

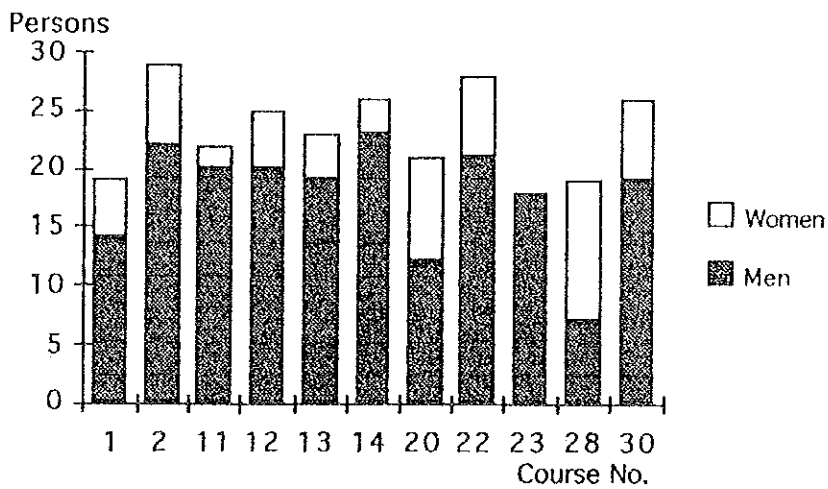
附 属 資 料

1. 訓練資料
2. ケニア政府フェーズII要請書
3. フェーズII事業内容(案)
4. ミニッツ
5. KEFRI組織図

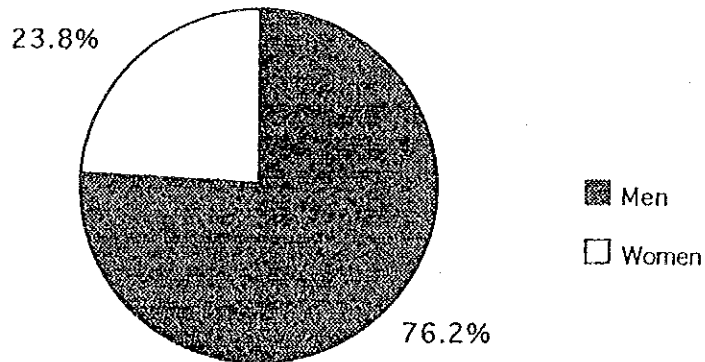
Chart 1. Proportion of Women in Farmers' Course
(Kitul Training Centre: July 1989 - May 1992)

Course No.	Total Pers.	Men	Women	Women %
6	19	14	5	26.3%
7	29	22	7	24.1%
11	22	20	2	9.1%
12	25	20	5	20.0%
13	23	19	4	17.4%
14	26	23	3	11.5%
20	21	12	9	42.9%
22	28	21	7	25.0%
23	18	18	0	0.0%
28	19	7	12	63.2%
30	26	19	7	26.9%
Total	256	195	61	23.8%

Graph 1. Current of Women's Participation Rate



Graph 2. Total Percentages of Men and Women in Farmers' Courses Participants



Report of the Survey on Institutional Social Forestry Training for Women Farmers

Kenya/Japan Social forestry Training Project

Contents

- 1 Introduction
- 2 Method
- 3 Findings and Recommendations
 - 3.1 Personal Data
 - 3.1.1 Age of Participants
 - 3.2 Family Data
 - 3.2.1 Number of Children
 - 3.2.2. Age of Children
 - 3.2.3 Care of Children
 - 3.2.4 Presence of Husband
 - 3.2.5 Approval of Husband
 - 3.3 Course requirement
 - 3.3.1 Duration
 - 3.3.2 Additional Subjects
 - 3.4 Hurdles for Attendance
 - 3.4.1 Permission of Husband
 - 3.4.2 Children
 - 3.4.3. Other Problems
4. Conclusion

1 Introduction

Kenya/Japan Social Forestry Training Project implemented a Women Farmers' Course from 13 to 24 July 1992 at Kitui Regional Social Forestry Training Centre as a trial course. Since women or their groups are playing actual role in rural area and are considered one of the most important sector for promoting tree planting activities in this region, a farmers' course specifically for women has been long-awaited to be held and that was a response of the project to this voice. Objectives of this trial course were to understand the problems, which might arise specially for women to attend such an institutional course, to find fields in which needs of participants exist and to enable training staff of Kitui Centre to acquire experience on the nature of the target group for future course arrangement. A survey was carried out to achieve the former objective.

2 Method

A survey was carried out through questionnaire for a total of twenty-five (25) trainees who participated in the course. The questionnaire consisted of personal and family data, hindrances for attendance and course requirement. The personal data collection was focused mainly on the age of the participants. The family data collection contemplated to understand the number and age structure of the children, who takes care of the children, and presence and approval of the husband. The course requirement was based on the duration, the problems on participation and other necessary subjects. Also, the hindrances for women's attendance to this course were inquired into the assumption that they could be some women who can not come for training. For details of the questionnaire, please refer to *Annex 1*.

3 Findings and Recommendation

3.1 Personal Data

3.1.1 Age of Participates

The age structure of the participants was as follows:

Table 1 Age of Participants

Age (Years)	Number of participants	%
-20	1	4%
21 -30	8	32%
31 -40	8	32%
41 -50	8	32%
Total	25	100%

There was no significant deviation found between sectors.

3.2 Family Data

3.2.1 Number of Children

The number of children per participant was indicated as follows:

Table 2 Number of Children

Number of children	Number of participants	%
None	3	12%
1	4	16%
2	1	4%
3	3	12%
4	1	4%
5	2	8%
6	3	12%
7	2	8%
8	4	16%
9	1	4%
10 or over	1	4%
Total	25	100%

The average number of children per participant is about five. One of the two without children is unmarried and the other gave no comment.

3.2.2 Age of Children

Age structures of participants' children are as followings.

Table 3 Age of Participants' Children

Participants Age of Children	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
	Number of Children																					
31 to 36																						
25 to 30																						
19 to 24																						
13 to 18																						
7 to 12																						
0 to 6																						
Total																						

N.B. The shadow indicates the children over 13 years old (refer 3.4.2).

3.2.3 Care of Children

For the question who is looking after the children while attending the course, the results were as follows:

Table 4 The Person for Care of Children

Relation (from Participant)	Number of participants	%
Husband	13	59%
Mother in-law	4	18%
Parents	2	9%
No one because of grown up	3	14%
Total	22	100%

N.B. Two participants who do not have any children are not included.

More than half of the participants announced that the children were taken care of by their fathers. Here seems to be a misunderstanding on the word "Take Care". This question was to know who was doing house work while they are attending the course but many of them understand this as "Protection" because in this society it is not likely to be that a husband cook and washes for their children for almost two weeks.

3.2.4 Presence of husband

For a question to those who are married, thirteen participants(65%) declared that their husbands sometimes are away from them because of their nature of work. This result also suggests that in many cases their children might have been taken cared by their relatives rather than their husband.

3.2.5 Approval of Husband

Almost all trainees (18 in 20 responses) mentioned that their husbands allowed them or even were pleased that their wives attend the course since they have known the importance of trees.

3.3 Course Requirement

3.3.1 Duration

Regarding course duration, there were various answers from the trainees ranging from two weeks to one month but the majority gave two weeks as adequate duration because of much work at their homes in case of more than two weeks.

3.3.2 Additional Subjects

The trainees felt that such following subjects should be included in the curriculum apart from the subjects indicated in the programme.

Table 5 Additional Subjects Required

Subject	Number of participants	%
Child Care	9	22%
Cooking	9	22%
Tidiness	6	15%
Livestock Management	6	15%
Family Planning	4	10%
Home Economics	3	7%
House Maintenance	2	5%
Crop Farming	2	5%
Poultry Keeping	1	2%
Total	41	100%

No wonder that the answers were concentrated on homestead activities reflecting the participants' interests. This must be a question, whether "Social Forestry" training has to involve such kind of house affairs as some of its subjects, but it is possible and important to link existing subject contents more with home economic affairs or give the lectures more domestic aspects appealing to this target group.

3.4 Hurdles for Attendance

Most participants indicated a positive willingness of attending a course of this nature, however they were pleased to assume several problems that can hinder women to participate in the training course at Kitui Centre.

Hurdles for attendance were suggested as follows:

Table 6 Hindrances for Attendance

No.	Hindrances	Number of participants
1	No approval of husband	10
2	Preparation for school of children	8
3	Lack of bus fare	8
4	Small children	7
5	Sickness of children	4
6	Famine	3
7	Late receiving of invitation letter	3
8	Closing of school	1
	Total	44

N.B. Plural answers were counted.

3.4.1 Permission of Husband

As it was shown in the previous chapter (3.2.5), most of the husbands of participants had no objection and were willing that their wives attend the course, but it might be assumed that we got only permitted wives as our trainees unless we undertake field survey by random sampling. According to the result of *Chart 6*, however, the permission of the husband still seems to be a severe limiting factor for their attendance in case that the husbands do not understand its importance. In such cases, it would not be possible to make any direct action but could make indirectly their husbands to be convinced of the importance of tree planting and training of their wives on these activities through public relations, courses or seminars for leaders and male member of her community, and extension services of institutions concerned.

3.4.2 Children

It was assumed that the thirteen years old would be a borderline for children whether they need to be taken care of or not because children below thirteen years old still need care since they are attending primary school but children of thirteen or more years old can do household duties on their own. Moreover many secondary schools are boarding schools. Nineteen participants (73%) had children below thirteen years old (see *Table 3*). This means that the nineteen participants might not be able to attend the course unless they had someone, for example their relatives to take care of their children while they were attending the course.

As it was expected, the answers related to the care of children (2, 4, 5, and 8) had the highest frequency. It is not strange to say that the biggest hurdle for women to attend the course leaving their home is how to find the person who takes care of their children meanwhile.

As we already discussed, the relatives of the participants were the ones who were taking care of their children while the participants were away. At the same time we cannot forget that in most case, grown up children play a significant role in household labor in this region and they might help their mother to participate in the course. This assumption seems to be reinforced by the child's age analysis, since participants who only had children of less than 13 years old were only seven (32%.) Therefore, It is important to hold the course during school holidays so that grown up children are able to help household affairs, moreover to lighten the burden of family for preparation for school.

3.4.3 Other Problems

Following are suggested problems that might occur not only for women but also farmers in general when they are going to attend the course away from home.

Eight participants indicated that lack of bus fare is a problem. Pre-payment of Ksh. 100 or 200 for transport to the Kitui Centre is not so easy for ordinary farmers in rural area although it would be refunded later. This problem might be solved in part by providing transport between Kitui Centre and main town as the Project has already done for every Farmers' Course.

Late receiving of invitation letters is also one of the problems. An action to be taken is to send letters in one month in advance.

4. Conclusion

Since women's activities are significant to promote social forestry activities in rural areas of target region of this project, continuous course implementation of women farmers' course based on the result of this survey is indispensable for effective extension of social forestry techniques.

In conclusion, a two-week course for women farmers based on one of current Farmers' Course that has been tried seems adequate to be

held at Kitui Centre although some previously suggested modification might be necessary.

At the same time, however, the need for some out of station course or seminar that will make the social forestry training at hand of household, still seems to be remaining because as trainees suggested, participation of a housewife to the on-station training course in Kitui Centre leaving home for a long time never seems to be easy as that of her husband's because of the women's own particular problems.

附属資料2 ケニア政府フェーズII要請書

SOCIAL FORESTRY PROJECT PHASE II

A PROJECT PROPOSAL FOR IMPLEMENTATION

BY

MINISTRY OF RESEARCH SCIENCE AND TECHNOLOGY

OF THE GOVERNMENT OF KENYA

Prepared by:

The Kenya Forestry Research Institute (KEFRI)

P.O. Box 20412

NAIROBI

EXECUTIVE SUMMARY

In this proposal, the Government of Kenya is seeking support under Grant Aid and Technical Co-operation Scheme to fund Phase II on the Social Forestry Research, Training and Development Project.

KEFRI is a fast growing young institution whose research agenda has been moulded by national demands. But the programme remains constrained by inadequate development of infrastructure and trained manpower.

Phase II of this project whose Phase I is on-going and scheduled to end by 1992/93 financial year, seeks to rehabilitate and expand the activities being implemented at Muguga and Kitui centres and also to establish an additional centre at Maseno and a research station in Marigat. The new centre and research station will undertake additional activities which have been identified during Phase I as important to the national and regional land use systems and economic development.

The project seeks support in the form of Grant Aid to the tune of KShs.703,321,000.00 and Technical Co-operation of KShs.246,342,100.00, while the Government of Kenya will contribute a total of KShs.391,796,000.00 over the project period.

It is proposed that activities at Muguga and Kitui should be extended for a further term of five years, with effect from the expiry of Phase I; while the activities in the new centre and station will be implemented over a period of seven years. The preparatory phase should start in 1992/93 financial year while the main phase would start in 1993/94 financial years; for the two areas.

Under the Grant Aid, about KShs.142 million was provided for the establishment of a National Social Forestry Training Centre at Muguga and a regional centre at Kitui. The Grant Aid has enabled the establishment of

training facilities in the two centres, during a preparatory phase of two years which started from November 1985.

Under the Technical Co-operation Scheme, the main Phase I of the project was started in November 1987.

The project has realized outstanding achievements in grounding social forestry as a central activity in land use through its training programme at Muguga and Kitui.

Its pilot planting programme in Kwa-Vonza location and the development of on-farm nurseries and on-farm forests have provided bouyant growth points for social forestry in the entire Eastern Province. Results of supportive R & D on the afforestation of ASALs have opened up useful prospects for managing plant germplasm in the sub-humid areas of Kenya.

The experiences of the commemorative tree planting along the Jomo Kenyatta Airport road and the urban forestry nursery at Muguga have opened a new agenda on forestry for recreation and leisure.

1.0 BACKGROUND

1.1 The Role of the Forestry Subsector in National Development

The forestry subsector has developed into an important national priority area and forest management programmes contribute significantly to the growth of the economy and national development.

Kenya's forests are important to the country's development, in providing a valuable economic base for industrial development while playing a crucial role in the conservation of watersheds and in the prevention of environmental degradation. This is extremely important to the country's agricultural production. The forests thus constitute vital sources of industrial and domestic wood resources, woodfuel, poles, livestock feed, fruits, nuts, flowers and seed; while providing habitats for the country's plant and animal life, the backbone of the tourist industry.

On the farm, environmental benefits of trees include soil stabilization and erosion control, improvement of the soil structure through the organic matter and enhanced soil fertility.

The products of Kenya's forests are valued at more than KShs.2 billion per annum, providing about 10 per cent of the country's agricultural GDP, and woodbase industry important savings of an estimated KShs 928 m per annum (3 per cent of the total import bill). Several people find employment in forest management and wood processing industries especially in the informal sector.

Kenya's gazetted forests comprise some 1.7 m ha, about 2.9 per cent of the land area of 575,000 km sq. About 1.5 m ha is covered by indigenous natural forests, comprising about 928,000 ha of woodlands, about 341,000 ha of bamboo forests, about 156,000 ha of mangrove forests and about 50,000 ha of strict nature reserve.

The plantations stand at about 165,000 ha, comprising some 73,900 ha cypress, 59,600 ha pines, 15,800 eucalypts and 15,800 ha other species including indigenous tree species.

The supply-demand picture of the major wood commodities including timber, pulp and paper, and woodfuel shows growing shortfalls in the supply of these products, a situation which is exacerbated by a rapidly growing population and unemployment. Consequently, encroachment has become widespread in all forests, including ecologically fragile ecosystems and the sub-humid rangelands. The growing stock has been and continues to be overcut in nearly all situations.

The government has openly registered its concern about the accelerated loss of forests and the attendant impoverishment of the economic fabrics and the well being of the people. Environmental issues arise too, particularly the justifiable loss of potentially valuable species of flora and fauna, accelerated erosion in deforested areas particularly watersheds, environmental degradation and the onset of desertification in marginal land areas.

In addressing these issues, the government has recognized the following options for providing medium and long term solutions:

- (a) scientific development of social forestry and agroforestry systems;
- (b) --expanding forest management into the ASALs;
- (c) facilitating increased per unit land and labour wood productivity through tree improvement, the development and use of high biotechnology packages; and
- (d) energy conservation and improved efficiency in utilization of wood.

1.2 Social Forestry: A Conceptual Definition

According to the Kenyan context, conceptual definition of social forestry envelopes all those forestry activities conducted outside the gazetted forest land areas by rural communities for their own direct and indirect benefits. Important beneficiaries of social forestry programmes include resource poor small holders, women groups, and rurally based children.

The activities of social forestry programmes are targeted toward alleviation of poverty, conservation of the environment and biodiversity, and promotion of sustainable land use. Important benefits include direct use of products and services, as well as marketing surpluses for cash to meet family needs at the household level.

Social Forestry practices include:

- . Farm Forestry,
- . Community Forestry, and
- . Urban Forestry.

Technologies for gainful application in these practices result from Research and Development programmes that are conducted under agroforestry, biotechnology, soils, forest protection, silviculture, socio-economics, utilization (harvesting, processing and conservation) and marketing divisions of KEFRI.

1.3 The Social Forestry Training Project Phase I

The Government of Kenya recognises the potential role of social forestry in the country's development and has consistently supported the social forestry training project under the assistance of the Japanese Government. In response to the official request by Kenya Government in 1985 on the establishment of the Social Forestry Training Project, the Japanese

Government, through the Japan International Co-operation Agency (JICA), offered Technical Co-operation and Grant Aid.

The Government of Kenya values the generous support provided during phase I under Grant Aid and Technical Co-operation Schemes, for which Kenyans are grateful to the people and Government of Japan. The achievements of phase I of the project, which is still on-going are particularly noteworthy. It is also noted that project implementation has made tremendous progress in realizing its objectives. Any activity that results in the acceleration of rural development, and improving the socio-economic welfare of the rural inhabitants deserves recognition. Project activities have also stimulated an enhanced diffusion of social forestry technologies and practices in many parts of the country, particularly through its training activities, the pilot forest activities and urban forestry model. The following achievements have been realized to date:

A total of 1146 graduates, as at the end of October 1991 have gone through the social forestry training courses at Muguga and Kitui. Through the pilot forests, people's plantation and extension activities, new methods of tree establishment in arid and semi-arid areas of the country have been developed. These methods which include different agroforestry systems and water harvesting techniques have been disseminated to the local communities for application in raising trees in the farmlands.

The commemorative tree planting effort along the Nairobi-Mombasa road, near the airport junction, covering a distance of about five kilometres has greatly improved an important gateway into and out of Kenya, from a bare wasted ground to a beautifully decorated landscape with different tree species.

The project experiences to date have revealed that intensive research and development initiatives in social forestry are essential for the generation,

dissemination and adoption of relevant technologies for the farmers' benefit. This realization has resulted into the establishment of the plants for life research programme that looks into the plants used in folk remedies, their modes of application and natural food plants, and their mode of preparation. This area is vital in addressing the issue of conservation, documentation and beneficial utilization of the indigenous knowledge and plant resources.

It is evident that the proposed Phase II will address important constraints to Kenya's rural development. It is noteworthy that the development of social forestry will particularly benefit resource poor rural people, particularly women and children.

Women and children are hitherto forced to commute long distances in search of wood for fuel and building, and wild vegetables during the dry season. A large proportion of the population, about 90%, that rely on medicinal plants is currently forced to cover vast distances in search for residual natural vegetation to procure requisite plant materials.

The major products of social forestry include woodfuel, poles, various utility products including medicinal and food plants; while providing protection of farming fields and homesteads; improved soil, water, biodiversity and environmental conservation. Thus the development of social forestry will stimulate sustainable land use, with concomittant increased food production, improved quality of life and overall national development.

2.0 JUSTIFICATION

The on-going, phase I of the project has clearly demonstrated five important attributes and challenges of social forestry:

- (a) The first one is that social forestry has an immense potential for the development of rural areas inter alia providing the small scale

resource poor farmers with opportunities for producing own tree and forest products on-farm; while at the same time, ensuring sustained productivity of the small holdings. Experiences from all over the country show that social forestry provides efficient technologies, scope and opportunities for supporting programmes and activities of women in development. Raising of seedlings and incorporation of trees in the farmlands particularly by Mwethya groups has proved to be socially acceptable, economically rewarding and environmentally sustainable.

(b) Secondly, the project has revealed the need for developing appropriate social forestry packages at on-station and on-farm levels, under different agro-ecological zones with different socio-economic and socio-cultural endowments.

(c) Thirdly, under phase I, such important aspects as folk remedies, wild fruits and vegetables, the exploitation of non-wood products, socio-cultural values of plants and foods, indigenous knowledge on agroforestry/ social forestry practices and the culture of energy conservation practices, have not been addressed.

(d) Fourthly, although the initiatives made from Muguga and Kitui have had far reaching positive influences, the needs of the country can not be addressed effectively from the two centres. Consequently, large parts of the country have been left out particularly the Western and Northern parts of Kenya.

(e) There is still a glaring gap in the information base on social forestry principles, concepts and practices. Written texts on the state-of-the-art, and available technologies remain fragmented, undocumented and largely unpackaged for farmers' use, or for application by extension staff and resource managers. Training institutions including schools, technical training colleges, forestry based industries and university colleges remain starved of written empirical information on social forestry.

Added to this is the fact that KEFRI as a young institute is still constrained by lack of research facilities, basic resources and

ingredients for programme implementation. Moreover, the entire forestry research agenda has been expanded five fold during the last four years alone, leading to a greatly increased demand for technical information.

Consequently, the government has mounted new forestry research programmes on dryland afforestation, social forestry and agroforestry systems, tree improvement and breeding, forest protection and utilization of minor and non-timber products.

The proposed phase II of the project will therefore have two components:

The first component will aim at strengthening the capabilities of the two centres at Muguga and Kitui to enable them cope with the demand placed on them currently and in the future; while

The second component will support establishment of a similar centre at Maseno in Western Kenya and a research centre at Marigat so as to improve the country's overall capacity in social forestry research and development.

3.0 OBJECTIVE

The long term objective of the project is to promote sustainable land use, management of plant genetic resources and conservation of biodiversities, ecosystems and the environment; while contributing to opportunities for improving the quality of life of the rural poor.

3.1 Specific objectives are to:

alleviate rural poverty;

develop site appropriate, user-friendly social forestry technologies through collaborative on-station and on-farm research and development (R & D) studies implemented in

partnership with resource poor small scale farmers, women groups and the extension staff;

develop and enhance the national R & D capabilities through infrastructure development, extension, training of resource managers and resource poor farmers, particularly rural women, planners, administration staff, potential entrepreneurs of small scale timber and non-timber forest-based industries and newly employed research officers.

create popular awareness of the potentials of social forestry and related technologies in the conservation of the environment and biodiversity.

4.0 PROPOSED FACILITIES

This proposal consists of a Grant Aid and a Technical Co-operation component.

GRANT AID

The Grant Aid will cover expansion of facilities at Muguga and Kitui and new facilities at Maseno training centre and Marigat research station; while Technical Co-operation will address strategies for generation of technologies on dryland forestry techniques, agroforestry, rural socio-economics and dissemination of these technologies for prompt and effective adaption. Past research has not paid much attention to the needs of dryland areas. It is, therefore, deservedly proposed that KEFRI should establish research facilities in representative agro-climatic zones to enable concerted generation of site appropriate, user-acceptable social forestry technologies at on-station and on-farm levels. Consequently, a new social forestry centre is proposed in the Western part of the country, and a research station in Marigat. This new training centre and the research station will benefit from the knowledge base already developed in Kitui Training Centre during Phase I.

Increased awareness of the beneficial role of social forestry in rural and urban development has led to a veritable explosion in tree planting and a mushrooming of organizations involved in forest development. This has in turn escalated the demand for information on tree planting with specific calls for improved social forestry technical packages. Consequently, the government has decided to expand the capacities of the two centres and to put up a similar centre at Maseno and a research centre at Marigat. This will enable KEFRI to undertake a more active role in forest research and spearhead the training of beneficiaries so that the Kenyan people can cultivate a healthy environmental culture on land use at all levels.

KEFRI has earned recognition as a national, regional training centre for social forestry, agroforestry, seed technology and frequently hosts both regional and international meetings. Moreover, it is now widely recognized that the green revolution cannot come to Kenya and indeed Africa until all farmers popularly incorporate trees in their holdings, in agroforestry systems or other models of social forestry. This growing acceptance of the important role of social forestry in development is a heartening achievement indeed, but adoption of social forestry remains constrained by deficiencies in the state-of-the-art and the lack of appropriate technologies.

Collaborating government ministries of Environment and Natural Resources; Agriculture; and Research, Science and Technology; Livestock Development have at a recent meeting identified Maseno as a potential centre for social forestry training of front line change agents and grassroot level workers in Western Kenya i.e. a regional centre similar to the Kitui centre. The centre stands to benefit from training experiences in Kitui including text books and manuals that have been developed.

Grant Aid will support the development of infrastructure including putting up of laboratories, meeting rooms, catering, information and documentation and reference facilities.

5.0 TECHNICAL CO-OPERATION

5.1 Social Forestry Training

During the current phase of the project, this activity has received recognition for spear-heading national development efforts in different fronts. This is reflected in the number of trainees that have gone through the programme and the increased demand for training and technical information on social forestry. Dissemination of information of relevant social forestry technologies has been realized through active participation of the project staff and the local communities.

The Muguga National Centre has emerged as an important national, regional and international reference centre not only for social forestry but also for general training purposes including agroforestry and tree seed handling and technology development. Several national and regional social forestry and international courses/workshops have been conducted at the two centres on Alley Farming and for other forestry related technologies. The demand for such national, regional and international courses are so high that some have been turned down due to lack of space, and meeting facilities. Continued support, therefore, calls for an improvement of the present facilities both at Muguga and Kitui and establishment of an additional facility at Maseno and a research centre at Marigat (see 4.0).

The following activities will be undertaken:

- . Training of managerial extension staff on integrated land use paradigms, focussing on social forestry and agroforestry;
- . Agroforestry concepts and application as a component of social forestry;
- . Training of operative extension staff/trainers and teachers from primary, secondary schools, colleges and universities;

- . Training of farmers/farm managers, small scale resource poor and large scale farmers on social forestry, agroforestry, and biodiversity conservation etc.;
- . Training of chiefs, assistant chiefs, school teachers, women group leaders, extension workers;
- . Development of social forestry growth points (models) in different agroclimatic zones especially in ASALs;
- . Preparation of educational and training manuals, pamphlets, booklets, and posters on social forestry and agroforestry and conservation of plant germplasm and biodiversity etc.;
- . Training of potential entrepreneurs of small scale social forestry products on processing, utilization and marketing;
- . Training of emerging Kenyan consultants involved in land use projects including social forestry and agroforestry; and;
- . Training of retired officers contemplating to undertake active farming and those involved in active farming.

The following training activities will be addressed by centres:

The Muguga Centre

- . District level agroforestry courses 2 per year
- . Divisional level agroforestry courses 2 per year
- . Extension Officers' agroforestry
courses 4 per year
- . Secondary and Head Teachers courses 1 per year

.	National Social Forestry events	once per year
..	Training of Trainers' courses	1 per year
.	Induction courses for fresh graduates	1 per year
.	National Social Forestry Workshops. (Research, Resources Managers, Extension Officers' Seminars)	1 per year

The Kitui Centre

.	Chiefs' and Leaders courses	1 per year
.	Assistant Chiefs' courses	1 per year
.	Farmers' courses	2 per year
.	Primary School Teachers courses	2 per year
.	Women Group Leaders' courses	3 per year
.	Extension Workers Agroforestry courses	2 per year
.	Training of Trainers' courses	1 per year

The Maseno Centre

Courses for this centre will be arranged during the preparatory phase.

5.2 Pilot Forest

Research involving trees has a long gestation period. Although useful preliminary results on species establishment and their acceptance by

the local farmers have been realized, further support is needed for the selection of a broad range of species to meet the national requirements of forest development and integrated land use. It is proposed that the performance of those species which are recommended for social forestry, should be monitored for sometime. Moreover, many of the on-going activities under the trial plantations will have not been completed at the expiry of Phase I.

It is, therefore, proposed that the pilot forest activities should be continued at the present site. At the same time the nursery activities will be strengthened to develop sustainable techniques for raising seedlings in the semi-arid land areas, and packages for forestation of the semi-arid lands. Socio-economic research will strive to develop social forestry extension packages, in addition to developing avenues for stimulating mass adoption of social forestry and creation of environmental awareness (see Ch. 5.7)

The on-going pilot forest activities at Tiva include nursery programmes, pilot plantations, and extension activities. While some aspects of these activities will be maintained, it is proposed that Phase II pilot forestry programme will include the following activities:

(a) Nursery Activities

- . Procurement of improved, source identified, site suited and farmer-use appropriate seed.
- . Development of on-farm tree nurseries to ensure that seedling production adequately meets the farmers' tree planting needs.
- . Testing nursery manual developed in Phase I and further development of appropriate techniques for raising seedlings in the sub-humid land areas.

(b) Plantation Activities:

- . Testing of the semi-arid land area forestation manual developed in Phase I.
- . Species screening and selection including development of strategies for raising and managing semi-arid land area species, and expanding the range of species for cultivation in the sub-humid land areas.
- . Development of suitable techniques of forestation in semi-arid land areas.
- . Development of model forests for different land use systems in the semi-arid land areas, including tending of tree crops.

5.3 Technology Extension

Suitable extension methods developed for social forestry in the semi-arid areas of Kwa-Vonza location in Kitui will be tested in other locations, with similar agroclimatic and land use attributes; in collaboration with line department extension staff.

The following extension activities will be undertaken:

- . People's plantation initiatives and activities will be maintained.
- . Suitable extension methods of social forestry for semi-arid land areas will be developed and evaluated in Kwa-Vonza location;
- . Extension methods already developed in Kwa-Vonza location will be tested in neighbouring

divisions.

5.4 Urban Forestry

Urban centres are rapidly becoming important areas of population concentration and the accompanying environmental stresses have attracted wide public concern and debates. The developments in the older towns, such as Nairobi, Mombasa, Kisumu, Nakuru and Eldoret are not exempted. While industrialization is good for the national development, conservation of the environment and attendant biodiversity must not be compromised. The major centres need greeneries and tree cover to provide sinks for carbon dioxide and related gases that are continuously emitted as a result of industrial activities and domestic affluence. Experiences gained from the Nairobi - Mombasa road commemorative tree planting efforts have shown that such a tree cover does not only enrich the beauty of the landscapes but also enhances its environmental quality.

The site along the Nairobi - Mombasa road near the airport junction will be supported through technical co-operation to refine the performance of this impressive and important activity. There is an urgent need to develop policies for urban forestry and packages for establishing and managing forests for recreation and amenity.

The following important studies identified in Phase I will also be supported through technical co-operation in the project areas:

- . Studies of plants for life including medicinal plants, indigenous fruits and vegetables;
- . Socio-economic and cultural studies on social forestry and forest development;
- . Conservation of energy through the development of new sources of renewable energy;

- . Exploitation, marketing and utilization of non-wood products, especially of minor tree species;
- . Trees and forests for soil and water management; and
- . Environmental management and conservation of biodiversity.

5.5 Plants for Life Research

This activity will be based at the project sites at Muguga, Maseno, Marigat and Kitui. Initial surveys have revealed that Kenya abounds with indigenous knowledge. Although naturally occurring plant resources are used widely by rural communities, both the knowledge base and the plant resource base are eroding fast. It is noted further that this knowledge base remains undocumented and the potential use of the indigenous plants to the majority of Kenyans has not been explored, or packaged for wide application

The plants for life research project will conduct surveys to document different aspects of medicinal plants, the wide spectrum of their values, and indigenous fruits and vegetables, their abundance and distribution. Both ex situ and in situ conservation strategies will be developed for deserving cases.

5.6 Socio-economic and Cultural Studies

These studies will address such areas as indigenous knowledge of social forestry and agroforestry practices, including the exploitation and marketing of minor tree products. The programme will be based at the project sites. Rapid rural appraisals will be done in the project sites to provide information on the socio-economic endowments of the areas, land use

systems, constraints to production and relevance of/and opportunities for applying social forestry technologies. Subsequent socio-economic surveys will be done to monitor changes resulting from introduction and intervention of social forestry technologies. Evaluation surveys will provide useful information on the success and/or failure of the project in addressing its objectives.

5.7 Conservation of Energy and Development of New Sources of Renewable Energy

This activity will look into the possibility of conserving the available energy from wood and related biomass resources, and the development of new and renewable energy sources. This activity will be based in the project sites, and will also explore opportunities for developing simple charcoal conversion techniques and technologies for briquetting and valorization of sawmill wastes etc.

5.8 Exploitation, Marketing and Utilization of Minor Tree Products

This activity which will be based at the project sites will undertake studies on the exploitation, marketing and utilization of non-timber products, such as tree extractives, resins, oils etc for use in the local food processing and pharmaceutical industries. This activity will be used to stimulate the development of small scale tree based industries in the project areas.

5.9 Trees and Forests for Soil and Water Management

This work will undertake:

reconnaissance surveys to generate baseline data on climate, soil and vegetation;

generate data on hydrological responses of target sites, and the effects of tree planting patterns by farmers using run-off experiments etc., in mitigating soil and water losses, etc.

5.10 Counterpart Training

The third country training at Masters degree level, has benefited a number of KEFRI scientists who have trained in various areas related to social forestry, such as socio-economic and dryland silviculture. This will be supported during Phase II.

Counterpart short-term training in Japan has benefited KEFRI by providing exposure to Japanese technology on forestry development to many scientists. Additional fellowships for counter-part staff per year and longer courses are proposed. Long-term training in Japan at post-graduate level will also be explored.

5.11 Equipment

The list of equipment and materials is shown in Annex I.

6.0 EXPECTED OUTPUTS

The benefits of this project will go to the resource poor rural communities, particularly small scale farmers, women and children.

The major benefits will include:

- (a) an accelerated promotion of Social Forestry as a sound and environmentally friendly land use system;
- (b) enhanced and sustained land use supported by the availability of trees and tree products;

- (c) development of small scale tree-based industries which will provide new economic activities and employment opportunities with subsequent development of markets for such products and cash income to the rural people;
- (d) collection of fire wood by women will become easier and cheaper;
- (e) the welfare of the local communities will be improved;
- (f) improved environmental conditions within and around the project areas which will act as growth points with concomittant multiplier effect country wide; and
- (g) the development of information management systems which will lead to a more efficient information dissemination.

7.0 PROJECT TIME FRAME

The project will be implemented under Grant Aid and Technical Co-operation as follows:

- 7.1 The activities being undertake at Muguga and Kitui will be extended to cover five more years.
- 7.2 At the new sites, Maseno and Marigat, the project will cover an initial preparatory phase of two years and a main phase of five years.
- 7.3 There will be periodic evaluation and one before the end of the main phases with possibilities of a further extension of additional five years for activities to be undertaken at Maseno and Marigat.

8.0 INPUTS

8.1 Under Grant Aid.

<u>MUGUGA</u>	Working Area	Including	Estimated
		Public	cost KSh.
		Space	
	m ²	m ²	
Accommodation and Catering for 150 persons	4,000	5,000	
Information Centre			
Basement Conference Hall (Auditorium)	300		
Five discussion rooms	210		
Board room	80		
Two bathrooms	24		
1st Floor			
Four offices	80		
Medical room	40		
Exhibition room	80		
Reading room	42		
Printing, designing and draughts room	108		
Computing centre	80		
Dark room	42		
Archival room	42		
Tea room	12		
2 bathrooms	24		
	<hr/>		
	164	2,000 m ²	
	<hr/>		

Research Block

10 Laboratories for R & D and pedagogic activities	1,170	
Socio-economics, Non-Timber Forest Products, Ecology, Hydrology, Tree, Breeding, and Plants for Life		
10 Reading rooms	200	
1 office	20	
1 computer room	40	
	<u>1,430</u>	2,050 m ²
Green houses 8	320	
Phytotrone 1	20	
	<u>340</u>	
Total floors area	9,390	386,033,000.00

MASENO CENTRE

Director's room	28
Secretary's room	50
Offices	87
Conference room	50
Lecture room - middle size	78
Lecture room - small size	20
Lecturer's room	90
Laboratory room	40
Operating room	90
Library	48
Storage	40
Janitor's room	50
Information and Documentation	29

Water Supplying room	5	
Bathroom	44	
<hr/>		
	749	1,100 m ²

Accommodation Block

Trainees' living room	225	
Bathroom	123	
Guest House	132	
Water Supplying room	8	
<hr/>		
	488	700 m ²

Dining Hall:

Dining Hall	107	
Kitchen	32	
Bathrooms	10	
Locker rooms	30	
Washing and linen	18	
Janitor's room	9	
Offices	22	
<hr/>		
	228	270 m ²

Pump room	12	
Transformer room	18	
<hr/>		
	30	

Research Block:

4 laboratories	468	
4 reading rooms	80	
<hr/>		
	548	800 m ²

Nursery Block:

4 Green houses	160	160 m ²	
Nursery office	22)		
Storage	80) (102)	210 m ²	
	<u>262</u>	<u>370 m²</u>	
Total floor area		3,270 m ²	145,333,000.00

MARIGAT STATION

Four laboratories	468		
One Reading Room	40		
One Meeting Room	40		
Two offices	80		
Four Green Houses	96		
One Keeper's house	300		
Stores	84		
	<u>1,108</u>	<u>1,600 m²</u>	<u>71,111,000.00</u>

KITUI CENTRE

Basement - offices

Basement main store	200		
Two offices	40		
Two secretarial rooms	24		
One tea room	12		
Two bathrooms	24		
	<u>300</u>	<u>430 m²</u>	

1st Floor - Plants for Life

Laboratory	117		
Culture room	28		

Chemical room	28		
Fume Chamber	12		
Two Reading rooms	84		
Two Offices	40		
Two secretarial rooms	24		
Tea room	12		
Two bathrooms	24		
	<u>369</u>	530 m ²	
Total floor area		1,018 m ²	43,244,000.00
Building equipment			55,600,000.00

8.2 Technical Co-operation

8.2.1 Staff

(a) Counterpart Staff:

Scientific	30
Administrative	9
Support Staff	150

(b) Japanese Experts:

HQ Chief Advisor and Coordinator

Muguga Centre

. Training	2
. Research	1

Kitui Centre

. Leader	1
. Training	2
. Silviculture	1
. Nursery	1
. Extension	1

8.2.2 Equipment

Vehicles

Spare parts for vehicles and heavy duty machines.

Tools for pilot forest activities (including
commemorative tree plantation site in Nairobi)

Nursery tools.

Training materials, audio visual aids

Photocopier, computers.

EQUIPMENT AND MATERIALS

Annex I

ITEM	QUANTITY	PROGRAMME/SECTION (ABBREVIATION)
1. Nuclear Magnetic Resonance Spectro- scope	2	HB,KA
1. Spectrophotometers (AA, Mass and I, IR,UV,V)	8	HB,AF,BTC,KA
1. Microscopes (Stanning Electron, compound, Dissecting)	13	HB,ECO,BTC,PAT,TB,ENZ,KA
1. Chromatograph (Gas liquid (GLC), High performance liquid (HPLC), and Thin layer (TLC) equipment).	6	HB,KA
1. Shakers (Rotary/Orbital,Sieves - Medium,large)	4	HB,SO,BTC
1. Refrigerators, Deep Freezers (Medium), Cool boxes.	15	HB,ECO,BTC,SILD,TB,SFIC,PAT,ENZ
1. Ovens/incubators/micro-oven (large 200° C with timer)	10	HB,ECO,SO,TB,BTC,PAT
1. Weighing balances (electric top pan/ manual)	9	HB,SO,BTC,TB,KA
1. Hammer mill/Wiley Mill sample grinder	2	HB,SO
0. Leaf grinder	2	HB
1. Water baths	3	HB,ENZ
2. Still water Distiller	5	HB,ECO,SO,BTC,SILD
3. Centrifuge (Micro and Macro)	8	HB,AF,SO,ENZ,BTC,TB,KA
4. Autoclave (Non-magnetic - large)	5	HB,SO,BTC,SILD,TB
5. pH meter (electronic) and chart plate	5	HB,SO,BTC,SILD,TB
6. Plant moisture meter (electrical type)	3	HB,BTC,SE
7. Leaf area meter	2	AF,TB
8. Soil hydrometer	4	SO
9. Hot plates with magnetic strirrer	6	HB,AF,SO,BTC
0. Electronic muffle furnace	2	HB,AF
1. Rotary Evaporator	1	HB
2. Hollow Cathode Lamps (Silver, Iron, Zinc, Manganese,Molybdenum, Boron)	2 each	SO
3. Pressure chamber	2	SO,TB
4. Bacterology kit	2 sets	SO
5. Automatic knifer sharpener	1	KA
6. Stage micrometer	1	KA
7. Polarimeter	1	KA

28.	Surface area meter	1	KA
29.	Viscosimeter	2	HB,KA
30.	Refractometer	2	HB,KA
31.	Charcoal hardness tester	1	KA
32.	Haemocytometer	1	BTC
33.	Rotary Microtome	3	ENZ,BTC,KA
34.	Entomological dissecting kit(with maguifiers)	5	ENZ
35.	Laboratory wood impregnation equip- ment	1	BTC
36.	Tipping Bucket Rain gauge (with 2 charts)	1	HYD
37.	Pan evaporimeter	1	HYD
38.	Gun-belland radiometer	1	HYD
39.	Solanimeters	2	HYD
40.	Sun-shine Recorder	1	HYD
41.	Anemometer and wind vane	2	HYD
42.	Net radiometer	2	HYD
43.	Automatic data logger (Solar powdered	2	HYD,INST,AF
44.	Neutron probe	1	HYD
45.	Tensiometers (20,50,100,150 cm)	1 each	HYD
46.	Compact water Temperature, pH and conductibility Unit (portable)	1	HYD
47.	Technicon Auto analyser	1	AF
48.	Polytron grinder (Homogenizer)	1	PAT
49.	Gel electrophoresis equipment (with assessoris)	2	PAT,TB
50.	Pitch evaporimeter	1	HYD
51.	Germinator	4	TB
52.	Laboratory Glass wares (assorted)		SO,BTC,PAT,ECO,KA,ENZ,SILD
53.	Stainless metallic trays (30cm x 40cm)	20	HB,BTC
54.	Pole pruners/Secateurs	2/15	
56.	Tape measure(Diameter tape,15m,30m)	8	
57.	Hypsometer	3	TB,ENZ
58.	Power saws/silodco pruning saw	6/2	
59.	Suunto liquid filled compass/clino- meter	9	TB,SE,MEN
60.	Calculators (scientific/financial)	12	HB,ENZ,BTC,SE,INST
61.	Computers with printer and packages	8	HB,SE,SFIC, AF,KA,LIB,MEN
62.	Electronic type writers	5	HB,SE,SFIC,INST,KA
63.	Photocopyers	4	HB,SE,SFIC,KA

64.	Professional camera	7	HB, ECO, TB, BTC, SFIC, KA, ENZ, INS
65.	Binoculars (ordinary/IR/stereo- microscope)	10	HB, ECO, ENZ, TB, AF, INST
66.	Information equipment with accessories - Audio/visual sets/public address system/slide projectors		SFIC, HB, SE, KA, INST
67.	Colour pattern generator	1	INST
68.	TV monitoring/analysing equipment	1	INST
69.	Cordless microphones/loud speakers systems		INST, SFIC
70.	High Fidelity Earphones	2	INST, SFIC
71.	Amprobe/in circuit digital I ^C tester	2	INST
72.	Electric drafting/plating machine	1	INST
73.	Sealing machine (medium and large)	2	INST, HB
74.	Hydraulic bending machine	1	INST
75.	Copper pipe bending machine	1	INST
76.	Electric cable detector/locator	1	INST
77.	Image analyser	1	INST
78.	Plant canopy analyser	1	INST
79.	Light meter	1	INST
80.	Relaskop	1	MEN
81.	Nursery tools (Agricultural tools		
82.	Glass House 8m x 15m x 3m, humidity and temperature control, sliding windows	4	HB, BTC, SFN, TB
83.	Mist propagation unit (output unit with accessories)	1	HB
84.	Digital theodolite	1	MEN
85.	F-71 Mirror stereoscope	1	MEN
86.	Wood handled Bark-gauge	1	MEN
87.	A. Microdendrometer	1	MEN
88.	Haglof Mantax Aluminium clippers	4	MEN
89.	Peavey pulp Hooks	2	MEN
90.	Noble slotted cap	1	MEN
91.	Mayline Forester Drafting table	1	MEN
92.	Sewing machine	1	SF
93.	Washing machine (medium)	2	SF
94.	Drying machine (medium)	2	SF
95.	Information centre/learning centre	1 unit	SFIC
	- Conference hall (150 people)	1	
	- Offices	8	
	- Stores	2	

- Science workshop	1	SFIC
- Studio	2	
- Book binding equipment	1 set	
- Microfilming apparatus	1	
- Perforating machine	1	
- Automatic numbering machine	1	
- Electronic instruments (Audio/Visual		
- Laser pointing spotlight	2	
- Colour printing press/Type setting	1	

NB: HB	-	Herbal Medicine
AF	-	Agroforestry
ECO	-	Ecology
SO	-	Soils
BTC	-	Biotechnology
PAT	-	Pathology
INST	-	Instrumentation
SFN	-	Social Forestry Nursery
KA	-	Karura
LIB	-	Library
MEN	-	Forest Mensuration
TB	-	Tree Breeding
SE	-	Socio-economics
SF/SFIC	-	Social Forestry (Information)
ENZ	-	Entomology and Zoology
SILD	-	Silviculture Dryland
SILV	-	Silviculture plantations

附属資料 3. フェーズ II 事業内容 (案)

RECOMMENDATION FOR SECOND PHASE:

TRIAL PLANTATION ACTIVITIES

1. Plantation establishment manual.

Verification of trial plantation manual with the objective of developing techniques and methodologies of planting in ASAL areas like Kitui.

(1) This will be verified from the experience gathered from the 1st phase.

(2) 2nd phase annual planting programme will be 40 ha.

2. Species/provenance trial of new species

(1) Survival count survey and selection of exotic species

This will include identifying suitable exotic species for arid and semi-arid lands.

eg. Australian Acacia spp, Eucalyptus and South West Asia spp.

2. Indigenous species survival survey.

Identification of indigenous species suitable for ASAL and semi-arid lands eg. Acacia mellifera etc.

3. Stump seedlings development.

(1) Identification of suitable species that can be raised from stumps for planting purposes.

This will include surveys on development techniques for afforestation purposes.

Examples of such species:-

Acacia spp, Croton megalocarpus, Cassia spp. etc.

4. Effects of sun light on tree growth and tending.

(1) Find out effective methods of tending

eg. Slashing, reclearing etc.

Survey of best slashing methods.

(2) Sunlight condition and effective ways of clearing.

Survey on sunlight condition and the most effective way of clearing.

5. Soil survey.

1. Soil water retention survey:

Survey of water holding capabilities of different soils hence examine planting techniques on those soils.

2. Soil Classification survey:-

Survey of soils distribution in and around Pilot Forest area for classification purposes to be made clear.

6. Survival count survey.

Experiments started in phase I but have failed will be discontinued and re-plant the area.

Survival count survey will continue and preparation of a manual will be very useful.

7. Other surveys.

(1) Regeneration by sprout, coppice etc. Carry out thinning and find out regeneration capabilities.

(2) Appropriate plantable size of transplants:-

Identify those that are fast growing and slow growing hence determine the optimum sizes for afforestation.

(3) Drought resistant species survey:-

Determine suitable drought resistant species for semi-arid area.

(4) Polymer survey:-

Development on the use and optimum quantities of polymer.

by: K. Kato

M. Gathura.

TIVA TREE NURSERY
NURSERY ACTIVITIES FOR PHASE II

1. Pre-germination treatments (to be continued)
Objective: To find out the most appropriate pregermination treatment to be applied to each species as to obtain optimum germination.
2. Pot sizes (to be continued)
Objective: Find out optimal pot sizes for seedling production eg. Tamarindus indica.
3. Watering intensities (to be continued)
Objective: To try and classify species as per their water requirement at nursery level.
4. Shading (to be continued)
Objective: Identify and classify tree seedlings as per their shading intensity requirements eg. Tamarindus indica.
5. Stump seedlings development (to be continued)
Objective: Identify the tree species that can be raised from stumps for afforestation work.
6. Seedling size establishment (to be continued)
Objective: To study the different species as to know the right out planting sizes.
7. Vegetative propagation :
Objective: To find out possibilities of raising various species especially those with low germination capacities by vegetative propagation in ASALs.
8. Hardening up :
Objective: To know the watering intensity reductions required by each species during hardening up period as to improve on initial establishment.
9. Insect/pest, disease prevention :
Objective: Try and identify the pests / diseases that attack the seedlings and the possible preventive measures of especially termites.
10. Phenological studies :
Objective: To help document information on the right flowering time, seeding, seed maturity and seed collection seasons.

11. Development of rooting systems :

Objective: To study the rooting behaviour of various species as an adaptation to survival in arid and semi arid conditions.

12. Verification of nursery manual :

Objective: More studies on nursery techniques to be undertaken as to verify further the information in the present manual.

13. Seed source/provenance/identification :

Objective: To identify good seed sources as to collect seeds from adaptable and good quality trees especially those to be introduced in the Pilot Forest.

14. Seed stand :

Objective: Establish a seed stand of thornless Prosopis juliflora which are already in the nursery.

RECOMMENDATIONS FOR SECOND PHASE:

SOCIAL FORESTRY EXTENSION ACTIVITIES:

Introduction:

The first phase of the Social Forestry Training Project is ending in November, 1992. Immediately after this the 2nd phase starts with more emphasis on Agroforestry.

The objective of extension section will be to develop most appropriate, easily adaptable, simple and economic agroforestry techniques that a farmer can adopt without incurring alot of expenses but increases yield production.

The methods will ensure community involvement and creation of self reliance in wood and tree products thus raising the standards of living of the local community.

Through these, the project will be able to establish an extension manual which the farmers will be using to guide them in their day-today tree planting activities. To achieve this, the following extension approaches will be used:

1. SMALL SCALE NURSERIES:

Purpose:

To continue assisting the groups, schools and individual farmers in using simple, local and easily adaptable nursery establishment and management techniques to raising agroforestry multipurpose tree species making themselves self-reliant.

- (a) The activity be expanded to other locations neighbouring Kwavonza location which is the model location with strong emphasis on the raising the multipurpose agroforestry tree species.
- (b) The groups, schools and individual farmers involved in small scale nurseries activities be educated more on the local seed collection, seed storage, and seed pre-treatments by conducting "on the spot" trainings. Hardening up processes to reduce mortality rates in the field should be included during the trainings.
- (c) In carrying out the small scale nurseries activities should be done with strong linkages with the other related government departments and NGO's like Forest Department, Ministry of Agriculture Ministry of Energy, Kengo, etc. so as to strengthen it much more. This will actually assist in reducing the expensive seedlings distribution exercises.

2. MODEL FARMERS (AGROFORESTRY ONFARM DEMONSTRATIONS)

Purpose:

The purpose will be to continue assisting the newly selected farmers in displaying effective and substantial role in various agroforestry systems in the model area.

- (a) To select about six new model farmers to combine various trees establishments and management technologies including various agroforestry systems.
- (b) Consideration for the provision of a few tools for ground preparations and maintenance of the model farms preferably ox-plough etc.

3. DEMONSTRATION PLOT (AGROFORESTRY ON-STATION DEMONSTRATION)

Purpose.

Continue serving the purpose of displaying various agroforestry systems development techniques to farmers, trainees etc. for easy adoption.

- (a) Continue maintaining demo I
- (b) Complete the Demo II plan.
- (c) Establish an arboretum near the main road displaying the various multipurpose agroforestry tree species.

4. SEEDLINGS DISTRIBUTION:

Purpose.

Continue making tree seedlings available to the interested farmers within their reach where there are no small scale nurseries.

- (a) Exercise to continue with optimum number of seedlings so as to avoid wastages.
- (b) The activity to be done with alot of collaboration with other related Government departments and NGO's.
- (c) The approach of organization of a locational tree planting day for the distribution of seedlings should be continued as it has shown good results.

5. SOCIAL FORESTRY DAY (AGROFORESTRY OPEN DAY)

Purpose:

To continue exposing the local people to the agroforestry practices by the project.

- (a) This is a good and important activity and should be implemented as initially planned where possible, thus once every year.

6. PEOPLES PLANTATION (Pilot Forest Area) Women (Mwethya grous)
Agroforestry programme)

- (a) The activity to be continued under the following considerations.
 - (i) No expansion but replanting the areas planted before but trees have died.
 - (ii) Further species selection for the peoples plantation to be done.

- (iii) New set of tools to provided to the participating groups as the first set given in 1988 is worn out.

NB: The activity to be continued with as little assistance as possible.

7. PEOPLES PLANTATION (Private land):

Purpose.

Continue encouraging the group members to plant trees next to their localities as opposed to the peoples plantation on the project land.

- (a) More group to be involved in the exercise.
- (b) More tools will be provided to support this sub-programme.
- (c) More technical advise and close monitoring of this exercise is necessary.

TRAINING ACTIVITIES FOR MUGUGA CENTRE PROPOSED FOR PHASE II

1. District level agroforestry course

- Objective To provide District level officers in charge of management and extension with current information and knowledge on agroforestry.
- Frequency 2 times per year
- Target group District level officers from Forest Department (FD), Ministry of Agriculture (MoA), Ministry of Livestock Development (MoLD), Ministry of Energy (MoE) and allied natural resource field, including NGOs.

2. Divisional level agroforestry course

- Objective To up-date field officers at Divisional level on agroforestry technologies and dissemination techniques.
- Frequency 2 times per year
- Target group Divisional level officers from the same organizations as above course.

3. Extension officers agroforestry course

- Objective To enhance the knowledge of field extension officers on current agroforestry practice and dissemination.
- Frequency 2 times per year
- Target group Divisional and Locational level extension officers in charge of agroforestry implementation from the same organizations as above course.

4. Teachers' social forestry course

- Objective To provide teachers with fundamental knowledge on social forestry so as to improve their capacity to lead your environmental clubs and others in afforestation.
- Frequency 1 time per year

- Target group Primary and secondary school teachers who lead environmental youth clubs.

5. Orientation course for newly recruited officers

- Objective To provide newly recruited officers with knowledge on social forestry promotion.
- Frequency 1 time per year
- Target group Newly recruited District level officers in the forestry sector.

6. Training of trainers course

- Objective To develop training ability of resource persons in the above mentioned training courses.
- Frequency 1 time per every another year
- Target group Resource persons who have participated in the national level social forestry/agroforestry training courses.

7. Social forestry prize day

- Objective To enhance nation-wide awareness on social forestry development through recognizing outstanding activities in grass-roots level.
- Frequency 1 time per year
- Target group Groups/individual farmers who are carrying out outstanding social forestry activities in the selected districts

8. Social forestry workshop

- Objective To enhance research-extension linkages especially transfer of agroforestry technologies/innovations between research and extension agencies.
- Frequency 1 time per year
- Target group Researchers and extension officers in professional level of allied institutions/organizations in the country.

TRAINING ACTIVITIES FOR KITUI CENTRE RECOMMENDED FOR PHASE II

1. Implementation of Training Courses

The Project will implement various kind of training courses at Kitui Centre. Annex 1 and Annex 2 show Kitui Centre annual course plan for phase II and the contents of each course respectively. Objective and target group of each course are as follows:

(1) Farmers Course

Objective: To train participants on practical knowledge and techniques on tree planting and associated activities, and to extend recommended techniques to the rural areas so that farmers can actually promote social forestry activities in semi-arid lands.

Target Group: Farmers

(2) Women's Course

Objective: To train participants on practical knowledge and techniques on tree planting and associated activities, and to extend recommended techniques to the rural areas so as to strengthen women's skills to promote social forestry activities in semi-arid lands.

Target Group: Women farmers such as members of women's groups

(3) Teachers Course

Objective: To create awareness on the need to plant trees as well as to train participants on practical knowledge and techniques on tree planting and associated activities so as to enhance their role of motivating the community to carry out social forestry activities in semi-arid lands.

Target Group: Primary and secondary teachers

(4) Front-line extension staff course

Objective: To train participants on practical knowledge and techniques on tree planting, extension techniques and associated activities so as to improve their capability to promote social forestry activities in semi-arid lands.

Target Group: Front-line extension staff of Forest Department, Ministry of Agriculture and other organizations

(5) Field technical Assistant Course for Agroforestry

Objective: To train the participants on integrated landuse emphasizing various kind of agroforestry techniques,

and to motivate them to further social forestry activities by way of carrying out follow-ups.

Target Group: The front-line extension staff who have graduated from the Field Technical Assistant Staff Course at Kitui Centre in Phase I

(6) Training of Trainers

Objective: To train participants on presentation techniques and methods including various aspects of preparation and use of training materials and aids so as to realize more effective reinforcement of information in the lectures.

Target Group: The resource persons involved in the training courses in Kitui Centre

(7) Community Leaders Course

Objective: To create awareness on the need for tree planting and policy issues so as to enhance social forestry activities as well as to train participants on practical knowledge and techniques on tree planting and associated activities and hence increase their efficiency in mobilizing the rural communities to further social forestry activities in semi-arid lands.

Target Group: Community leaders such as location chiefs and assistant chiefs.

(8) Follow up workshop

Objective: To carry out follow-up to participants and give them recommendation on activities tried by them after the training courses and to enhance their motivation for on farm agroforestry practices. The venue to be at each district headquarters.

Target Group: Participants who have graduated from mainly Farmers' course in Kitui Centre

(9) Field seminar

Objective: To train participants on simple and basic practical knowledge and techniques on tree planting and associated activities in the location out of Kitui Centre station in order to grasp the actual condition of rural areas and to establish diversification of training methods as well as to promote social forestry activities in semi-arid lands.

Target Group: Grass-roots level persons especially women farmers who can not attend the training courses in Kitui Centre because of particular problems to women such as care of children and so on

2. Others

- (1) Development, improvement and acquisition of teaching and support materials for the training course at Kitui Centre.
- (2) Training effect monitoring and evaluation for further improvement of the training course at Kitui Centre.

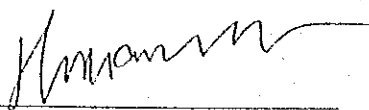
MINUTES OF DISCUSSIONS
ON
SOCIAL FORESTRY TRAINING PROJECT
PHASE II
IN
THE REPUBLIC OF KENYA

The Japanese Preliminary Survey Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Hiroshi Masuko, Auditor, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries, visited the Republic of Kenya from September 18th to 29th 1992 in order to confirm the background and content of the request for Japan's further cooperation for Social Forestry Training Project (hereinafter referred to as "the Project") in the form of Phase II and to study a possibility of the Project Phase II as well as to review the final achievements of the current Project.

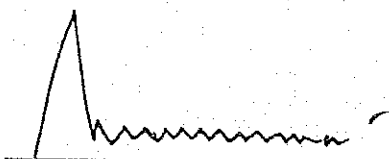
During its stay in the Republic of Kenya, the Team exchanged views and had a series of discussions with the Kenyan authorities concerned.

As a result of the discussions, both parties agreed to recommend to their respective governments the matters referred to in the document attached hereto.

Nairobi, September 28, 1992



Mr. Hiroshi Masuko
Leader, Preliminary Survey Team,
Japan International Cooperation Agency

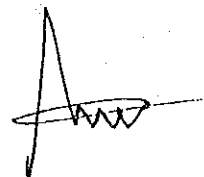
✓ 

Mr. Sospeter Nyagwansa Arasa
Permanent Secretary
Ministry of Research,
Science and Technology

ATTACHED DOCUMENT

1. Review of the final achievement of the current project.
Most of the initially planned activities of the current project including development of social forestry techniques in semi-arid area and social forestry training at the national and regional levels have been successfully completed.
2. Confirmation of the background and content of the Project Phase II
 - (1) Background
Degradation and depletion of forests are still going on in Kenya, especially in semi-arid area. Lives of rural people are endangered and their participation in reforestation and related activities are highly required.
 - (2) Content
In order to promote social forestry and agroforestry in Kenya, appropriate techniques will be developed and diffused through training and extension activities.
 - (3) Framework of the Project Phase II
Basic understanding for planning of the Project Phase II
 - (a) At Muguga, training courses on selected subjects and national events on social forestry and agroforestry will be held.
 - (b) At Kitui, development of appropriate techniques on social forestry and agroforestry, and extension works and training for the rural people will be carried out.
 - (4) A draft of the outline of the Project Phase II
A draft of the outline of the Project Phase II has been jointly prepared and attached as ANNEX.
3. Measures to be taken after the Preliminary Survey
Whether or not further cooperation is implemented, and in what form including the Project Phase II, will be finally decided after the results of the Preliminary Survey is reported to the Government of Japan and examined. In case of the Project Phase II, the Record of Discussions will be signed between the resident Representative, JICA Kenya Office and the authority concerned of the Government of the Republic of Kenya.

②



ANNEX

OUTLINE OF THE PROJECT PHASE II

1. Objective of the Project

To develop and improve social forestry and agroforestry techniques, to disseminate these techniques through training and extension activities at the national and regional levels and thus contribute to improved living conditions for the rural people and an enhanced environmental management in Kenya.

3

Amu

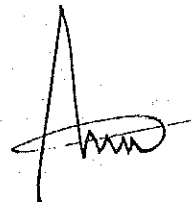
2. **Activities of the Project**

To attain the above-mentioned objective, the following cooperation activities will be implemented:

- (1) Training in social forestry and agroforestry
 - a. Improvement of curricula and development of training materials
 - b. Conducting national events for promotion of social forestry and agroforestry
 - c. Training for senior and intermediate officers
 - d. Training for extension staff
 - e. Training for community leaders and teachers
 - f. Training for farmers, women's groups and others.
 - g. Training for trainers and training staff

- (2) Implementation of the Pilot Forest Scheme combined with Training.
 - a. Development and improvement of the techniques on social forestry and agroforestry
 - b. Development and improvement of the techniques on extension
 - c. Technical guidance and material support for the local farmers' groups
 - d. Study of natural succession in the protected area

3



3. JAPANESE EXPERTS

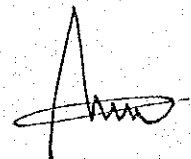
- (1) Chief Adviser
- (2) Team Leaders
- (3) Experts in the fields of:
 - a Social Forestry Training
 - b Extension
 - c Nursery
 - d Silviculture
- (4) Liaison Officer

- Note:
1. Team Leaders may serve concurrently as experts in one of the fields mentioned above.
 2. Short term experts in related fields will be dispatched when necessity arises.

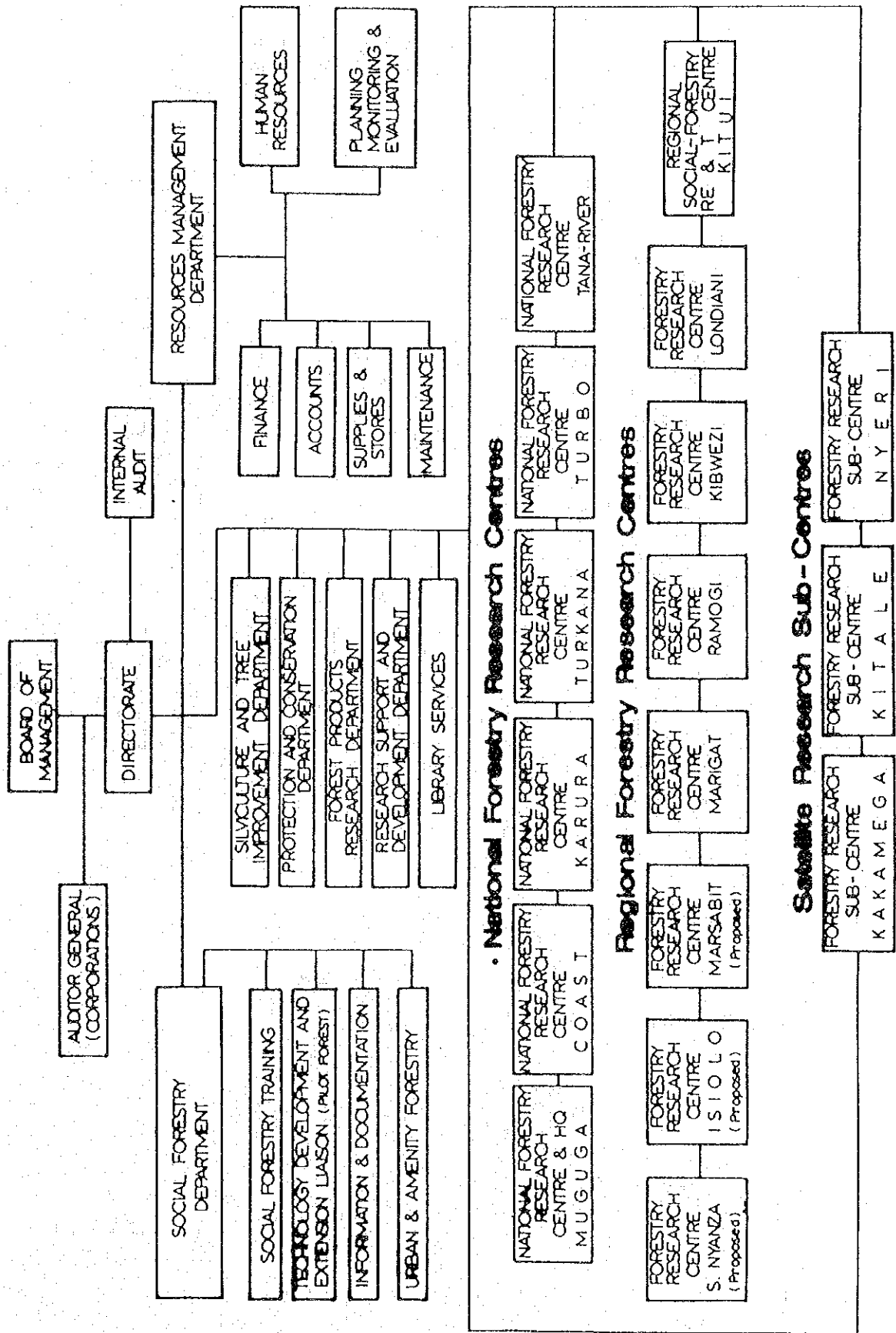
4. Term of cooperation

The duration of the technical cooperation for the Project Phase II will be five (5) years from 26th November 1992.

3



KEFRI's ORGANIZATION CHART



JICA