district level are hampered in their operations by a lack of mobility.

By facilitating their transport, hence creating circumstances for increased efficiency in field operations, the Ministries will be in a better position to incorporate agroforestry activities into their own schedules.

KWDP is involved in agroforestry extension in Kisii and Kakamega districts, but with the prime aim to design and test extension methods and techniques that will prove useful to other organisations in the district. So far, research has concentrated on the effectiveness of strategies, with very interesting and promising results. Little attention has been directed to questions of cost-effectiveness or whether line ministries can

afford or integrate KWDP extension techniques, given their present system and resources.

As a project under MOERD, its concern should be to assist the Ministry in developing extension packages that are relevant to district conditions (technical as well as socio-cultural) and suitable to prevailing extension operations of line ministries.

5.3. Training for Extension

At present, six EAC are operational, five of them headed by a Centre Manager. Apart from doing research, their main functions are to demonstrate agroforestry techniques, to train on energy conservation and to distribute seedlings. All activities take place at the Centres or nearby FTC's.

With the planned installation of a DEDO in each district, and the proposed EAC staffing (see 3.5.1), the MOERD will be in a position to identify and address agroforestry and extension training needs in the district. Over the years 1988/89-1990/91, MOERD plans to have 30 DEDO's, 30 AEDO's, 12 Centre Managers and 72 Technical Assistants posted in the districts.

It is proposed that the DEDO in consultation with governmental and non-governmental organisations identifies training needs and coordinates training activities.

The EAC Manager and his technical staff will, in collaboration with participating organisations, plan, organise and conduct the training courses in agroforestry and extension training. Other resource persons or organisations can be contracted to provide technical input for the courses if this knowledge is lacking in EAC.

In this way, MOERD at district level will be the focal point for planning and coordination of agroforestry and extension training, and EAC staff at the heart of all training activities.

In the districts, know-how and experience with regard to agroforestry techniques and extension methods are present in various projects, GOK's and NGO's. It will be the task of MOERD to assess, consolidate and mobilise this know-how and experience and channel it through training and publications to front line extension workers.

5.4. Mobile Training Team

For MOERD to take up its planning and coordinating role in training for agroforestry extension, it is necessary that its district staff are properly trained in planning, extension, training and agroforestry. The responsibility for this training lies with the Planning and Biomass Technical Division of MOERD.

At present, one post for a training officer has been approved in
BTD, but has not yet been filled.

In view of the need for fast and effective input of MOERD to
energy and energy related programmes at district level, it is
proposed that concurrent with the installation of DEDO's and
Technical Assistants in the districts, a strong central Training
Team is created around the BTD Training Officer. The aim is to
develop, through the training of the district MOERD staff,
planning and training capacity at district level. It is foreseen
that besides the BTD Training Officer, two additional
professionals will be needed to man the Mobile Training Team
(MTT). The Team should be composed of professional expertise to
represented the following knowledge areas:

- agroforestry
- training/extension
- curriculum development
- extension support material development
- extension monitoring and evaluation

The MTT will operate for a period of three years. After this
period, it is expected that enough MOERD training capacity will
have been developed to enable inter-district training conducted
by MOERD district staff. The BTD Training Officer will remain in
place for coordination and stimulation of inter-district training
activities.

Since it is foreseen that the training on energy
planning/technology project formulation and management will be
conducted by specialised agencies in Kenya, the main training
focus of the MTT will be aimed at EAC staff, e.g. the Centre
Managers and TA's, Research, Training, demonstration and Seed
Programme. The TOR for the Mobile Training Team are contained in
Table 5.1.

5.5. Training System

The training system for extension will have to be organized in
such a way that the trainees (Centre Managers and TA's) will be
able to independently plan, organise and conduct training
activities within a period of 2 years, and take over MTT's role
in 3 years. To accomplish this, the following training system is
suggested:

Year 1

1. The MTT organizes and partly conducts a training course on
agroforestry/energy related issues and extension methods,
the content of which is laid in a syllabus.

2. The newly appointed Centre Managers and TA's are seconded for a period of 4 weeks to relevant agencies in the districts, to get acquainted with the district specific ecological and socio- cultural characteristics, and district specific agroforestry/extension techniques. The MTT organises and supervises these secondments.
3. The MTT organizes and conducts a training course on Training Methods and Techniques, and the Development of Training and Extension Materials.
4. The MTT assists the DEDO and EAC staff in identifying district training needs in agroforestry and extension.

Year 2

5. The MTT assists the MOERD district staff in planning and organizing district training courses.
6. The MTT advises the EAC staff in developing training materials for the training courses.
7. The EAC staff conducts district training courses under close supervision of MTT.
8. The MTT assists EAC staff in the development of district relevant extension materials.

Year 3

9. MOERD district staff will assist the MTT in conducting training courses for newly appointed MOERD staff in other districts.

Year 4

10. Trained MOERD district staff will take over MTT's role in training new MOERD staff at district level.

Although training courses at district level have to be based on specific district needs, the following broad categories of training activities can be distinguished:

- short courses on agroforestry/energy related issues for district officials, departmental heads of line ministries and heads of NGO's.
- training of trainers of GOK's and NGO's.
- training of extension staff of GOK's and NGO's.
- short courses on agroforestry/energy related issues for chiefs in the district.
- integration of agroforestry into FTC organized courses.

- demonstration of agroforestry/wood conservation techniques to extension services, groups, schools and chiefs.

In planning training courses for district agencies, special attention must be given to prevailing extension practices of those agencies. The Ministries of Agriculture and Livestock Development's extension and training practice is based on a carefully planned and mechanical Training and Visit system. MOERD's organised training should not only accommodate the T & V training system, but also provide content and information packages that can be effectively integrated into the existing extension practice of those ministries.

5.6. The Role of MOERD Projects in Training for Extension

MOERD has made it clear that in the field of training for agroforestry extension, it regards itself as the lead and responsible agency in the districts.

In response to KWDP's plans to venture into district training activities MOERD clearly stipulated that:

- KWDP should not evolve into a training organisation.
- KWDP will play a crucial short-term role in training Energy Agroforestry Centre staff.
- KWDP should develop and test solutions including technologies and extension methods and transfer them to the EAC's, and line ministries which can guarantee a permanent transfer to the agencies directly involved in farmer extension work. (see Annex 2)

This leaves little doubt as to the roles KWDP and similar R&D projects are to play in training for extension according to the Ministry. Research data and developed methods are to be channelled to district extension agencies through MOERD, and KWDP training should primarily focus on MOERD staff (EAC and DEDO).

The training system as explained under section 5 provides the structure for integrating data and methods generated by research projects into an overall agroforestry/extension training strategy. The research projects will be called upon to provide training manpower and technical inputs for the training of MOERD staff and district training courses, or will be requested to organise and conduct training courses on behalf of the Ministry.

MOERD's Draft Policy Report also stipulates that the major function of the KWDP in the districts is to develop acceptable and feasible methods, which conforms with the original TOR of KWDP. Since MOERD will rely on the extension staff of the line ministries to carry the agroforestry message to the farmers, it implies that the methods should organically fit into the extension system and practice of those ministries. From a

logical point of view, it follows that the research into extension methods should take the consumers situation as its bottom line, and that appropriate methods should be planned and tested in close cooperation with the ministries. This certainly will enhance the feasibility and acceptance of those developed methods. The KWDP project proposals for Nakuru and Murang'a should follow this approach to extension research.

The situation to date in Kisii and Kakamega gives a different picture. Extension methods are developed and tested in isolation from the line ministries in the districts, and doubts can be expressed whether these methods are feasible in relation to the ministries extension practices, and can be afforded by the same ministries considering their limited resources. The Kisii and Kakamega Research Model implies the need for quite considerable numbers of extension staff for the implementation and consequent testing of extension methods. This, not only has consequences in the light of the research budget, but also for the phasing out of the project from a personnel management point of view.

The alternative of implementing and testing methods through line ministries, not only minimises research staff requirements, but also ensures greater feasibility of research results.

It is against this background that the JFEM feels the need for, and urgently recommends an evaluation of Kisii and Kakamega extension research strategies and to take stock of the research results to date and recommend procedures that will result in the smooth transfer of accumulated research data to district extension agencies.

5.7. Training for District Planning, Coordination and Management

MOERD will be represented at district level by the DEDO and his staff (or DDO), EAC staff and DEPTAFin the short term. In broad terms, the tasks of MOERD representation consists of:

- planning and coordination
- training
- facilitating district energy/agroforestry programmes

The bulk of the planning and coordination of district energy/agroforestry programmes will be the responsibility of the DEDO office and the Centre Managers. In absence of a DEDO, the energy planning task falls upon the DDO.

MOERD plans to recruit, for the DEDO position, young graduates with mainly planning backgrounds. Taking this background, their experience with the subject matter and seniority of the post into consideration, an intensive training programme is needed to prepare them for their job. Looking at the tasks the Ministry

envisages them to perform, the following areas of training seem necessary:

- general background in agroforestry/energy related issues
- energy policy and technology for Kenya's District Energy Strategy
- project planning and management
- general planning, organizational, budgeting, monitoring, evaluation, report preparation skills
- district focus policy
- effective communication in management
- district level information gathering
- word processing; lotus budget spread sheet

Most of this training can be grouped into one induction course running for 6 months. It is however, preferable to split the course into two parts over a period of 2 years.

The Centre Managers will need similar background training in Agroforestry, Energy Policy/Technology, Management, Information Gathering and Computer skills. In addition they will need to know Extension Methods and Techniques, and possess Training Skills.

The DDO's will be responsible for energy planning in those districts where there is no DEDO. Considering their heavy workload, their training will have to be limited to the minimum. A 2 days seminar focusing on energy policy and technology and their role in the annual energy planning/budgeting exercise is suggested.

Training courses enumerated above, can be organised by the Kenya Institute of Administration (KIA) in Kabete. Courses on Planning and Management, District Focus, Effective Communication in Management already form part of the regular training activities the Institute.

5.8. Training of MOERD Headquarters Staff

The district energy programmes will need effective professional support in planning, research and evaluation from MOERD Headquarters. The DEDO office falls under the responsibility of the Planning Division and the EA Centres under that of the Biomass Technical Division. The staffing of these Divisions is to date minimal. The BT Division is scheduled to consist of 15 professionals. Only five of the posts are being filled. Five more posts are approved but not yet filled, and five posts await approval.

In the light of MOERD projection for establishing energy programmes in the districts over the next five years, it is

mandatory that the vacant headquarters posts need to be filled with suitable candidates immediately.

Training for the newly appointed as well as the sitting staff will be required. This will be general as well as specific training. It is suggested that all BTD staff follows the courses on Energy Policy/Technology and Agroforestry/Energy related issues.

The JFEM finds it difficult at the moment to propose more specific training courses for the professionals, for two reasons. First, it is extremely difficult to define training needs for people who have not been appointed, not knowing their professional background and experience. Secondly, for the remaining filled posts, MOERD did not provide the JFEM with specific information that would enable the identification of appropriate training courses. Therefore, the JFEM acknowledges that there is a need for training at headquarters level and proposes to reserve funds for this training with the understanding that MOERD, in consultation with the donors, will specify the training requirements as soon as more detailed information is available.

5.9. Production of Information Materials for District Energy Programmes

To facilitate the line ministries and other district agencies in carrying agroforestry/energy related messages to farmers, groups and schools, MOERD needs to provide these agencies with information materials that can be handed out to the target audiences. MOERD will produce leaflets, posters, booklets, etc. for this purpose in the districts.

T.O.R. Mobile Training Team

Overall Task:

To create at district level MOERD capacity to conduct training and demonstration activities and develop information materials on agroforestry/extension techniques.

Activities.

1. Identify at national and district level research and training resources on agroforestry/extension techniques.
2. Organize and coordinate training courses on agroforestry/energy related issues and extension methods for MOERD district staff.
3. Identify at district level suitable agencies for hosting AEC staff on secondment to acquaint them with district specific conditions and agroforestry/extension techniques.
4. Organise and conduct training courses on Training methods and Techniques and the Development of Training and Extension Materials for EAC staff.
5. Compile syllabi and guides for above training courses.
6. Assist MOERD district staff in identifying district training needs and planning of training courses.
7. Assess EAC staff in the development of training materials for training courses and information/extension materials for district energy programmes.
8. Coach EAC staff in conducting training courses and demonstration activities.

Staffing:

1. Training officer - BTD, GOK
2. Trainer/extensionist (1 expatriate)
3. Education/information specialist (1 Kenyan)

Duration: 3 years

CHAPTER VI
INDICATIVE BUDGET

6.1 In this section details of the budget to support the MOERD initiative are laid out. The budget covers:

- (A) MOERD DISTRICT PLANNING ACTIVITIES
- (B) TRAINING
- (C) MOERD STEERING COMMITTEE MANAGED FUNDS
- (D) KWDP PROJECTS (KWDP)
- (E) BARINGO FUEL AND FODDER PROJECT (BFFP)

It should be noted that the KWDP budget is an indicative one not least because the JFEM could not discuss budget details against workplans for individual KWDP projects. The JFEM however, strongly argues that the overall proportionality of the budget should be retained.

6.2 Support for the District Energy Development Officer is proposed for 5 district namely, Kakamega, Kisii, Nakuru, Muranga and Baringo. The footnotes accompanying the table provide information sources for data calculations and the assumption used in computation. The total cost is Kenyan Pound 629,000 of which KP 553,750 comes from donor funds.

Table 6.1 (District Energy Development Officer 1)

Kenyan Pounds

	1988		1989		1990	
	Donor	GOK	Donor	GOK	Donor	GOK
<u>Kakamega</u> Development	27,500	-	-	-	-	-
Recurrent 2)3)	26,000	-	19,500	6,500	13,000	13,000
Micro Projects 4)	10,000	-	7,500	2,500	5,000	5,000
subtotal	63,500		27,000	9,000	18,000	18,000
<u>Kisii</u> Development	27,500	-	-	-	-	-

Recurrent 2)3)	26,000	-	19,500	6,500	13,000	13,000
Micro Projects 4)	10,000	-	7,500	2,500	5,000	5,000
subtotal	63,500		27,000	9,000	18,000	18,000

Nakuru

Development	27,500	-	-	-	-	-
Recurrent 2)3)	26,000	-	19,500	6,500	13,000	13,000
Micro Projects 4)	10,000	-	7,500	2,500	5,000	5,000
subtotal	63,500		27,000	9,000	18,000	18,000

Muranga

Development	27,500	-	-	-	-	-
Recurrent 2)3)	26,000	-	19,500	6,500	13,000	13,000
Micro Projects 4)	10,000	-	7,500	2,500	5,000	5,000
subtotal	63,500		27,000	9,000	18,000	18,000

Baringo

Development	27,500	-	-	-	-	-
Recurrent 2)3)5)	31,000	-	23,250	7,250	15,500	15,500
Micro Projects 4)	10,000	-	7,500	2,500	5,000	5,000
subtotal	68,500		30,750	9,750	20,500	20,500

1) Figures are taken from: "District Energy Strategy, District Energy Officer Programme". In this budget only 5 of the 10 proposed in the first year are staffed. Unit costs for establishing a District Energy Development Officer for 3 year period are Kenyan Pound 145,500 of which KP 118,500 are donor and KP 27,000 are GOK. Thus to staff 30, in a rolling 3 year Programme will be KP 3,395,000. Recurrent costs are KP 780,000 under the same assumptions.

2) Discussions with DS Development ;first year 100 % donor funded, 2nd year 75% , 3rd year 50%.

3) Includes micro-computer and photocopier rather than typewriter and duplicator.

4) Micro Projects are funds administered by DEDO.

5) Because of the size of the district KP 5,000 per annum additional travel and vehicle maintenance.

6.3 External assistance is needed to help newly appointed DEDO's and facilitate the transfer and integration of donor projects into the EAC's and DEDO's. DS (Development) expressed a preference for the assistance to be in the form of consultancies. Local Consultants are preferred because of necessary knowledge of district focus; 6months/annum at KP 7,000/ month. The total cost of the consultancies donor funded, is KP 126,000 and is shown in:

Table 6.2.

	1988		1989		1990	
	Donor	GOK	Donor	GOK	Donor	GOK
Consultancies	42,000	-	42,000	-	42,000	-
Total period 1988-1990 : KP 126,000						

6.4 To facilitate the work of the EAC, which are funded through the MOERD there is need to provide transport. Combi vehicles are provided to four districts and, in addition, motorcycles are provided to Baringo. Total cost is KP 163,000 of which KP 138,750 are met from donor funds.

Table 6.3 ENERGY AGROFORESTRY CENTRES TRANSPORT 1) 2)

	Kenyan Pound					
	1988		1989		1990	
	Donor	GOK	Donor	GOK	Donor	GOK
Kakamega						
Development 3)	22,500	-	-	-	-	-
Recurrent 4)	-	2,000	-	2,000	-	2,000
Kisii						
Development 3)	22,500	-	-	-	-	-
Recurrent 4)	-	2,000	-	2,000	-	2,000
Muranga						
Development 3)	22,500	-	-	-	-	-
Recurrent	2,000	-	1,500	500	1,000	1,000
Nakuru	-	-	-	-	-	-

Baringo						
Development 3)5)	32,500					
Recurrent	15,000		11,250	3,750	7,500	7,500
Total	117,000	4,000	12,750	8,250	8,500	12,500

1) EAC's are financed (for 4 years) from US counterpart shillings. Additional funding is needed for transportation.

2) KWDP vehicles should be transferred to EAC's as KWDP phases out.

3) Combi vehicles for transportation of goods and people.

4) Taken from MOERD Forward Budget.

5) Baringo costs include the purchase of 3 motorcycles

6.5 Baringo needs to establish an Energy/Agroforestry Centre so that it is in line with the other districts. Given the wide ranging ecology and travel distances in Baringo District, the budget also contains details of subcentres. Costs are derived from the experience of existing Energy Agroforestry Centres. Table 6.4 shows the total costs as KP 233,500.

Table 6.4 Baringo Energy/Agroforestry Centre 1)

	Kenyan Pounds					
	1988		1989		1990	
	Donor	GOK	Donor	GOK	Donor	GOK
Marigat Centre						
Development	50,000	-	-	-	-	-
Recurrent	32,000	-	24,000	8,000	16,000	16,000
Three Sub-centres						
Development	50,000	-	-	-	-	-
Recurrent	12,500	-	9,375	3,125	6,250	6,250
subtotal	144,500		33,375	11,125	22,250	22,250

Total period 1980-1990 is KP 233,500

1) Detailed costs except transport

6.6 The overall costs of the Training Budget are KP 2,372,863. All costs are donor supported. The training programme assumes MOERD staffing levels are met at district level. The budget is divided into 4 parts namely:

- (A) Strengthening the mobile training team
- (B) Training BTD Headquarter Staff
- (C) Training for District Energy Programme
- (D) Information Materials

Details of the assumptions behind the budget are contained in Annex 3. Table 6.5 contains a summary of the budget.

Table 6.5 Overall Training Budgets

	Kenya Pounds
(A) Strengthening the mobile training team	578,400
(B) Training BTD Headquarter Staff	30,000
(C) Training for District Energy Programme	1,504,463
(D) Information Materials	260,000
Total	2,372,863

6.7 Steering Committee Managed Funds to cover knowledge transfer, energy conservation, research, agricultural show publicity and human resource development fund are detailed in Table 6.6. These funds are essentially funds transferred from KWDP requests to MOERD.

KWDP or other organistaions can apply for these funds. The total fund is KP 573,300.

Table 6.6 Project Steering Committee Managed Funds
Kenyan Pounds

KWDP knowledge transfer	97,900
Energy Conservation	115,250
Research	164,550
Agricultural Show Publicity	69,350
Human Resource Fund	126,250
Total	573,300

6.8 Details of the KWDP budget for Kakamega, Kisii, Muranga and Nakuru are contained in the accompanying volume. Given that the KWDP are being asked to reformulate workplans to support MOERD activity the budgets should be regarded as indicative. Table 6.6 contains the indicative budget amounting to KP 4,450,900.

The JFEM wishes to emphasize that this is a considerable programme to support KWDP professionals.

Table 6.7 Indicative KWDP Budget

	Kenyan Pounds
Kakamega	795,000
Kisii	762,000
Muranga	882,800
Nakuru	1,076,300
KWDP Nairobi	933,900
Total	4,450,900

6.9 Table 6.8 contains the costs of the existing budget and the suggested expansion of the Baringo Fuel and Fodder Project. The project is currently funded for 1988 and 1989. Additional funding is requested for the 1990 and for the projected research. The total budget requested is KP 738,250. Details of the BFFP budget is contained in Annex 4.

Table 6.8 Baringo Fuel and Fodder 1)

	Kenyan Pounds					
	1988		1989		1990	
	Donor	GOK	Donor	GOK	Donor	GOK
Present budget	316,420	-	256,020	-	477,750	-
BFFP expansion 2)						
Development 3)	77,500	-	-	-	-	-
Recurrent	64,000	-	48,000	12,000	32,000	32,000
subtotal	136,500		48,000	12,000	509,750	32,000

Total cost period 1988-1990 KP 738,250

1) 1988 and 1989 figures are from the agreed BFFP Work Plan for this period. The 1990 figures are based on a prorata 30% increase and an assumption that 3 times as many hectares will be cleared. Since this is direct funded all funds are from donors.

2) Fodder specialist and his operational costs plus 8 m/m per year research consultancies for MOI and Egerton Universities are included.

3) Including transport for BFFP fodder specialist.

6.10 Table 6.9 contains a budget summary. The total cost is KP 9,349,813.

Table 6.9

INDICATIVE BUDGET (in Kenyan Pounds)

A) DISTRICT ENERGY PLANNING ACTIVITIES			
	DONOR	GOK	TOTAL
1) DEDO (i)	553,750	138,250	692,000
2) DEDO SUPPORT CONSULTANCY	126,000	-	126,000
3) EAC TRANSPORT	138,750	24,750	163,000
4) EAC BARINGO	200,125	33,375	233,500
	SUBTOTAL (A)		1,214,500
B) TRAINING			
5) STRENGTHENING MTT	578,400		
6) TRAINING BTD, HQ-STAFF	30,000		
7) TRAINING FOR DISTRICTS	1,504,463		
8) MATERIALS	260,000		
	SUBTOTAL (B)		2,372,863
C) STEERING COMMITTEE MANAGED FUNDS			
9) KWDP KNOWLEDGE TRANSFER	97,900		
10) ENERGY CONSERVATION PROJECT	115,250		
11) RESEARCH PROJECT FUND	164,550		
12) AGRICULTURAL SHOW PUBLICITY	69,350		
13) HUMAN RESOURCE FUND	126,250		
	SUBTOTAL (C)		573,300
D) KWDP (ii)			
14) KAKAMEGA	795,900		
15) KISII	762,000		
16) MURANG'A	882,800		
17) NAKURU	1,076,300		
18) KWDP HEADQUARTERS	933,900		
	SUBTOTAL (D)		4,450,900
E) BFFP			
19) BFFP PROJECT	738,250		
	SUBTOTAL (E)		738,250
	TOTAL		9,349,813

COMMENTS

- (i) Only 5 DEDO are included (i.e. JFEM Specific Districts).
- (ii) KWDP Budgets, except Nakuru, reflect JFEM adjustment.

BUDGET NOTES

1) The Budget is divided into 4 distinct parts. Different funding routes and financial control mechanisms are assumed for distinct parts.

2) The reorganization of KWDP proposals is based on the following premises:

- a) a transfer of knowledge KWDP to MOERD;
- b) KWDP contacts in Kisii and Kakamega; Murang'a follows the new KWDP model; Nakuru remains an exception to proposed KWDP practice;
- c) Staffing levels at Kisii, Kakamega and Headquarters have been adjusted on the following criteria:
 - (i) a phase out model to incorporate KWDP into MOERD;
 - (ii) no expansion at Kisii, Kakamega and headquarters;
 - (iii) no operations that MOERD will not eventually be able to incorporate at district level e.g. extension.
- d) Other costs have been proportionally adjusted as a percentage reduction that parallels staff reduction after certain items have been transferred to MOERD (KWDP accounting lines 6.2, 6.7, 6.8, 6.9 and 8) and other budgeted items removed.

The items removed are:

- (i) 7.2 - Public relations are not a justified project expense but an "institutional" expenditure.
- (ii) 6.1 - EAC support is covered in Part A of indicative budget.
- e) JFEM remains concerned about item 6.4 (Mass Intervention and Film programme) which requires firm management control but as an interim measure, continues to include this item in KWDP expenditure.

ANNEX I

29 October 1987

TERMS OF REFERENCE FOR A JOINT DONOR MISSION TO KENYA
TO FORMULATE PROJECTS IN
THE FIELD OF ENERGY AND RELATED ACTIVITIES

Note: These TOR are the same as those of 12 October 1987.
Only the numbering of the paragraphs has been simplified.

BACKGROUND

1. The Government of Kenya has requested support in the field of biomass energy. To this end a joint mission of Kenya, the Netherlands, Canada and Sweden was fielded in March/April 1987.
2. The joint mission's report specified a broad framework for future assistance including a work plan for the provision by donors of biomass energy/agroforestry and related services to the Ministry of Energy and Regional Development (MOERD).
3. The report was accepted by MOERD. According to the above mentioned work plan, detailed projects have now to be formulated through which the donors can provide assistance to MOERD in the near future.
4. It is proposed that a joint mission be convened to formulate these detailed projects, with reference to the 1988 work plan of the Biomass Technology Division (BTD).
5. The objectives of these projects should be in line with the national policies of the Government of Kenya, with particular reference to the district focus for rural development.

OBJECTIVES

6. The overall objective of the mission is to formulate a technical assistance programme in the biomass energy/agroforestry area, covering a number of projects according to the work plan of the joint energy mission in March/April 1987.

In particular the mission will address the following subjects:

Biomass Technology Division (BTD)

7. Based on MOERD's plan to strengthen the BTD, both at the MOERD headquarters and in the field, a project should be formulated to provide technical assistance for BTD programme implementation. Training of new and existing BTD officers as well as financial

and material support (vehicles, computers, etc.) are important elements of such technical assistance.

8. Of importance will be the formulation of a coordination mechanism for programme implementation between GOK and the donors. This mechanism should also address the role of the BTD in coordinating agroforestry activities in relation to the Energy/Agroforestry Centres and other related biomass energy projects within MOERD.

Energy/Agroforestry Centres (in the BTD)

9. Based on suggestions made in the joint energy report, project proposals specifying the detailed nature of the operations of the Energy/Agroforestry Centres should be written for the following centres: Kakamega, Kisii, Nyeri/Muranga, Nakuru, Ngong and Mtwapa.

10. It will be important to formulate a proposal for bridging finances for the Energy/Agroforestry Centres to cover the period before the identified project finances are available.

Kenya Woodfuel Development Programme (KWDP)

11. In accordance with the joint energy mission recommendations, the function and role of KWDP in relation to MOERD should be defined. Subsequently a project proposal specifying the activities of KWDP in relation to the overall BTD work plan should be written for the second phase of KWDP in Kakamega and Kisii and the first phase of KWDP in Nakuru and Muranga.

12. It will be important to formulate a KWDP steering mechanism involving the project, GOK and the donors concerned, which reflects the particular situation under which KWDP operates.

Baringo Fuel and Fodder Project (BFFP)

13. Recommendations should be made with respect to the role of BFFP and how it is to be incorporated into the overall BTD work plan and the MOERD district energy programmes.

Related Energy/Agroforestry Activities

14. The mission will write a work plan to formulate other biomass energy activities in the near future as addressed in the March/April report, including:

- A National Agroforestry Work Shop
- Wood Energy Conservation Projects
- The Energy Development Fund
- Assistance with the formulation of District Energy Plans.
- Up-date of MOERD Activity

15. The mission will review with the MOERD the present status of the recommendations made in the joint mission report referring to:

The Memorandum of Understanding with respect to energy and agroforestry coordination within GOK
The Work Plan of the District Energy Planning Task Force
The DPM status regarding additional posts for the BTD

Training

16. In line with the joint energy mission recommendations, a period of 1.5 weeks prior to the project formulation phase of the mission should be used to assess the variety of existing biomass energy and agroforestry related training programmes and capabilities in government agencies and NGOs. Such a review would provide meaningful training objectives and guidelines to be used for the formulation of the implementation programme for training of BTD, Planning Division and District Officers.

THE TEAM

17. The total number of the team should not exceed 10 experts. Each donor may provide no more than 2 members.

18. The Kenyan team will number at least 4, from MOERD (from the Biomass Technology Division and the Planning Division).

19. There will be 2 team co-leaders, one from Kenya and one from a donor country. The team will cover the following areas:

- a) Institutional and administrative aspects;
- b) Energy planning and policy;
- c) Agroforestry and biomass energy;
- d) Manpower planning and training.

20. The mission will be fielded in early November 1987.

21. The time schedule will not exceed 4 weeks, with the time divided as follows:

- 1.5 weeks - preparatory work and training review (*);
 - 1.0 weeks - additional field trips;
 - 1.5 weeks - drafting of the project proposals.
- (*) It is suggested that during these 1.5 weeks only those team members dealing with items 10(a) and 10(d) above take part.

METHODOLOGY AND REPORTING

22. At the end of the second week the mission will discuss the training review with the Kenyan authorities and respective donor representatives to formulate the training objectives for the overall implementation programme.

23. In the final week the co-leaders will write a comprehensive draft summary report on the project proposals and experts from the three donor countries will write separate drafts on project proposals to be funded by the respective donors.

24. The combined draft report will be discussed with the Kenyan authorities and respective representatives before the departure of the donor members of the mission.

25. The co-leaders will be responsible for the final editing. The final report will be submitted not later than one month after the discussion of the draft report.

26. The mission report will provide a document for programme implementation and will be the base for further project negotiations between the GOK and the respective donors involved.

ANNEX II

MOERD POLICY STATEMENT

MOERD ENERGY AGROFORESTRY DEVELOPMENT POLICY

1.0 Introduction

The MOERD will provide policy and technical guidelines to the districts and will provide material support in the form of personnel, offices, transportation and operational support for the District Energy Development Offices and for the Energy Agroforestry Centres (EACs).

The MOERD will provide assistance to the DDC in the preparation of the District Energy Plans.

The MOERD will provide technical assistance to the districts through the Planning Division and the District Energy Development Officer (DEDO) and through the Biomass Technology Division, which will be responsible for assisting the districts set up and run their EACs.

The MOERD will make money available to other Ministries to carry out energy related projects in the districts.

Through the Energy Development Fund and through the Project Steering Committee Managed Funds the MOERD will make money available to other projects, agencies or groups.

The District Energy Plan, prepared by the district, will provide the guidelines for the implementation by the district of the MOERD district programmes.

The District Energy Plans will also be used as guidelines for formulating the National Energy Policy.

1.1 The District Energy Agroforestry Programmes

The Energy Agroforestry programmes will be coordinated by the DEDO. Where an Energy Agroforestry Centre (EAC) exists, the DEDO will coordinate with the EAC manager. If a DEDO has not been appointed the district energy and energy related projects will fall under the responsibility of the DDO.

1.2 Establishing Energy Agroforestry Centres (EACs)

It is the policy of the MOERD to have an EAC in all districts where the districts and the MOERD agree that one is necessary.

The timing will depend on the availability of money and trained people and the urgency of district needs relative to other districts.

The decision as to whether an EAC is required will be first and foremost a district decision, made with the assistance of the Biomass Technology Division of the MOERD. The content of the EAC work plans will depend on the District Energy Plans.

The Kenya Renewable Energy Development Project (KREDP) established six energy agroforestry centres and two subcentres:

Centres	Subcentres
Bukura	
Kisii	
Wambugu	
Ngong	
Kitui	Ukai
Mtwapa	Matuga

It is currently proposed by the MOERD that all of the centres except Kitui continue as full centres. Kitui may be given a research function.

It is currently proposed by the MOERD that new EACs be established at Nakuru, Muranga, and Baringo.

The work plans of these existing EACs have at present been prepared in the absence of a District Energy Plan. As soon as these district plans are prepared, the EACs will begin to alter their plans to conform to the district plans.

1.3 Support to MOERD District Initiatives

Because of the District Focus policy of the government the original role of the KREDP EACs are in section 2.0. Except for the preliminary plans as described in the Biomass Technology Division work plan the specific details for each EAC work plan, tailored to fit the needs of the districts, have not yet been developed.

The EAC work plans for 1988 have been prepared by the Biomass Division. In the future it is expected that the DEDO will work with the EAC manager to develop these plans. They will require information on suitable technologies, training and extension methods. It is here that the capabilities of KWDP will be most useful. More details on the role of KWDP are given in section 3.0.

1.4 The Role of the Donors

The task of MOERD of building up an organisation which can support the district energy programmes is large. The donors can assist by providing technical assistance and training and by helping with infrastructure development and operating costs.

The districts require District Energy Offices and EACs. Part of the process of setting up functioning EACs will probably include establishing a KWDP presence in the district for approximately a four year period. Apart from exceptional circumstances, the KWDP presence should be temporary and short term. Therefore donor projects would most usefully be seen as projects to set up and support EACs.

MOERD is very concerned that the donor project activities and functions, including those of the KWDP, ultimately be absorbed into the GOK agencies. Since the District Offices and the EACs will be permanent parts of the district government apparatus, MOERD would like to see these as the basis around which the donor projects are built rather than around projects which will have only a temporary presence in the districts.

Therefore any support for offices and buildings should be towards what will eventually be EAC or DEDO facilities. These facilities may be used in the beginning by projects but it is felt that if it is clearly understood that these are or will be GOK offices this will help with the eventual transfer from project facilities to GOK facilities.

2.0 The Role of the Energy Agroforestry Centres

Continuation of the differentiation in function between district centres, subcentres, and on-farm demonstration plots should continue.

The EACs will have the following functions:

- i Training in agroforestry of existing extension staff in Government and NGOs and farmers participating in FTC courses.
- ii Demonstration of agroforestry technologies suitable for the relevant farming systems in the region to support the above mentioned training.
- iii Seed production, improvement and storage if this is insufficiently undertaken by other appropriate organisations or private farmers.
- iv Limited applied research under the direction of the national research institutions.
- v Demonstration of energy conservation and renewable energy technologies as far as they are appropriate to the region.
- vi Provision of facilities to NGOs involved in agroforestry.
- vii Provision of two Demonstration Technical Assistants to work in adjacent districts with similar agro-ecological zones for which the district technologies and methods developed are appropriate.
- viii Other activities deemed appropriate by the DDC and included in the District Energy Plan.

The layout, staff, facilities and work plans at the centres will result from a detailed study of the farming systems and wood energy supply and conservation needs in the area.

Where possible this information will be derived from the District Energy Plans and other studies.

There should be improved integration of centres in district activities. This will be accomplished by assigning staff as centre managers who are senior enough and sufficiently well trained to participate in the proposed agroforestry and energy sub-committee of the DDC. The DEDOs will also contribute to integration of centre and district activities.

3.0 The Role of KWDP

The objectives of the KWDP should remain essentially as they were in 1983. In brief these were:

- to develop replicable methodologies for fuelwood planning with a district focus;
- to develop replicable methodologies and locally feasible agroforestry recommendations;
- verify feasibility of agroforestry recommendations and the effectiveness of extension approaches/methods which increase fuelwood production and decrease consumption;
- to assist in the development of Kenyan manpower capacity to prepare, execute and monitor district fuelwood projects;
- develop a low cost, replicable monitoring methodology at district and national level.

MOERD feels that these objectives should be stated more specifically to emphasize transferability to GOK.

The KWDP should carry out district oriented R & D work on site-specific agroforestry solutions to wood energy and other agroforestry problems. It should develop and test solutions including technologies and extension methods and transfer them to the EACs which can guarantee a permanent transfer to the agencies directly involved in farmer extension work.

MOERD is the lead and coordinating agency for agroforestry development in the country. The KWDP should be a general agroforestry applied research and development project (or projects) to support the needs of MOERD and other relevant agencies. MOERD expects that KWDP will continue to develop expertise in the areas of district resource analysis, woodfuel supply and demand management, including development and transfer of methods for monitoring MOERD agroforestry woodfuel supply and demand management programmes, development and transfer of extension methods relating to woodfuel supply and demand, and training of MOERD staff.

The KWDP should maintain its original approach of phasing in to a district for one year, operating for two years and phasing out in one year for a total KWDP presence in the district of four years. This will be the goal. This may vary as circumstances require, but in general a long term presence for KWDP in any one district is not foreseen. There should be a transfer of the KWDP functions to the GOK staff in the district within the four year period.

It is therefore foreseen that KWDP would at most at any one time be phasing in to one district, operating in two districts and phasing out of one district. This capability should form the operational ceiling for funding levels.

KWDP will not expand its R & D activities in fuelwood conservation.

Interagency coordination is not the function of KWDP but of MOERD. MOERD will for each district specify the services required in each district from KWDP in order for MOERD to be able to fulfill its coordination mandate for agroforestry development.

KWDP should not evolve into a training organisation. However the KWDP will play a crucial role in supporting the training of Energy Agroforestry Centre staff, particularly when an EAC is being set up.

A major function of the KWDP in the districts is to develop institutionally acceptable and feasible methods (see section 3.3) and to transfer these to the appropriate GOK staff (primarily to the EAC staff and possibly to the DEDO) before leaving the district. It will therefore be necessary that the KWDP work plans be specific in how the GOK staff will be incorporated into the KWDP programme for the district, starting from the beginning of the KWDP operations in the district.

The KWDP would be initially supervised, as a provider of services to the district project, entirely through the project, by the executing agency and the steering committee.

As the project and the KWDP are phased out, the appropriate district officials, mostly EAC and DEDO staff, will assume more and more responsibility for the functions of the project until in the end the project and KWDP will be completely phased out.

The actual timing of the phasing out process will be worked out in the mutually agreed upon project and district DEDO and EAC work plans.

KWDP's own measures of success make it crucial that methods and criteria for the formulation and transfer of usable R & D outcomes are explicitly stated in the phase 2 proposal for operations of KWDP, after discussion with the Ministries concerned. The emphasis, above all, will be on transferability, so that the project and KWDP will operate within a content and cash framework that more closely reflects GOK's own operations.

4.0 KWDP as a MOERD Project

As noted above it will be necessary for the KWDP to adopt a more interactive approach with MOERD and district officials in the design, development and testing of their methods and approaches. This will require direct participation of district and MOERD staff in KWDP activities and possible periodic secondment of KWDP staff to the district or MOERD.

It is MOERD's position that, in the normalized legal status brought about by the local incorporation of the Beijer Institute in Kenya (BICEDA), that Beijer is recognised as a non-profit contractor of services through KWDP to MOERD.

KWDP services provided to MOERD will be based on a tri-partite agreement between MOERD, BICEDA and the financing (donor) agency. This would operate as follows:

i MOERD and Beijer would draw up a specification and agreement on the services which Beijer through KWDP is to provide and their costs. This is signed by both parties.

ii A contract is signed between Beijer and the financing agency to provide the services signed in (i) above. The agreement forms an appendix to the contract which specifies payment methods to Beijer.

In this approach, the relationship between the parties is clear. The question of a KWDP Board does not arise. Beijer is free to organise itself as it thinks fit to perform its contracted functions.

ANNEX III

TRAINING BUDGET AND COSTS*

1. Table 1. Overall Training Budget.

	Year 1 Ks	Year 2 Ks	Year 3 Ks	Total \$
A. Strengthening Mobile Training Team	4,176,000	3,696,000	3,696,000	723,000
B. Training BTD HQ Staff	200,000	200,000	200,000	37,500
C. Training for District Energy Programmes				
1. Course on Agro- forestry/extn.	427,950	196,250	196,250	51,353
2. District familiarization	250,000	70,000	70,000	24,375
3. Course on Training/ Packages	275,260	24,520	62,080	26,366
4. District office courses	570,000	570,000	570,000	106,875
5. Training of trainers courses		1,418,000	1,772,500	199,406
6. Chief's courses		184,000	230,000	25,875
7. FTC courses		1,728,000	2,160,000	243,000
8. T.A. Demonst- ration	2,280,000	5,700,000	6,840,000	926,250
9. Course on Energy Policy/Tech.	407,200	195,100	195,100	49,837
10. Induction Courses DEDO	515,600	1,031,200	1,031,200	161,125
11. Management Course Centre Managers		251,000		15,687
12. D.D.O. Seminar	77,900			4,868
13. Computer Courses	192,200	156,500	156,500	31,612
14. DEPTAF Workshop	117,200	52,700	52,700	13,950

Subtotal (C) 5,114,510 11,637,870 13,336,930 1,880,597

D. Information

Markets
Districts 800,000 2,000,000 2,400,000 325,000

Total A, B, C, D 2,966,079

* Budget prepared on the basis of MOERD staffing projections at district level, as per attached Table 2. "District Staffing Needs".

Table 2. District Staffing Needs.

Total Number of Positions
for All Districts
(Fiscal Year)

Position	87/88	88/89	89/90	90/91	91/92	92/93
DEDO *	-	10	20	30	41	41
AEDO *	-	10	20	30	41	41
Secretary *	-	10	20	30	41	41
Messenger *	-	10	20	30	41	41
Driver *	-	10	20	30	41	41
Centre Manager **	6	8	10	12	14	16
Research Tech. Assistant **	6	8	10	12	14	16
Training Tech. Assistant	6	8	10	12	14	16
Seeds Program Tech. Assistant	6	8	10	12	14	16
Demonstration Tech. Assistant	6	8	10	12	14	16
Demonstration Tech. Assistant ***	6	8	10	12	14	14
Demonstration Tech. Assistant ***	6	8	10	12	13	11
Jiko/Biogass Artisan **	6	8	10	12	14	16
Secretary **	6	8	10	12	14	16
Clerical Officer **	6	8	10	12	14	16
Stores man **	6	8	10	12	14	16
Foreman **	6	8	10	12	14	16
Driver **	6	8	10	12	14	16
Mechanic	6	8	10	12	14	16
Mechanic Helper	6	8	10	12	14	16
Subordinate Staff **	108	144	180	216	252	288
Total	198	314	430	546	666	726

* Priority districts for 1988 are Baringo, Kakamega, Kisii, Murang'a and Nakuru.

** Currently approved for the existing centres.

*** These demonstration technical assistants will each be responsible for another district.

2. Manpower Development HQ staff.

The annual costs of developing the manpower of the BTD of MOERD (on the job training courses etc.) are estimated at Ksh 200,000 a year. At the time of preparing the budget no detailed information on the training needs of BTD HQ staff were made available to the Mission (see attached proposal of the Head of BTD).

3. Funds for District Material Production.

For this Ksh 200,000 per year per district is budgeted.

Costs Year (1)

8 Districts (with EAC) x 1 year x Ksh 200,000 = Ksh 800,000

Year (2)

10 Districts x Ksh 200,000 = Ksh 2,000,000

Year (3)

12 Districts x Ksh 200,000 = Ksh 2,400,000

4. BTD HQ Staff Training Proposal.

MINISTRY OF ENERGY AND REGIONAL DEVELOPMENT

NYAYO HOUSE
P.O. BOX 30582
NAIROBI

25th November, 1987

TRAINING REQUIREMENTS
BIOMASS TECHNOLOGIES DIVISION

- Head of Biomass Division - Management
- 4-6 weeks; Overseas study tour on experience and cases in areas of energy, agroforestry and conservation.
- Suggested areas: Mexico, Israel, Australia.
- Computer Experience
- 1-3 weeks in Canada
- Agroforestry Research and Management
- China and Japan
- Deputy - Management
- 2-3 weeks KIA
- Agroforestry/Conservation training
- Indonesia and Philippines
- I/C Wood Energy Conservation - Management
- 2-3 weeks at KIA
- Agro/Conservation
- ICRAF/Course 2-4 weeks

I/C Wood Energy Supply

- Same as above

Courses for:

- 1. Energy Development Officer
- 2. Stoves and Kilns
- 3. Project Training Officer
- 4. Socio-economic Prog. Officer

Management and Agroforestry

- Courses and Workshop by ICRAF
- Course at KIA - 2 weeks medium level
- Organized 1-2 weeks field course with SEP/GTZ
- Short duration courses by NGO's

Training Courses for:

- 1. Agro. Research Officer
- 2. Agro. training extension officer
- 3. Seed programme officer
- 4. Agroforestry Centre Managers

Management and Agroforestry

- 1-3 weeks induction courses Departmental or KIA.
- Course at ICRAF/Agroforestry intervention.
- NGO courses
- 1-3 months management experience in Philippine or India.

Courses for:

- 1. District Energy Task Force Officer.
- 2. Data Analyst
- Department course - sponsored or organized. Data Management and analysis in Agroforestry/Conservation technique/Computer use.
- 1-3 weeks KIA on Management and induction in system management.
- Short induction NGOs - Department courses.

Courses for:

- 1. Commercial woodfuel officer
- 2. Asal Project Officer
- 1- 2 months orientation course in Middle East, e.g. Israel, or Central America Venezuela, etc.
- 1-3 weeks course - Departmental NGOs.

- Courses with ICRAF, KEFRI, KARI
- An interdepartmental induction or orientation courses.

Courses for:

- 1. Research Officers
- 2. Training/Research Assistant
- 3. Demonstration Assistants

Courses at:

- KEFRI, KARI, ICRAF
- Department/NGO sponsored course
- Courses on induction at GoK training institute 2-3 weeks.

5. Training Activity Proposals

TRAINING ACTIVITY 1

Description: - General courses on:
- agroforestry, solar, wind, biogass and fuel
efficient stoves, tree seed project, etc.
for details see attached MOERD's proposal).
- extension methods

Duration: - 3 weeks, of which 1 week field trips

Frequency: - Annual

Participants: - DEDO's, Assistant AEDO's, Centre Managers,
Centre T.A's

Teachers: - Mobile Training Team, Resource persons from
organisations like ICRAF, KWDP, SEP, BFFP,
CARE

Syllabus: - To be compiled by M.T.T.

Venue: - Central Training Facility, like KIA.

Unit Cost: - Per person per day

Accommodation + food	K.sh.	180.00
Travel	K.sh.	40.00
Pocket Money	K.sh.	50.00
Total	K.sh.	270.00

Cost - Year 1

Participants: 10 DEDO's, 10 AEDO's, 8 Centre
Managers, 48 Centre T.A.'s

76 participants x 15 days x
K.sh. 270.00 = K.sh. 307,800

Trainers: 3 M.T.T. staff x 15 days
x K.sh. 270 = K.sh. 12,150

Allowance: 5 External Resource
Persons x 5 days x
K.Sh. 2,000 (1 day
lecturing, 5 days
preparation) = K.sh. 50,000

Training Materials: 76 x K.Sh. 500 = K.sh. 38,000

Transport Field trips:

Fuel (Government vehicles)	= K.sh. 20,000
Total	= K.sh. 427,950

Year 2

Participants:	10 DEDO's, 10 AEDO's, 2 Centre Managers, 12 Centre T.A.'s 34 participants x 15 days x K.sh. 270	= K.sh. 137,700
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Trainers:	3 M.T.T. staff x 15 days x K.Sh. 270	= K.sh. 12,150
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Allowance:	5 External Resource persons x 2 days x K.sh. 2,000 (1 day lecturing + 1 day preparation)	= K.sh. 20,000
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Training Materials:	34 x K.sh. 500	= K.sh. 17,000
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Transport	- Field trip (fuel only)	= K.sh. 10,000
Total		= K.sh. 196,850

Year 3

Participants:	10 DEDO's, 10 AEDO's, 2 Centre Managers, 12 Centre T.A.'s Costs are the same as in Year 2	= K.sh. 196,850
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TRAINING ACTIVITY 2

Introductory Agroforestry Course

This introductory course is for District Energy Development Officers, Assistant District Energy officers, all Energy Agroforestry Center Officers, and all Biomass Technology Division Headquarters Officers.

1. Introduction

Given the importance of woody biomass energy in Kenya and the major role that agroforestry must play in the production of woody biomass, it is essential that all officers involved with energy

planning and production in Kenya should have a basic understanding of what agroforestry is, what its potential is, and how it can be used in the energy sector.

2.0. The Topics to be Covered

2.1. The Agroforestry Resource

Definition of agroforestry. The land resources to which agroforestry applies. The agro-ecological zones of Kenya. The farming systems. The socio-economic and cultural factors.

2.2. The Agroforestry Potential for Woody Biomass Production

Discussion of stocks and yields, current and future. Rural and urban supplies.

2.3. Policies, Laws, Regulations, and GOK Programmes Related to Agroforestry

2.4. Agroforestry Technical Topics

Products

- Fodder
- Woodfuel
- Construction materials
- Fruit
- Species selection
- Seed collection, storage, and distribution
- Nurseries
- Planting strategies
- Hedgerows
- Intercropping
- Woodlots, etc.
- Harvesting
- Agroforestry and grazing land management

TRAINING ACTIVITY 3

Description: Training courses on:

- design of training courses and training materials
- training skills, methods and techniques
- development of extension packages and information materials

Duration: - 12 days

Frequency: - Once a year

Participants: - Centre Managers, Centre T.A.'s, KWDP and BFFP staff members

Trainers: - Mobile Training Team

Syllabus: - To be prepared by M.T.T.

Venue: - Central Training Facility

Unit Cost: Per person per day - Accomodation +

Food	K.Sh.	180.00
Travel	K.Sh.	40.00
Pocket Money	K.Sh.	50.00
Total	K.Sh.	270.00

Cost - Year 1

Participants: 8 Centre Managers, 48 Centre T.A.'s, 15 KWDP/BFFP staff members
71 participants x 12 days
x K.sh. 270.00 = K.Sh. 230,040

Trainers: 3 trainers x 12 days x
K.Sh. 270.00 = K.Sh. 9,720

Training Materials: 71 x K.sh. 500.00 = K.sh. 35,500

Total K.Sh. 275,260

Year 2

Participants: 2 Centre Managers, 12 Centre T.A.'s, 6 KWDP staff
20 participants x 12 days x
K.sh. 270.00 = K.sh. 64,800

Trainers: 3 trainers x 12 days x
K.sh. 270.00 = K.Sh. 9,720

Training Materials: 20 x K.sh. 500.00 = K.sh. 10,000

Total = K.sh. 84,520

Year 3

Participants:	2 Centre Managers, 12 Centre T.A.'s 14 participants x 12 days x K.sh. 270.00	= K.sh.	45,360
Trainers:	3 trainers x 12 days x K.sh. 270.00	= K.sh.	9,720
Training Materials:	14 x K.sh. 500.00	= K.sh.	7,000
	Total	= K.sh.	62,080.

TRAINING ACTIVITY 4

Description:	Introductory course on agroforestry/wood energy for district officials and department heads.		
Duration:	2 days, of which 1 day field trip		
Frequency:	Once		
Participants:	DCC Committee members, heads of G.O.'s and NGO's in the district.		
Trainers:	D.E.O., Centre Manager and Centre T.A.'s		
Booklet:	To be prepared by district MOERD staff		
Venue:	District		
Unit Cost:	Per person per day Accommodation + Food + Travel	= K.Sh.	400.00
	Pocket Money	= K.sh.	200.00
	Total	= K.sh.	600.00

Costs per district:	40 participants x 2 days x K.Sh. 600.00	= K.sh.	48,000
	Transport field trips (fuel only)	= K.sh.	5,000
	Booklets 40 x K.sh. 100	= K.Sh.	4,000
	Total	= K.sh.	57,000
Cost - Year 1:	10 districts x K.sh. 57,000.00	= K.sh.	570,000

8 x K.sh. 177,250.00 = K.sh. 1,418,000

Year 3 10 districts (districts
with EA centre)
10 x K.sh. 177,250.00 = K.sh. 1,772,500

TRAINING ACTIVITY 6

Description: Introductory course on agroforestry and energy related issues for district chiefs.

Duration: 2 days of which 1 day field trip.

Frequency: Once a year

Participants: Chiefs

Trainers: EAC staff

Leaflets: To be prepared by EAC staff

Venue: District

Cost per district per year

Number of participants: 20
DSA per person K.Sh. 300
Pocket money: K.Sh. 50

20 participants x 2 days x K.sh. 350.00	= K.sh. 14,000
Travel 20 participants x K.sh. 100	= K.sh. 2,000
Transport field trip (fuel only)	= K.sh. 5,000
Materials: 20 x K.sh. 100.00	= K.sh. 2,000
Total	= K.sh. 23,000

Costs - Year 2

8 Districts
8 x K.sh. 23,000.00 = K.sh. 184,000

Year 3

10 districts
10 x K.sh. 23,000 = K.sh. 230,000

TRAINING ACTIVITY 7

Description: Short course on agroforestry/woodenenergy techniques for farmers integrated into TTC courses.

Duration: 2 days
 Frequency: Monthly
 Participants: Farmers participating in FTC courses
 Trainers: EAC staff
 Leaflets: To be prepared by EAC staff
 Venue: FTC/EAC

Cost per district per year:

Number of participants per month:	40	
DSA per participant:	K.sh. 300	
12 months x 40 participants x night x K.sh. 300	=	K.sh. 144,000
Travel 12 x 40 participants x K.sh. 100	=	K.sh. 48,000
Leaflets 12 x 40 x K.sh. 50	=	K.sh. 24,000
	Total	= K.sh. 216,000

Costs - Year 2

2 districts (districts with EAC)	
2 x K.sh. 216,000	= K.sh.1,728,00

Year 3

10 districts	
10 x K.sh. 216,000	= K.sh.2,160,000

TRAINING ACTIVITY 8

Description: On location demonstration - contact farmers, schools etc. (Not to individuals but groups).

Duration:

Frequency: Continuous

Trainer: T.A. Demonstration

Venue: On location

Field expenses for a T.A. + Driver on a yearly basis:

- Room and board:			
12 months x 10 days x K.sh. 350.00	= K.sh.	42,000	
- Transport:			
12 months x 2,500 kilometers x			
K.sh. 5/kilometer	= K.sh.	150,000	
	= K.sh.	190,000	
	Total		
			US\$ 14,294

Costs - Year 1

6 months (first half year they will be occupied by undergoing training)

Number of T.A.'s demonstration: 24
 ; x K.sh. 190,000.00 x 24 T.A.'s = K.sh. 2,280,000

Year 2

30 T.A.'s Demo x K.sh. 190,000.00 = K.sh. 5,700,000

Year 3

36 T.A.'s Demo x K.sh. 190,000.00 = K.sh. 6,840,000

TRAINING ACTIVITY 9

Description: Training course on energy policy and technology
 (Details are written down in attached MOERD's paper)

Duration: 3 weeks = 15 days

Frequency: Once a year

Participants: DEDO's, AEDO's, Centre Managers, Centre T.A.'s

Trainers: Contracted by KIA

Syllabus: To be compiled by KIA

Venue: KIA

Unit Costs:	Per person per day	Lecture costs
	Accommodation	
	+ Food	K.sh. 180.00 Per day (8hrs)
	Travel	K.sh. 40.00 K.sh. 1,560.00
	Pocket money	K.sh. 50.00
	Total	K.sh. 270.00

Cost - Year 1

Participants: 10 DEDO's, 10 AEDO's, 8 Centre
Managers, 48 T.A.'s

76 x 15 days x K.sh. 270.00 = K.sh. 307,800

Lecturers:

15 days x K.sh. 1,560 = K.sh. 23,400

Materials:

76 participants x K.sh. 1,000.00 = K.sh. 76,000

Total = K.sh. 407,200

Year 2

Participants: 10 DEDO's, 10 AEDO's,
2 Centre Managers, 12 T.A.'s

34 x 15 days x K.sh. 270.00 = K.sh. 137,700

Lecturers: = K.sh. 23,400

Materials:

34 x K.sh. 1,000.00 = K.sh. 34,000

Total = K.sh. 195,100

Year 3

Same costs as year 2 K.sh. 195,100

Attachment to Training Activity 9

MINISTRY OF ENERGY AND REGIONAL DEVELOPMENT

DISTRICT ENERGY STRATEGY

TRAINING PROGRAMME: ENERGY POLICY AND TECHNOLOGY COURSE

Introduction

The District Energy Strategy of the Ministry of Energy and Regional Development calls for the placing of officers at the District level.

Various categories of officers are required by the Strategy, including:

- A. District Energy Officers
 - 1. District Energy Officers
 - 2. Assistant District Energy Officers
- B. Energy/Agroforestry Centre Officers
 - 1. Energy Agroforestry Centre Managers
 - 2. Research Technical Officers
 - 3. Training Technical Officers
 - 4. Demonstration Technical Officers
 - 5. Seed Programme Technical Officers

Training programmes for these various categories of officers are essential to allow them to address their responsibilities effectively.

Another paper identifies the different types of training required. The purpose of this paper is to specify the details of one training course, concerned with providing these above officers with a broad background in energy policy and energy technology, as it pertains to their district level activities.

Course Description: Energy Policy and Technology for Kenya's District Energy Strategy

Course Topics:

1. Introduction to energy in Kenya; an overview of this important sector.
2. Basics of energy including: What is energy? Types of energy. Measurement of energy (units); Energy conversion; Basic Thermodynamics; Energy and Power.
3. Energy in Kenya: Types of energy used in Kenya; Supply/Demand considerations; Trends in energy supply/demand; problems facing Kenya today and tomorrow in the energy sector.
4. Details of Kenya's energy institutions and existing GOK programmes: MOERD; Development Authorities; KPLC; NCKK; Wood Energy Programmes; the Rural Electrification Programme; etc.
5. Energy Technology review, for all energy forms; Capabilities and limitations of energy technology; focus on rural energy technology;

6. National Energy policy
7. District Energy Strategy; including the role of the officer trainees in this Strategy;
8. District Energy Needs
9. The District Energy Plan; Energy planning, Forecasting, and the limitations of these methods;
10. Role of Non-governmental Organisations and the Energy Development Fund.

It is estimated that the course would last for a total of three weeks. Home work assignments: daily tests, and a final evaluation should be included. Quantitative exercises: involving district typical data manipulation, calculation, etc. should be included. Discussion of economic considerations regarding energy forms, technology, pricing, etc. should be included.

TRAINING ACTIVITY 10

Description:

Induction course for District Energy Officials
(Details are discussed in attached MOERD's paper on
"Training Requirements for District Energy Officials
Planning and Management Training".

Duration: 6 months in total to be split in 2 parts of 3 months divided over 2 years.

Frequency: Annual

Trainers: Contracted by KIA

Participants: DEDO's and AEDO's

Syllabus: To be prepared by KIA

Venue: KIA

Unit Costs:

Per person per day	Lectures per day (8 hours)
Accommodation + Food = K.sh. 120	
Travel = K.sh. 20	K.sh. 1,560.00
Pocket money = K.sh. 50	
Total = K.sh. 170	

Costs - Year 1

Participants:
20 x 90 days x K.sh. 190.00 = K.sh. 342,000

Lecturers fees:
60 days x K.sh. 1,560.00 = K.sh. 93,600

Materials:
20 students x K.sh. 4,000.00 = K.sh. 20,000

TOTAL = K.sh. 515,600

Year 2

Participants: 20 2nd part of induction course
20 1st part

40 x 90 days x K.sh. 190.00 = K.sh. 604,000

Lecturers fees:
120 days x K.sh. 1,560.00 = K.sh. 187,200

Materials:
40 participants x K.sh. 4,000.00 = K.sh. 160,000

TOTAL = K.sh. 1,031,200

Year 3

Same costs as year 2 = K.sh. 1,031,200

Attachment to Training Activity 10

MINISTRY OF ENERGY AND REGIONAL DEVELOPMENT

DISTRICT ENERGY STRATEGY

TRAINING REQUIREMENTS FOR DISTRICT ENERGY OFFICIALS
PLANNING AND MANAGEMENT TRAINING

1. Introduction

The purpose of this discussion paper is to identify certain broadly useful planning and management training (as opposed to specialised technical training) which would assist District Energy Officials, particularly District Energy Officers, Assistant District Energy Officers, Energy Agroforestry Centre Managers and (probably) the Technical Officers based at the Energy Agroforestry Centres in the discharge of their responsibilities.

A number of planning and management type courses are offered by KIA. A review of the detailed nature of these KIA courses is required to determine which courses are most appropriate for meeting the needs of the officers in the District Energy Strategy.

In particular, it is not clear which KIA course would provide District Officials with appropriate training in economic/financial analysis and procedures, including project budgeting procedures.

As well, training on the selection and monitoring of contractors at the district level, if not provided by any of the following KIA courses would be required.

2. Possible Courses for District Energy Strategy Officials

A. Energy Policy and Technology for Kenya's District Energy Strategy

This broad background course which includes consideration of the District Energy Strategy, and the role of these officers in the Strategy, as well as the nature and role of the District Energy Plan, is described elsewhere.

It is expected that this course will need to be specially formulated and presented by a local training organisation such as the University of Nairobi, Urban and Regional Planning Department, Mazingira Institute, etc.

Duration: Three to four weeks, estimated

B. District Focus Training Course

This course, offered by KIA, provides a forum in which the District Focus for Rural Development Strategy is discussed at length, with a view to ensuring that all its dimensions are understood by its implementors.

The course contains discussions of Administration and Management skills, as well as Project Planning, Implementation, Monitoring and Evaluation.

Duration: unknown

C. Project Development and Management

This course, offered by KIA, aims at equipping the officers with skills needed for efficient and effective handling of project planning, appraisal, implementation and evaluation.

Duration: 10 weeks

D. Monitoring and Evaluation of Projects

This course, offered by KIA, focuses on monitoring and evaluation of projects.

Duration: 2 weeks

E. Effective Communication in Management

This course, offered by KIA, deals with the theory and practice of verbal and written reports.

Duration: unknown

F. Speech Writing and Public Speaking Seminar

This seminar, offered by KIA, attempts to improve the capability of speech writing and public speaking of GOK officers.

Duration; 2 weeks

G. Resource Management Development Course

This course, offered by KIA, is designed to increase organisational efficiency and effectiveness among middle managers and concentrates on the planning and management process.

Duration: 8 weeks

H. Work Plan Preparation

This short course, offered by MOERD Headquarters staff, will provide the District Energy Officials with an understanding of the nature and importance of a Work Plan for their activity area. As part of this Work Plan activity, time management skills would be imparted.

Duration: One week, including time to develop their own Work Plans.

I. Computer Skills

The following computer skills, available from Nairobi organizations, should be acquired by District Energy Officials:

- a) Basic computer knowledge
- b) Word processing
- c) Lotus Spread Sheet competence, with particular application to budgetary and Work Plan presentations
- d) In some instances, the technical officers may require training on DATABASE 3.

Duration: Two weeks for (a), (b) and (c) above. An additional week for training on DBASE 3, if required.

J. Data Base Development

Certain of the above officers will have special requirements in terms of gathering and organising district specific data. Correspondingly, training on the establishment of a District Energy Data Base, in a common format across all districts, will be required.

Training could either be provided by MOERD Headquarters or by a local Nairobi organisation.

Duration: One week, for computer literate officers.

TRAINING ACTIVITY 11

Description: Training course on Project Development and Management, Management skills, Report Writing.

Duration: 10 weeks

Frequency: Once

Participants: Centre Managers

Trainers: Contracted by KIA

Syllabus: To be completed by KIA

Venue: KIA

Cost per unit per person per day Lecturers fees
Per day (8 hrs)

Accommodation + Food	= K.sh. 120.00
Travel	= K.sh. 20.00
Pocket money	= K.sh. 50.00
Total	= K.sh. 190.00

Costs - Year 2

Participants: 10 Centre Managers
10 x 70 days x K.sh. 190.00 = K.sh. 133,000

Lecturers fees:
50 x K.sh. 1,560.00 = K.sh. 78,000

Materials:
10 x K.sh. 4,000.00 = K.sh. 40,000
Total = K.sh. 251,000

TRAINING ACTIVITY 12

Description: Seminar on: a) Energy policy and technology
b) Role of DDO in annual Energy
planning/budgeting exercise.

Duration: 2 days

Frequency: Once

Participants: DDO's

Trainers: DEPTAF staff MOERD

Syllabus: Prepared by DEPTAF

Venue: Central Training Facility

Costs - Year 1

Participants: No. - 41	
41 x (DSA) K.sh. 400.00 x 2 days	= K.sh. 32,800
41 x 2 days x K.sh. 200.00 (pocket money)	= K.sh. 16,400
41 x K.sh. 200.00 (travel)	= K.sh. 8,200

Materials:

Lecturers fees:		
15 x K.sh. 1,560.00	=	K.sh. 23,400
Materials:		
22 x K.sh. 2,000.00	=	K.sh. 44,000
	Total	= K.sh. 156,500
Year 3: Same as Year 2	=	K.sh. 156,500

TRAINING ACTIVITY 14

Description: Workshop on District Energy Planning Methods and District data gathering techniques and procedures.

Duration: 5 days

Frequency: Once a year

Participants: DEDO's, AEDO's, Centre Managers and Centre TA's.

Trainers: MOERD staff Planning Task Force

Syllabus: Prepared by MOERD

Venue: Central Training Facility

Unit Costs	Per person per day	
	Accommodation + Food	= K.sh. 180.00
	Travel	= K.sh. 40.00
	Pocket Money	= K.sh. 50.00
	Total	= K.sh. 270.00

Costs - Year 1

Participants;		
76 x 5 days x K.sh. 270.00	=	K.sh. 102,600
Materials:		
76 x K.sh. 200.00	=	K.sh. 15,000
	Total	= K.sh. 117,800

Year 2

Participants:		
34 x 5 days x K.sh. 270.00	=	K.sh. 45,900
Materials:		
34 x K.sh. 200.00	=	K.sh. 6,800
	Total	= K.sh. 52,700

Year 3

Same as year 2

= K.sh. 52,700

ANNEX IV

BFFP PROJECTED EXPENSES
(1988 and 1998 are already budgeted)

Budget estimate:		Jan-Dec 1988
230	Wages Project Staff	1,625,000
232	Social Security & Insurances	190,000
260.2	Per Diem	48,000
290	Travel & Study Abroad	100,000
270	Consultancies	250,000
620	Training & Extension Activities	180,000
533	Nursery Materials	70,000
553.1	Seeds	50,000
520	Machine Operation	30,000
440	Field Preparation	1,500,000
440	Fencing	405,000
540	Office & Stationary	20,000
413	Building Materials	30,000
531.1	Vehicle Operation	196,000
531.3	Vehicle Services	80,000
531.5	Vehicle Insurances	90,000
560	Small Tools	30,000
411	Building House	250,000
410	Building Storage Barn	500,000
411	Building 15 Staff Houses	400,000
411	Building Office	70,000
591	Bank Charges	2,400
590	Miscellaneous Expenditure	24,000
	5% Contingency	188,000
	Total	6,328,400
Budget estimate:		Jan-Dec 1989
230	Wages Project Staff	1,652,000
232	Social Security & Insurances	196,000
260.2	Per Diem	48,000
290	Travel & Study Abroad	100,000
270	Consultancies	250,000
620	Training & Extension Activities	180,000
533	Nursery Materials	70,000
553.1	Seeds	50,000
520	Machine Operation	30,000
440	Field Preparation 300 ha	1,500,000
440	Fencing	405,000
540	Office & Stationary	20,000
413	Building Materials	60,000
531.1	Vehicle Operation	196,000
531.3	Vehicle Services	80,000
531.5	Vehicle Insurances	90,000

560	Small Tools	30,000
591	Bank Charges	2,400
590	Miscellaneous Expenditure	24,000
	5% Contingency	137,000
	Total	5,120,400

Budget estimate: Jan-Dec 1990

230	Wages Project Staff	2,148,000
232	Social Security & Insurances	255,000
260.2	Per Diem	63,000
290	Travel & Study Abroad	150,000
270	Consultancies	325,000
620	Training & Extension Activities	234,000
533	Nursery Materials	100,000
553.1	Seeds	65,000
520	Machine Operation	90,000
440	Field Preparation 900 ha	4,500,000
440	Fencing	530,000
540	Office & Stationary	30,000
413	Building Materials	100,000
531.1	Vehicle Operation	510,000
531.3	Vehicle Services	105,000
531.5	Vehicle Insurances	200,000
560	Small Tools	90,000
591	Bank Charges	10,000
590	Miscellaneous Expenditure	50,000
	5% Contingency	477,750
	Total	10,032,750

ANNEX V

Programme Joint Energy Mission Formulation Mission

Week 1

Monday, 9.11.87

m : 10.30 Mission meets first time
 a : 14.00 Mission meets MOERD officials and donors

Tuesday, 10.11.87

m : 08.30 Mission meeting
 a : 14.00 Mission meeting

Wednesday, 11.11.87

m : 09.00 Mission meets District Energy Mobile Task
 Force. (DEPTAF)
 a : 14.00 Mission meets KWDP

Thursday, 12.11.87

m : 09.00 H.Hendrix, West Pokot ASAL experience
 a : 15.30 R. Zimmerman, RAES project

Friday, 13.11.87

m : 09.00 T. Foss, SEP project

Week 2

	Group I	Group II
Sunday, 15.11.87	Dept. Baringo/Muranga	Kisii/Kakamega
Monday, 16.11.87	Baringo	Kisii
Tuesday, 17.11.87	Baringo/Muranga	Dept.Kakamega
Wednesday, 18.11.87	Muranga	Kakamega
Thursday, 19.11.87	Nairobi	Dept.Nairobi
Thursday, 19.11.87		
e : 18.00	Mission meets KWDP, Kenyan staff	
Friday, 20.11.87		

m : 10.00 Mission meets MOERD and Donors

Week 3

Monday, 23.11.87

m : 09.00 Mission meeting
a : 14.00 Mission meets KWDP and MOERD

Tuesday, 24.11.87

m : 09.00 Mission works with MOERD officials
a : 14.00 Mission works with MOERD officials

Wednesday, 25.11.87

m : 10.00 Mission briefs donors at World Bank
a : 14.00 Mission works with MOERD officials

Thursday, 26.11.87

m : 09.00 Mission meets with KWDP
a : 14.00 Mission Meets KIA to discuss training issues

Friday, 27.11.87

m : 09.00 Writing
a : 14.00 Writing

Monday, 30.11.87

m : 10.00 Mission presents recommendations to MOERD
donors
a : 14.00 Writing report

Tuesday, 1.12.87 All day writing on the report

Wednesday, 2.12.87 All day writing report

Thursday, 3.12.87

m : 10.00 Mission meets MOERD and donors
a : 14.00 Writing report

Friday, 4.12.87 Handing over draft of final report.

ANNEX VI

PERSONNEL INTERVIEWED IN THE DISTRICTS

Baringo/Muranga Sub-Team

Persons Interviewed and Date of Interview.

Baringo District 15/11/1987.

1. Mr. Murray Roberts- Baringo Fuel and Fodder Project Manager

Baringo District. 16/11/1987.

1. Mr. P. E. Mwaisaka - District Commissioner
2. Mr. J. K. Omokamba - District Agricultural Officer
3. Mr. Kamau Kibunja - District Development Officer
4. Dr. E.K. Terer - District Veterinary Officer
5. Mr. V.K. Ngurare - District Livestock Production Officer
6. Mr. J.R. Chepkiveny - District Land Adjudication & Settlement Officer
7. Mr. S. Ngunvi - District Land Adjudication Officer
8. Mr. Murray Roberts - Baringo Fuel and Fodder Project Manager
9. Dr. E. Meyerhoff - BFFP Socio-Economic Consultant

Baringo District. 17/11/1987.

1. Mr. Murray Roberts - Baringo Fuel and Fodder Project Manager
2. Dr. E. Meyerhoff - BFFP Socio-Economic Consultant

Nyeri District. 17/11/1987.

1. Nursery Attendants in Wambugu FTC Agroforestry Center

Muranga District. 18/11/1987.

1. Mr. J.O. Waupari - District Commissioner
2. Mr. F.M. Munguti - District Development Officer
3. Mr. J.K. Kanjagua - District Agricultural Officer
4. Dr. Maina Ithagu - District Veterinary Officer
5. Mr. J.K. Kinoti - District Extension Coordinator
6. Mr. J.K. Nzou - Forest Department
7. Mr. R.M. Gascheru - Soil Conservation
8. Mr. C. Ikunya - District Livestock Production Officer
9. Mrs. A.W. Ngugi - Kenya Woodfuel Project- Research
10. Mrs. N.W. Mbugua - Deputy Principal Kenvatta FTC

Kisii

1. Mr. Mbaria Maina - District Commissioner
2. Mr. H.J. Sagia - District Development Officer
3. Mr. G.N. Kihoro - District Forest Officer

- 4. Mr. J. B. Kungu - Ass. District Forest Officer
- 5. Mr. F.K. Wambugu - District Agricultural Officer
- 6 All KWDP staff
- 7. Mr Makenzie - Centre Manager EAC Kisii

Kakamega

- 1. Mr. Mberia - District Commisioner
- 2. Mr. Okuku - District Development Officer
- 3. Mr. P.W. Wamahiu - District Forest Officer
- 4. Mr. O.G. Gor - Provincial Forest Officer
- 5. Mr. Pwanali - District Agricultural Officer
- 6. Mr. Okello - District Livestock Development Officer
- 7. All KWDP staff
- 8. Mr. Murati - Centre Manager EAC Bukura

Nairobi

- 1. Mr. A Vienna - DS Development MOERD
- 2. Mr. D. Lamba - Mazingira Institute
- 3. Mr. D. Kimura - Principal KIA
- 4. Mr. V. Ogonda - DEPTAF
- 5. Mr. R Macdonald - Project Manager KCEAP/MOERD
- 6. Mr. H. Hendrix - The Netherlands Embassy
- 7. Mr. R Zimmerman - MENR/RAES
- 8. Mr. T. Foss - Project Manager SEP
- 9. Mr. K. de Beer - The Netherlands Embassy
- 10. Mr. D. Skoog - SIDA
- 11. Mrs. C. McMaster - CIDA

