

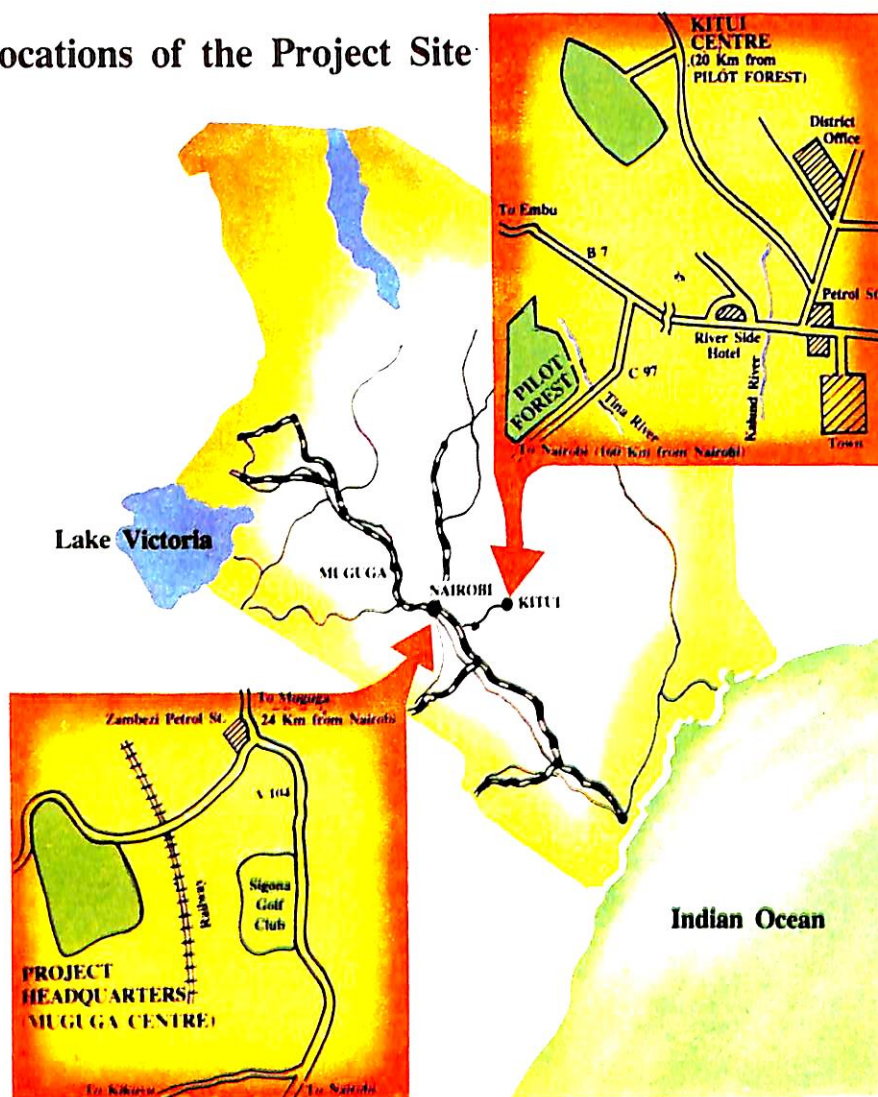
MITI NI MALI

more trees better life



**KENYA/JAPAN
SOCIAL FORESTRY TRAINING PROJECT
(PHASE II)**

Locations of the Project Site



Kenya/Japan Social Forestry Training Project

National Social Forestry Training Centre (KEFRI Hq, Muguga)

Address: P.O.Box 20412, Nairobi
Telephone: 0154 - 32891/2 or 32541

Regional Social Forestry Training Centre, Kitui

Address: P.O.Box 892, Kitui
Telephone: 0141 - 22626

LOCATION

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National Social Forestry
Training Centre,
at KEFRI Headquarters,
Muguga



Regional Social Forestry
Training Centre, Kitui

OUTLINE and HISTORY

The KENYA/JAPAN Social Forestry Training Project, a collaborative Programme between Kenya Forestry Research Institute (KEFRI) and Japan International Cooperation agency (JICA), started its Second Phase activities on 26th November, 1992, following Preparatory Phase of two years and First Phase of five years.

The Project carries out various activities to develop and improve technologies for social forestry and to disseminate these technologies through training and extension programmes at the national and regional levels, aiming to contribute to the improvement of living conditions for the rural people and enhancement of environmental conservation in Kenya.

Kenya has been facing high population pressure on the natural resources and farmlands. Over 70% of the total national domestic energy requirement depends upon woodfuels, nearly 70% of which is derived from farmlands and rangelands. And three quarters of the charcoal consumed in towns comes also from rangelands. On the other hands, present low-yielding farm practices should be improved under the policy for food self sufficiency. High population increase at a rate of about 3.5% is causing higher pressure on natural environment on which the people live on. To cope with this situation, it has been recognized that tree planting activities should be accelerated at nationwide level.

This is in line with the global concern on conservaton and sustainable utilization of forest resources. Through the United Nations Conference on Environment and Development, "Earth Summit", held at Rio de Janeiro in 1992 and other international fora, every member of international community has agreed to take appropriate measures to expand our forest on earth.

Under these circumstances, the Project is expected to contribute to successful tree growing activities of the people of Kenya, especially rural farmers. In the wake of its seven year cooperation, the Project proceeded the Second Phase with emphasise on Agroforestry development, WID (Women in Development), and Grass-root level extension, keeping activities of its First Phase as the building block.

CHRONOLOGICAL TABLE of the PROJECT

April	1982	"Production of 200 Million Tree Seedlings per Year : A Strategy and Focus on Rural Tree Development" by Presidential Order
Feb.	1983	A first JICA forestry development team was despatched to Kenya
April	1984	Kenyan Government made official request to Japan on seedling production
Nov.	1985	Preparatory Phase of the Project started
July	1986	Kenya Forestry Research Institute (KEFRI) was established
Nov.	1986	First planting in the Pilot Forest was excuted
Nov.	1987	Main Phase (First Phase) started
March	1988	Japan's grant aid construction, "Nursery Training Centre for Social Forestry" was completed
May	1988	KEFRI came under a new ministry - Ministry of Research, Science and Technology
Nov.	1992	Second Phase started
Dec.	1993	Grant aid project for Expansion of Nursery Training Centre for Social Foestry was agreed between the both governments

KENYA/JAPAN SOCIAL FORESTRY TRAINING PROJECT - PHASE II

TRAINING PROGRAMME

"Training in Social Forestry and Agroforestry"

- Improvement of Curricula and Development of Training Materials
- Training for Senior and Intermediate Officers
- Training for Extension Staff
- Training for Community Leaders and Teachers
- Training for Farmers, Women's Groups and Others
- Training for Trainers and Training Staff
- Conducting National Events for Promotion of Social Forestry and Agroforestry

National Level Training

- District Level Agroforestry Course *
- Divisional Level Agroforestry Course *
- Orientation Course *
- Extension Officers Agroforestry Course *
- Teachers' Social Forestry Course *
- Training of Trainers Course
- Social Forestry Prize Day
- Social Forestry Workshop *

Regional Level Training (Eastern Province)

- Front-line Extension Staff Course
- Field Technical Assistants Course for Agroforestry *
- Teachers' Course
- Community Leaders Course
- Farmers' Course
- Women's Course *
- Follow-up Workshop *
- Field Seminar *
- Training of Trainers Course

MUGUGA
National Social Forestry
Training Centre

Training Section

PILOT FOREST SCHEME

"Implementation of the Pilot Forest Scheme combined with training"

Development and Improvement of the Techniques on Social Forestry and Agroforestry

Development and Improvement on Nursery Techniques

- Seed pretreatment
- Pot size
- Shading
- Stump seedling
- Standard of planting stock
- Vegetable propagation *
- Hardening-up *
- Control measures against pest and disease damage *
- Plant phenology *
- Root system *
- Seed provenance *
- Establishing seed orchard of needleless *Prosopis juliflora* *
- Verification of the nursery manual *
- Collection of meteorological data *

Development and Improvement of Tree Planting Techniques

- Planting period
- Tree species selection
- Weeding
- Survival and growth survey
- Verification of the afforestation manual
- Stump seedling planting *
- Soil water content *
- Sprouting regeneration *

Pilot Forest Plantation

Study of Natural Succession in the Protected Area

Seedling Production

Nursery Section

Silviculture Section

KITUI

Regional Social Forestry Training Centre

Development and Improvement of the Techniques on Extension

- People's Plantation
- in Pilot Forest
- in Private Field *
- Small Scale Nursery
- Model Farmer
- Seedling Distribution
- Demonstration Plot
- Regional Prize Day *
- Field Seminar *

Provision of Technical Guidance and Incentives for the Local Farmers' Groups

Extension Section

What is Social Forestry ?

Social Forestry is a policy concept that governs tree growing by the people within their individual or communal settings.

The main objective of Social Forestry is to meet the daily needs of the rural population for fuel wood, fodder, poles and timber without excluding fruits for food, mainly based on their spirit of self-reliance. Therefore, the produce of social forestry activities is mainly for domestic consumption by the rural people but in addition may be for increasing cash income of the farmers.

Social Forestry differs from plantation forestry which is characterised by monocultural plantations of species objectively grown for industrial exploitation.

Social Forestry therefore includes practices such as planting of trees in woodlots within home-steads, boundary plantings, tree planting for esthetic purpose - along road sides, in homes - and so on for provision of forest resources on a sustainable basis.

What is Agroforestry ?

Agroforestry is a collective term for land-use systems and practices where woody perennials (Tree and Shrubs) are deliberately integrated with crops and/or animals on the same land management unit. Therefore, Agroforestry is one of the most useful tools to promote Social Forestry.

The integration can be either in spatial mixture or in temporal sequence. The aim of the farmer practising agroforestry is to exploit the positive effects for higher productivity and possible sustainability with diversity of out-put.

Agroforestry science by its nature is highly multidisciplinary and builds on the following sciences: forestry, crops, animal and social sciences. However, the central core of scientific discipline of agroforestry is related to the woody perennial and its potential when integrated with crops/animals.

The science of Agroforestry has a specific commodity "the MULTIPURPOSE TREE".



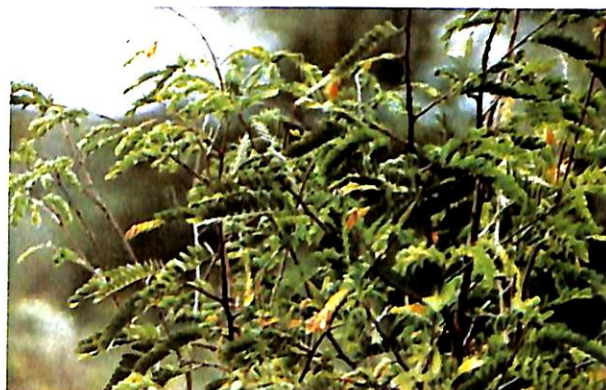
Commemorative Tree
Planting along Mombasa
Road

SOME TREE SPECIES in the PILOT FOREST



Acacia polyacantha

Uses: Fuelwood, Timber, Posts, Medicine(leaves, roots), Fodder, etc.



Tamarindus indica

Uses: Fuelwood, Charcoal, Timber, Furniture, Poles, Flavouring, Medicine(twigs, bark, roots), etc.



Croton megalocarpus

Uses: Timber, Fuelwood, Charcoal, Poles, Medicine(bark), Bee-forage, Green manure, etc.



Prosopis juliflora

Uses: Fuelwood, Charcoal, Timber, Carvings, Vegetable, Fodder, Bee-forage, Medicine, etc.



Cassia spectabilis

Uses: Poles, Fuelwood, Charcoal, Bee-forage, Tool handles, etc.



Cassia siamea

Uses: Fuelwood, Charcoal, Poles, Timber, Fodder, Bee-forage, Medicine, etc.

ACHIEVEMENT of the PROJECT ACTIVITIES in PHASE I

The Project implemented Training and Pilot Forest activities for seven years according to the Master Plan as stated in the Record of Discussions, and completed its First Phase on 25th, November, 1992. Following tables show some results of the Project.

COMMEMORATIVE TREE PLANTING

One of the success of the Phase I is Commemorative Tree Planting. The Social Forestry Nursery at Muguga established and developed a large collections of both indigenous and exotic trees for the establishment of 4 km roadside tree planting near JKIA (Jomo Kenyatta International Airport) on Mombasa Road. About three thousand seedlings were raised and planted representing 31 different species. (a picture on page 4)

TRAINING ACTIVITIES

Courses		Year		1988/89	1989/90	1990/91	1991/92	1992	Total
		C	T	C	T	C	T	C	T
#	National Social Forestry Seminar	1							1
	National Social Forestry Prize Day		100	1		1	1	1	4
				80	110	100	140		430
Muguga (1)	Social Forestry Refresher Course I	1	10	2*	34	1	14		5
	Social Forestry Refresher Course II	1	24	2	37	2	29	1*	8
	Social Forestry Extension Officers Course	2	66	3	83	4*	127	4	17
								20	141
	Sub-Total	4	100	7	154	7	162	5	30
								124	525
								144	732
Kitui (2)	Nursery Foremen Course	4	95	2	64				6
	Teachers Course			3	60	2	47	2	9
	Leading Farmers Course			3	76	2	49		5
	Farmers Course					1	21	3	6
	Field Technical Assistant Staff Course					3	81	3	8
	Community Leaders Course							2*	1
	Sub-Total	4	95	8	200	8	198	9	35
								155	870
Total		8	195	15	354	15	370	16	384
								299	1,602

(1) - Courses held at National Social Forestry Training Centre, Muguga
(2) - Courses held at Regional Social Forestry Training Centre, Kitui

C = Number of Courses,
T = Number of Trainees,
- The national events are excluded in the Total.
* - Special or trial training courses are included.

SEEDLING PRODUCTION

Year	Production		Distribution		
	Species	Number	Pilot Forest	Extension	Others
		(thousand)	(thousand)	(thousand)	(thousand)
1987	25	131.8	66.2	65.6	-
1988	47	295.9	131.2	109.2	55.5
1989	71	210.9	16.9	139.2	54.8
1990	40	100.0	41.6	51.1	7.3
1991	19	60.5	30.4	21.4	8.7
1992	38	73.8	22.4	49.5	1.9
Total	-	872.9	308.7	436.0	128.2

PILOT FOREST PLANTATION

Year	New Planting	Replanting	Total
	(ha)	(ha)	(ha)
1986	9	-	9
1987	64	-	64
1988	119	19	138
1989	27	-	27
1990	59	-	59
1991	22	20	42
1992	11	22	33
Total	311	61	372

EXTENSION ACTIVITIES

Year	Area of People's Plantation	Distribution of Seedlings	Small Scale Nursery		Model Farmers
			Number	Seedling Production	
	(ha)	(thousand)	(sites)	(thousand)	(person)
1987	1	65	-	-	-
1988	4	105	14	8	1
1989	3	129	30	47	6
1990	4	52	29	35	6
1991	5	93	40	100	6
1992	5	100	45	70	6
Total	22	544	-	260	-

TRAINING ACTIVITIES

Training activities are conducted at Muguga National Social Forestry Training Centre and at Kitui Regional Social Forestry Training Centre. The Project implements several training courses for target groups of wide range, improves the curricula and develops the training materials. These are training courses for senior and intermediate officers, extension staff, community leaders and teachers, farmers, women's groups and others, and trainers and training staff.

The Project also holds national events for promotion of social forestry and agroforestry such as Social Forestry Prize Day and Social Forestry Workshop.

Comparing to Phase I, the Project has put emphasis on some activities in the Phase II. These are;

For Muguga Centre

- * To provide training courses on agroforestry at District, Division, and Extension officers level
- * To expand its target group and enhance more involvement of other fields such as agriculture, livestock, energy, education, etc.

For Kitui Centre,

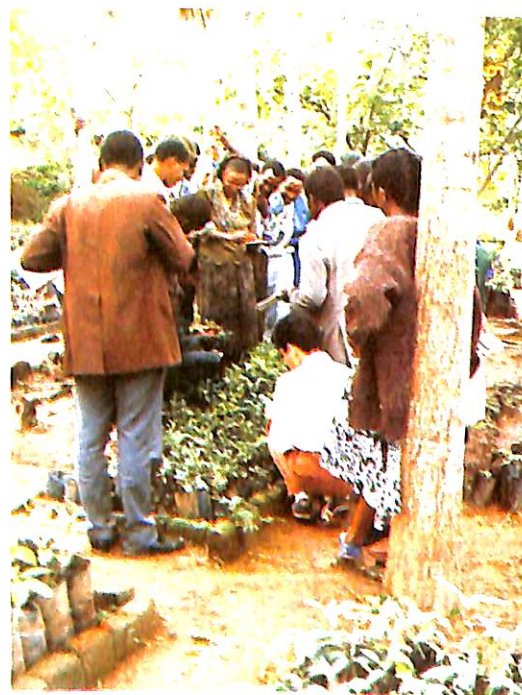
- * To introduce Women's courses and Community leaders' courses
- * To put emphasis on agroforestry techniques in extension officers courses
- * To conduct field oriented training such as Field seminar



Women's Course (Kitui), July 1993



Women's Course (Kitui), July 1993



Teachers' Course (Kitui), Nov. 1993

MUGUGA TRAINING COURSE

COURSE NAME	TARGET GROUP	Duration	Frequency	Participants
District Level Agroforestry Course	District level officers	1 week	2	30
Divisional Level Agroforestry Course	Divisional level officers	2 weeks	2	30
Orientation Course on Social Forestry	District level officers	1 week	1	30
Extension Officers Agroforestry Course	Divisional / locational level officers	2 weeks	2	30
Teachers' Social Forestry Course	School teachers	2 weeks	1	30
Training of Trainers Course	Resource persons	1 week	1 or 0	30
Social Forestry Prize Day	Farmers, Farmers' group, etc.	1 day	1	150
Social Forestry Workshop	Researchers, Managers, Extensionists, etc.	1-3 days	1	60

KITUI TRAINING COURSE

COURSE NAME	TARGET GROUP	Duration	Frequency	Participants
Farmers' Course	Farmers	2 weeks	2	30
Women's Course	Women farmers	2 weeks	2	30
Teachers' Course	School teachers	2 weeks	2	30
Front-line Extension Staff Course	Extension workers	2 weeks	1	30
Field Technical Assistants Course for Agroforestry	Front-line extension staff	1 week	1 or 0	15
Training of Trainers	Resource persons	1 week	0 or 1	15
Community Leaders Course	Locational chiefs and assistant chiefs	1 week	1	30
Follow-up Workshop	Those who had past courses	3 days	1	30
Field Seminar	Farmers in distance	3 days	1	Approx. 50

The 5th National Social Forestry Prize Day, at ICRAF Auditorium 22nd April, 1993



PILOT FOREST SCHEME and its RESEARCH ACTIVITIES

Pilot Forest Scheme is a sub-project combined with training activities. It aims to develop and improve the techniques on social forestry and extension activities in the semi-arid areas.

Pilot Forest covers about 2,500 hectares of land which was provided by Kitui County Council and its activities were started in November 1986.

Its activities consist of those of nursery, silviculture and extension.

NURSERY

Tiva nursery was established in 1987 with the aim of improving nursery techniques and producing seedlings. It has 1.8 hectares area and has raised about 900 thousand seedlings (1987-1992) mainly for trial plantation in the Pilot Forest and distribution to the farmers in the community as part of an extension activities.

To improve nursery techniques, a lot of experiments have been set up. In the last 6 years (1987-1992), more than 20 different trials e.g. soil mixture, pot size, watering, seed pretreatment, stump seedlings etc. were set up in the nursery. Some experiments were transferred into the field and observations continued in the field. So far 93 dryland species have been tested for seedling production and/or experimental planting.

SILVICULTURE

Trial plantation has aimed at finding out good species and technologies suitable for social forestry activities in semi-arid areas by planting and enriching the existing forest vegetation with valuable species.

Because of the severe conditions of nature, it is very difficult to make the planted trees survive in this area. Several research trials have been done on tree species selection, planting methods, weeding, water catchment, etc. and they are still going on. So far the project has tried about 370 hectares of planting in last 7 years.

EXTENSION

Extension activities started in 1987 in Kwavonza location to develop and improve the existing techniques of promoting tree planting and growing by the people through provision of technical guidance and material support.

Several extension methods have been tried in order to select cost effective approaches for people's social forestry activities in Kwavonza location. By March 1993, 44 small scale nurseries, 38 Mwethya groups and six schools were assisted by the project. There are also outstanding woodlots and several model farmers being assisted. The programme has recruited farmers, schools and Mwethya groups in Nzambani, Matinyani, Kathivo and Changwithya West locations in addition to Kwavonza location as an expanded extension activities of the second phase.



Seed collection in the field



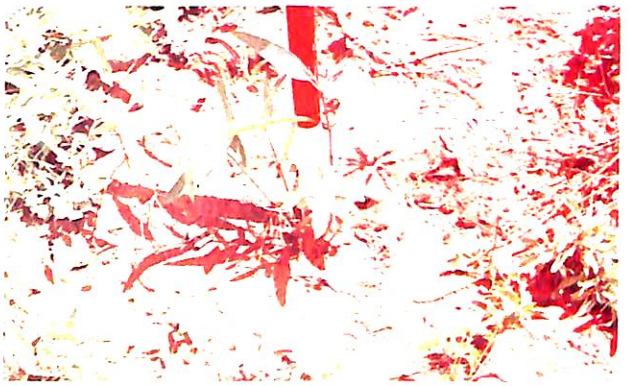
Seedlings in Tiva nursery, Nov. 1993
Cassia spectabilis - sown in March 1993



Water Catchment Trial (Turkana method)
Cassia spectabilis - planted in 1988



Seed testing in a green house, Tiva nursery



Stump Seedling Trial
Eucalyptus camaldulensis - planted in 1992



Survival and growth surveying
Acacia polyacantha - planted in 1987



Provenance Tests
- planted in 1992

EXTENSION ACTIVITIES

The main activities of extension are as follows.

1) People's Plantation

This is commonly known as Community Planting. It involves the Mwethya groups mobilization to voluntarily participate in tree planting activities on Pilot Forest land. Eighteen voluntary Mwethya groups have so far participated in this activities.

2) Small Scale Nursery

This enables the voluntary groups and primary schools to raise their own seedlings of their own choices for planting at various spots i.e. their compounds, gardens, fences, woodlots etc.. The emphasis is on using the locally available materials which are easy to get and less expensive so as to ensure continuity of these activities.

3) Model Farmer

The Project selected six model farmers in Kwavonza location. They are actually farmers who have shown good and much interest in tree planting and hence have been termed as progressive farmers. They have cooperated with the Project and have to date accepted about 2,700 visitors since the establishment of their woodlots in 1989.

4) Seedling Distribution

To promote tree planting in the rural areas, the Project issued seedlings free to the farmers in the Central, Kabati, Chuluni and Kwavonza Divisions. 544 thousand seedlings were distributed during the set locational tree planting days in the last six years (1987-1992).

5) Demonstration Plots

For the purpose of demonstrating the most appropriate techniques of planting, tending and giving the trainees better understanding, the Project has set up two on-station demonstration plots averaging about 2.5 hectares. The technologies demonstrated are actually simple, most effective and less expensive to ensure proper establishment and easy adoption by the trainees for future activities.

FARMERS in the AREA

The main Project activities are concentrated in the pilot location of Kwavonza which has an area of 6,800 hectares and a population of almost 6,000 people. It has 540 households and every household has about ten people.

The area had been set aside for ranching and people started settling there in late 1966. The occupants of the location are Kambas, who are traditionally pastoralists, however they have presently shifted to settled agriculture. They keep cattle, goats, sheep, donkeys and hens, in addition to crop production.

The farmers own land ranging from 2 to 4 hectares. They grow crops like maize, beans, cowpeas, etc. as food crops and cotton as cash crop.

The location receives an annual average rainfall of 400-1,000 mm which is not enough for proper agriculture, and has a long dry season of 8 or 9 months. Because of this severe climatic conditions, the farmers have hardships to fetch water from the seasonal rivers, namely Tiva river and Mitasyano river.



A small scale nursery
- Kiliku VI Women's Group



A model farmer
- presenting her activity in a Project extension forum



Field discussion between a women's group and
Project extension staff



A view of Matinyani location

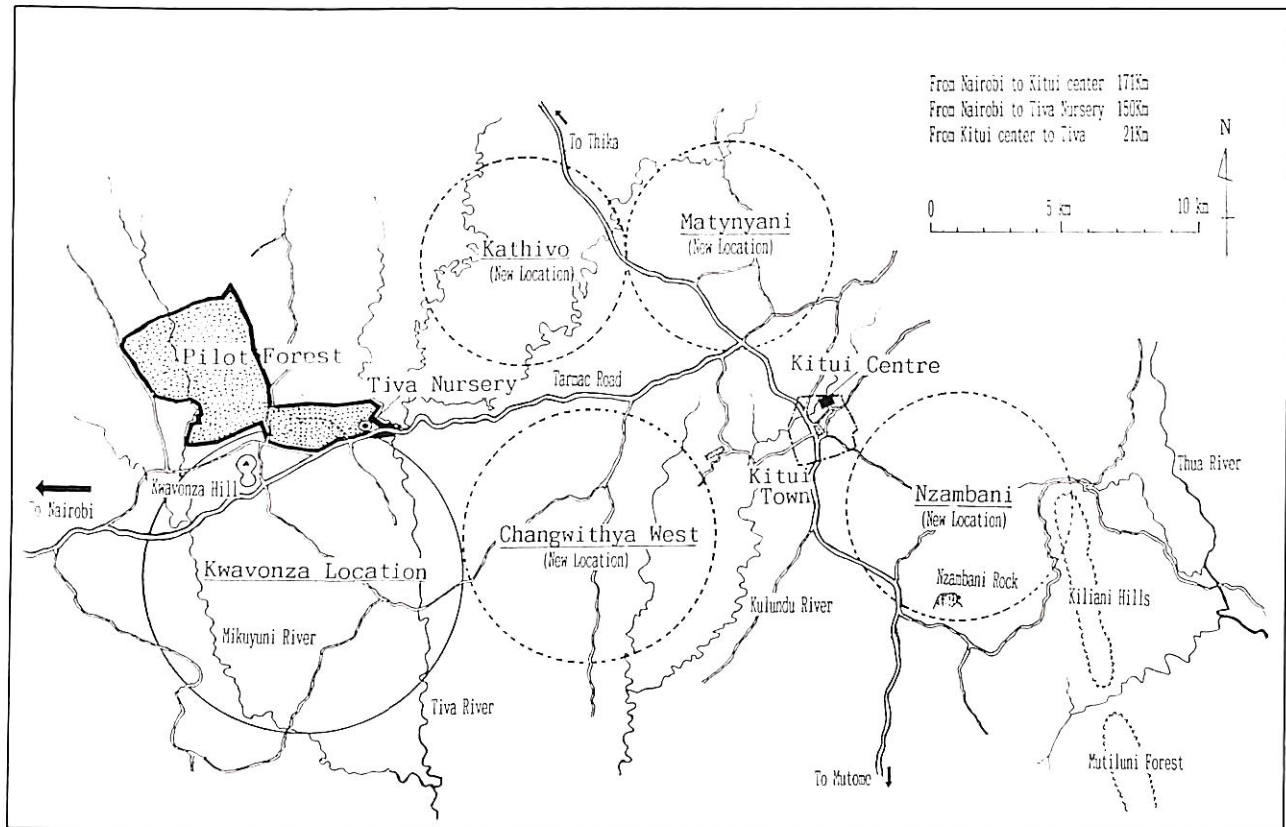
MONTHLY RAINFALL in TIVA NURSERY (1989-1993)

Unit : mm

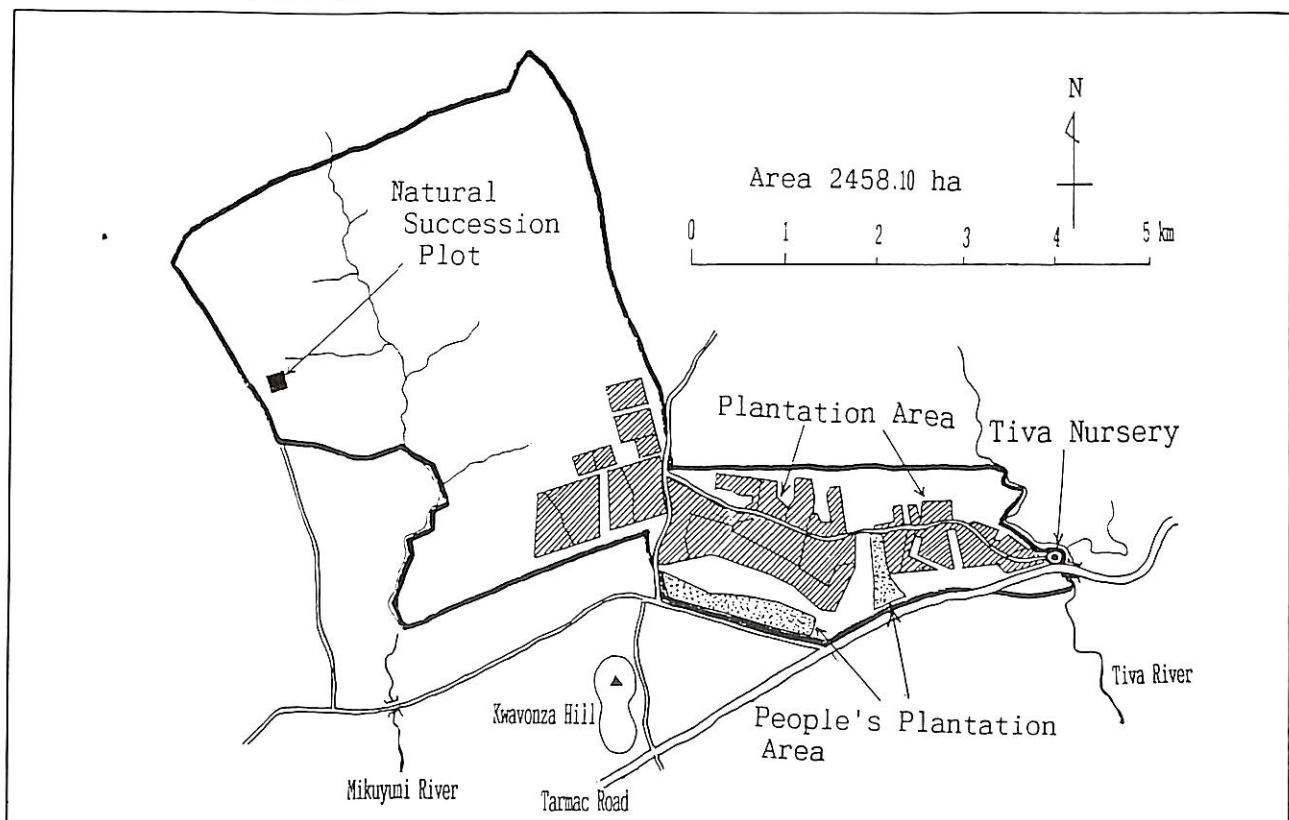
Year Month	1989	1990	1991	1992	1993	Average
January	106.5	21.0	80.0	11.0	205.5	84.8
February	0.0	44.0	0.0	0.0	45.0	17.8
March	21.0	212.0	37.0	5.0	5.0	56.0
April	270.5	266.5	122.0	53.5	10.8	144.7
May	65.5	36.5	52.5	10.0	31.5	39.2
June	3.5	0.0	0.0	0.5	7.0	2.2
July	0.5	3.0	6.0	0.0	0.0	1.9
August	0.0	0.0	20.5	0.0	0.5	4.2
September	0.0	22.5	1.0	0.0	0.0	4.7
October	193.5	50.0	22.5	38.0	35.5	67.9
November	285.0	248.5	286.3	151.0	208.5	235.8
December	67.0	216.5	97.0	176.0	111.0	133.5
Total	1,013.0	1,120.5	724.8	445.0	660.3	792.7
(Rain days)	72	86	61	49	55	(days/year)
(Ave.Temp.)	23.8	23.2	22.8	22.7	22.4	(° C)
(Days over 30°C)	140	180	185	165	161	(days/year)

KITUI PROJECT SITE

Pilot Forest and Extension Areas



Pilot Forest Area



Map of PF activities