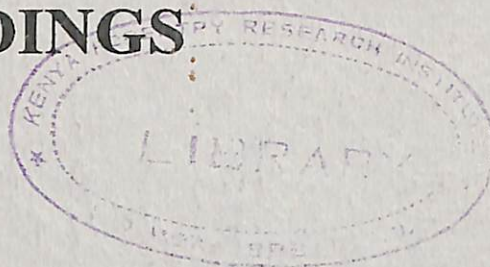


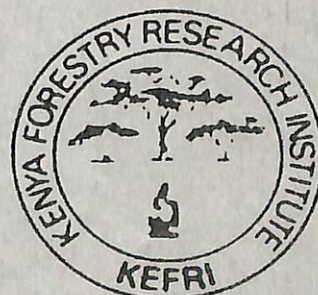
PROCEEDINGS

of

**First NATIONAL SOCIAL FORESTRY
WORKSHOP**



held on
15th - 18th February, 1994
at
National Social Forestry Training Centre
(Muguga)

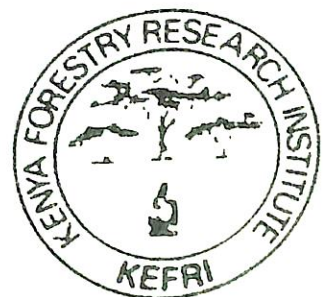


**Kenya / Japan
SOCIAL FORESTRY TRAINING PROJECT**

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**Kenya / Japan
SOCIAL FORESTRY TRAINING PROJECT**

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1ST NATIONAL SOCIAL FORESTRY WORKSHOP

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2	Opening Address by Director, R&D, MRTTT	
3	Key Presentations	
(1)	National Strategies for Agroforestry Development	Dr. D. Nyamai
(2)	Agroforestry Training Needs in Kenya	Mr. R. Gikonyo
(3)	Development of Agroforestry Training/Extension Materials, Opportunities and Constraints	Mr. P. Ongugo
(4)	Training Activities and Curricula of Social Forestry Training Project (Phase II)	SFTP
(5)	Training Curriculum : An Analysis of The Kitui Case	Mr. C. O. Nyandiga
4	Suggestions of the Participants	

BACKGROUND

Social forestry, a conceptual approach for fostering tree growing by rural and urban communities for their own tree/forest products needs, is relatively a new concept in Kenya. Several organisations have evolved for implementation of social forestry activities with each taking on different strategies ie training, institutional strengthening/support, promotional or awareness campaigns etc. There is however need for harmonised approaches to any of these strategies and the collective or interagency initiative to their implementation.

The Kenya/Japan Social Forestry Training Project, a collaborative venture between the two governments, attempts at improvement of the national human resource base through in-service training of government and non governmental staff involved in afforestation activities. Through its first phase (Oct 1988- Nov 1992) the project's training focused on social forestry and achieved a graduation total of over 1600 from over 65 courses of the different levels (professionals, middle, and grassroots).

The second phase of the project's curriculum (1992-1997) has narrowed down the focus to agroforestry. In this second phase other professionals not included in the first phase are also targeted not to mention the changes of course in the content.

It is in this line that the project has organised this workshop to discuss some of the pertinent issues in in-service training in agroforestry.

Objectives:

- (a) To provide an avenue for discussion of pertinent issues in agroforestry specifically agroforestry strategies, training needs and source support materials.
- (b) To provide an avenue for critically examining the current social/agroforestry training curriculum under implementation by the project and its suitability in achieving the long term objectives of the tree/forest product needs by the Kenyan community.

Participants:

40 professionals and senior technical officers involved in agroforestry or social forestry development in research, training, extension and other related fields from government and Non governmental agencies will be invited.

Duration: 4 Days.

Venue: Muguga National Social Forestry Training Centre.

Workshop content: See Programme.

Other Information:

- (a) Travelling allowance will be payed by JICA in accordance with project regulation against receipt. From Nairobi public transport route # 115 or 135K is available near the railway station.
- (b) Full board accommodation is arranged by KEFRI.

PROGRAMME
NATIONAL SOCIAL FORESTRY WORKSHOP
15th-18th February 1994
Muguga National Social Forestry Training Centre

<u>Date/time</u>	<u>Activity</u>	<u>Resource person</u>
<u>15th February</u>		
1600-	Participants arrival and registration	Mr. M. Mukolwe (SFTP)
<u>16th February</u>		
-0900	Registration	
0900-0930	Introduction and Programme review	Mr. R. Mwendandu (SFTP)
0930-1030	National Strategies for Agroforestry Development	Dr. D. Nyamai (KEFRI)
1030-1100	Tea/Coffee break	
1100-1200	Agroforestry Training Needs in Kenya	Mr. R. Gikonyo (FESD)
1200-1300	Opening ceremony	Dr. W. Ngulo (Director of R&D, MRSTTT)
1300-1400	Lunch	
1400-1500	Development of Agroforestry Training/Extension Materials Opportunities and Constraints	Mr. P. Ongugo (KEFRI)

1500-1600	The Social/Agroforestry Project Training Curriculum	Mr. R. Mwendandu & Mr. C. Nyandiga (SFTP)
<u>17th February</u>		
0830-0900	Agroforestry Training and Extension	Mr. S. Kanani (T.S.T.)
0900-1030	Group Discussions	(Groups)
1030-1100	Tea/Coffee break	
1100-1200	Group Discussions	(Groups)
1200-1300	Group presentations session (1)	
1200-1300	Lunch	
1400-1500	Group presentations session (2)	
1500-1600	Group presentations session (3)	
1600-1700	Summary and Recommendations	Dr. D. Nyamai
1700-1730	Certificates of participation	Deputy Director (KEFRI)
1800-	Closing Dinner	Director (KEFRI)
<u>18th February</u>		
0900	Departure	Mr. A. Mwamburi.

DISCUSSION GROUPS

Group	Group 1	Group 2	Group 3
Topic	Introductory & Technology Development Topics	Technology Application Topics	Technology Dissemination & Supportive Topics
Members	<p>Mr G. M. Muturi</p> <p>Mr M.T.E. Mbuvi</p> <p>Mr J.H.N. Mwangata</p> <p>Mr J.T. Ituli</p> <p>Mr P.N. Gathuru</p> <p>Mr P.O. Ongugo</p> <p>Mr J.M. Mulatya</p> <p>Mr R.K. Chirchir</p> <p>Mr P. Barasa</p> <p>Mr P.D.S. Kasusya</p>	<p>Mr C.O. Nyandiga</p> <p>Mr J. Lugadiru</p> <p>Mr S.O. Ong'onge</p> <p>Mr S.N. Njehia</p> <p>Mrs A. Kaudia</p> <p>Mr C.J. Amwatta</p> <p>Mr C.O. Onyango</p> <p>Ms D. Ochieng</p> <p>Mr A.S. Omushieni</p>	<p>Mr S.K. Mugera</p> <p>Mr G.S.M. Wandeto</p> <p>Mr J.R. Chomba</p> <p>Mr E.I. Mutie</p> <p>Mrs J. Ngige</p> <p>Mr S.N. Waweru</p> <p>Mrs Martha Momanyi</p> <p>Mr Wambugu Thuo</p> <p>Mr P.M. Kaigai</p> <p>Mr J. Maina</p> <p>Mr P.T. Otieno</p>

GEN	NAME	ADDRESS	ORGANIZATION	DESIGNATION
Dr.	Ebby Chagalla	P.O. Box 20412, Nairobi	KEFRI	Head Tree Breeding Section
Mr.	Masahiko Yasumuro	P.O. Box 50572, Nairobi	SFTP	Training Leader
Mr.	Kensuke Sakino	P.O. Box 50572, Nairobi	SFTP	Training Expert, Muguga
Mr.	Yoshihumi Kubo	P.O. Box 50572, Nairobi	SFTP	Training Expert, Kitui

ISSUES ARISING FROM THE GROUP DISCUSSIONS

DURING THE NATIONAL SOCIAL FORESTRY WORKSHOP

HELD AT MUGUGA CENTRE, KEFRI BETWEEN 15 - 18TH FEBRUARY 1994

1. There was concern that the FTA's course was no different from the Front Line Extension Officers Course and therefore it should be scrapped or the two course merged making them cost effective.

However it was clarified that the two categories of trainees are quite different in background.

Category 1: FTA's have had formal training and therefore the courses they are offered are somewhat advanced.

Category 2: FL Extension workers have had no formal training in natural resources management and also come from varied and sometimes Std.. 7. They may not be comfortable with English as a working language.

There is however no significant difference between the two groups in terms of job performance although the FL Extension workers may not feel confident sharing the same forum as the FTA's

This matter remained unresolved and was left for further analysis by the secretariat.

2. The difference between TOT courses at the national level verses the Regional level was not clear.

It was clarified that there is no difference between the 2 course. However, the group to be trained would be too big for a single course. Therefore they are split into 2 groups where the participants from around Kitui are trained at Muguga and vice versa. This affords the participants an opportunity to see activities in other areas.

It was suggested that in the interest of being more cost effective, SFTP staff should look for a venue that can accommodate all the participants and carry out only 1 course.

3. It was noted that throughout the curriculum there was a lot of emphasis on progressive or good farmers for field visits. This gave rise to the question of the criteria used to select farmers for the courses.

The farmers are chosen on two criterion;

- (i) His/her ability to disseminate AF technology to his neighbours
- (ii) The farmers ability to manage his resources in relation to AF and how his activities relate to the curriculum.

The selection strives to be as unbiased as possible especially at the grassroots.

4. It was noted that some extension officers have been invited to attend the same course

more than once and this tends to erode the seriousness of the course.

The SFTP staff are now taking as much care as possible not to be duplicate and also one is not admitted to a course that he has already attended before.

5. One comparison between the Farmers's course and the Women's course it was noted that the two were almost similar. To enrich the women's course it was suggested that more gender sensitive issues be incorporated into the course.

SFTP explained that the women's course evolved from logistical or organisational problems faced when a man and his wife maybe invited to attend the same course therefore leaving no one at home.

However topics on women's issues and field visits to see women group activities are part of women farmers course.

6. Bee keeping is one topic taught at the FTA's have already undergone that course quite comprehensively during their formal training, only a brief introduction should be offered.
7. Different ministries & NGOs are also carrying out AF training. SFTP liaise with these organizations with a view to examine the curricula they are offering so as to avoid duplication.
8. There is a lot of indigenous knowledge that has remained unrecognised and untapped in the development of AF technologies. This knowledge should be documented and slotted into the curriculum.

It was left to the secretariat to find out where best this can be done.

9. The Field seminar has proved to be very popular. It was proposed that the topic 'medicinal properties of Trees' should be included.
10. It was noted that some categories of trainees e.g. teachers were taught Social Forestry Courses while the Extension Officers were offered Agroforestry courses.

This difference has arisen because teachers were not trained during phase 1 of the project where all trainers were trained in Social Forestry. Teachers are therefore not conversant with Social Forestry Concepts. However, most of the curriculum is on agroforestry.

11. It was noted that there is an important group that has been missed out. These are PFO's and other higher cadres who take part in decision making including the politicians.

Training forums such as these can be used to influence decisions made by politicians and therefore opportunities should be created.

There needs to be more diversity in the target groups trained.

12. Although there is a special orientation course for degree level extension officers, one should be designed for the certificate/diploma level as well. The following subjects should be included in the curriculum.

- (i) Integrated rural development
- (ii) Farmer research linkages

OBSERVATIONS/COMMENTS BY DR. NYAMAI

1. In most cases throughout the curriculum, it was not easy to relate the topics with the objectives. The objectives need to be phrased more clearly.
2. In all presentations, there was a call for gender issues to be integrated in the curriculum.
3. There is need for more use of visual aids during lectures in most cases.
4. Livestock production in AF systems has not been given enough emphasis despite more of it should be integrated in the curriculum.
5. The time allocated for practical and discussions should be more than that allocated for lectures.
6. Rather than teach 'development of communication skills' as an abstract subject, the participants should be encouraged to develop their own communication skills.
7. Research-extension-farmer linkages should be enhanced as they are very important in AF development.
8. The curriculum should offer more emphasis on the subject matter rather than on the largest groups.

List of Participants

PARTICIPANTS of 1st NATIONAL SOCIAL FORESTRY WORKSHOP
15th - 18th FEBRUARY 1994

GEN	NAME	ADDRESS	ORGANIZATION	DESIGNATION
Mr.	A.S. Omushieni	P.O. Box 30028, Nairobi	MOALDM	CO. AF TRAIN & EXTEN.
Mr.	J.H.N. Mwangata	P.O. Box 30028, Nairobi	MOALDM	SLPO, Hqts.
Mr.	C.J. Amwatta	P.O. Box 468, Lodwar	KEFRI	Research Off.
Mrs.	Jennifer Ngige	P.O. Box 30513, Nairobi	FESD	Forestry Off.
Mr.	Paul Barasa	P.O. Box 20412, Nairobi	KEFRI	Information Off.
Mr.	Reuben Chirchir	P.O. Box 1515, Machakos	KEFRI(DARP)	Research Off.
Ms.	Dorothy Ochieng	P.O. Box 20412, Nairobi	KEFRI	Ast. Res. Off.
Mr.	James R. Chomba	P.O. Box 30513, Nairobi	FESD	Training Off.
Mr.	Samson N. Njehia	P.O. Box 30513, Nairobi	FESD	Head Fuelwood Dev & Tech.Branch
Mr.	Akula Mwamburi	P.O. Box 20412, Nairobi	SFTP	Training Off.
Mr.	Dickson L. Makanji	P.O. Box 20412, Nairobi	SFTP	Training Off.
Mr.	M.T.E. Mbuvi	P.O. Box 20412, Nairobi	KEFRI	Ast. Res. Off.
Mr.	J.Mulanya	P.O. Box 20412, Nairobi	KEFRI	Research Off.
Mr.	C.O. Onyango	P.O. Box 82, Bukura	Min. of Energy	Centre Manager
Mr.	P.N. Gathuru	P.O. Box 30568, Nairobi	MRTTT	Research Off.
Mr.	J.T. Ituli	P.O. Box 30568, Nairobi	MRTTT	Research Off.
Mr.	Wambugu Thuo	P.O. Box 1237, Nakuru	KENGO	District Team leader

GEN	NAME	ADDRESS	ORGANIZATION	DESIGNATION
Mr.	John Maina	P.O. Box 48197, Nairobi	KENGO	Training Officer
Mrs.	Martha Momanyi	P.O. Box 168, Rongo	KWAP	Sen.Ext/Train. Off.
Mr.	J. Lugadiru	P.O. Box 892, Kitui	SFTP	Training Manager
Mr.	E.I. Mutie	P.O. Box 106, Kitui	FESD	For. Extension Off.
Mr.	P.T. Otieno	P.O. Box 50982, Nairobi	TST	Manager
Mr.	M.O. Mukolwe	P.O. Box 20412, Nairobi	SFTP	Training Officer
Mr.	P.M. Kaigai	P.O. Box 30513, Nairobi	FESD	Training Officer
Mr.	C.O. Nyandiga	P.O. Box 892, Kitui	SFTP	Research Officer
Dr.	D.O. Nyamai	P.O. Box 20412, Nairobi	KEFRI	National Co. AF
Mr.	G.M. Muturi	P.O. Box 892, Kitui	KEFRI	Pilot For. Manager
Mrs.	Alice Kaudia	P.O. Box 20412, Nairobi	KEFRI	Research Officer
Mr.	Richard Mwendandu	P.O. Box 20412, Nairobi	SFTP	Training Manager
Mr.	S.K. Mugera	P.O. Box 30568, Nairobi	MRTTT	Research Officer
Mr.	G.S.M. Wandeto	P.O. Box 8, Londiani	Kenya Forestry College	Lecturer
Mr.	S.O. Ong'onge	P.O. Box 8, Londiani	Kenya Forestry College	Lecturer
Mr.	Pius D.S. Kasusya	P.O. Box 42994, Nairobi	Bellerive Foundation	Project Officer
Mr.	S.N. Waweru	P.O. Box 8, Londiani	Kenya Forestry College	Lecturer
Mr.	R.G. Gikonyo	P.O. Box 30513, Nairobi	FESD	ADF (C.FESD)
Mr.	Paul O. Ongugo	P.O. Box 20412, Nairobi	KEFRI	Research Officer

Opening Address

by Director, R&D, MRTTT

**ADDRESS BY DR. W.K. NGULO, DIRECTOR OF RESEARCH DEVELOPMENT
ON THE OCCASION OF THE OFFICIAL OPENING OF THE NATIONAL SOCIAL
FORESTRY WORKSHOP, MUGUGA, 16TH FEBRUARY, 1994**

THE DIRECTOR, KEFRI,
JAPANESE EXPERTS,
FELLOW RESEARCHERS AND TRAINERS,
LADIES AND GENTLEMEN,

It gives me great pleasure to be with you here at Muguga to perform the official opening of this National social Forestry Workshop. The Workshop has been organized under the auspices of the Kenya/Japan Social Forestry Training Project.

The 1st phase of the Kenya/Japan Social forestry Training Project was successfully concluded in 1992. This phase focussed on social forestry. One can describe this project phase as immensely successful. Through it KEFIR has been able to train farmers, tree nursery attendants as well as local leaders on how to raise seedlings and care for young trees. Millions of trees both local and exotic have been planted for fuelwood, timber, ornamental, fences, etc. etc. Tree planting has been institutionalized in virtually every homestead in our small scale farming areas where the project has been operational.

It is the one project that has literally changes the face of Kenya both physically and environmentally. Kenyans have come to realize that trees are not there for you to mow down. They have realized that trees are a valuable resource that should be nurtured and cared for. The Social Forestry Project has also addressed the gender issue and where the project has been undertaken it is now no longer necessary for mothers to spend long hours fetching firewood and the time women used to spend for this activity can be used much more gainfully.

Mr. Chairman, the social forestry training facilities at both Muguga and Kitui have been profitably used to serve the local populace. It is pleasing to note that the Government of Japan has acceded to KEFIR's request to have these facilities expanded and improved.

Ladies and Gentlemen, what I have said about the success of the social forestry project, you also know to be true. But as we put our backs for a job well done we must always have it at the back of our minds that trees are life itself, and without plantlife there would be no animal life as we know it to-day. We cannot therefore plant more trees than we need, in other words the more trees the better.

I have the pleasure of visiting some of the Nordic countries specifically Finland where a third of every holding is forest. so therefore compared with better forested countries we still a long way of. So we must strive to plant more trees until Kenya becomes green.

I have been informed that the second phase of project will focus on agroforestry. Agroforestry is a land use system that combined the production of crops, forest plants and animals. The system aims at maximization of land productivity. In this system we aim at producing crops, woodfuel, fodder at the same time maintaining or better increasing land fertility. It is common in this system to employ the use of multipurpose trees (MPT). Such MPTs should be able to co-exist with plants, have nitrogen fixing abilities, have good fodder qualities, be able to counter erosion in addition to being able to provide woodfuel/timber. The

beauty of agroforestry is that the system mimics natural forestry conditions where deep rooted trees trap minerals that would have otherwise been leached and brings them to the surface through rotting foliage and thus be available to shallow rooted plants including crops.

The foliage also improves the physical characteristics of the soil making farming much more sustainable. To us here to-day agroforestry represents an important fine tuning element to the social forestry. We are adding an additional consideration; farm productivity and agricultural sustainability. These issues are extremely important for all our ecozones but more so in our arid and semi-arid areas where soils are much more fragile, but where the majority of our rural population is heading.

May I now take this opportunity to thank through JICA the Government of Japan for their support to KEFRI and wish you most fruitful deliberations.

Thank you.

Key Presentation - I

National Strategies for Agroforestry Development
Dr. D. Nyamai

NATIONAL STRATEGIES for AGROFORESTRY DEVELOPMENT

(Dr. Nyamai)

BACKGROUND:

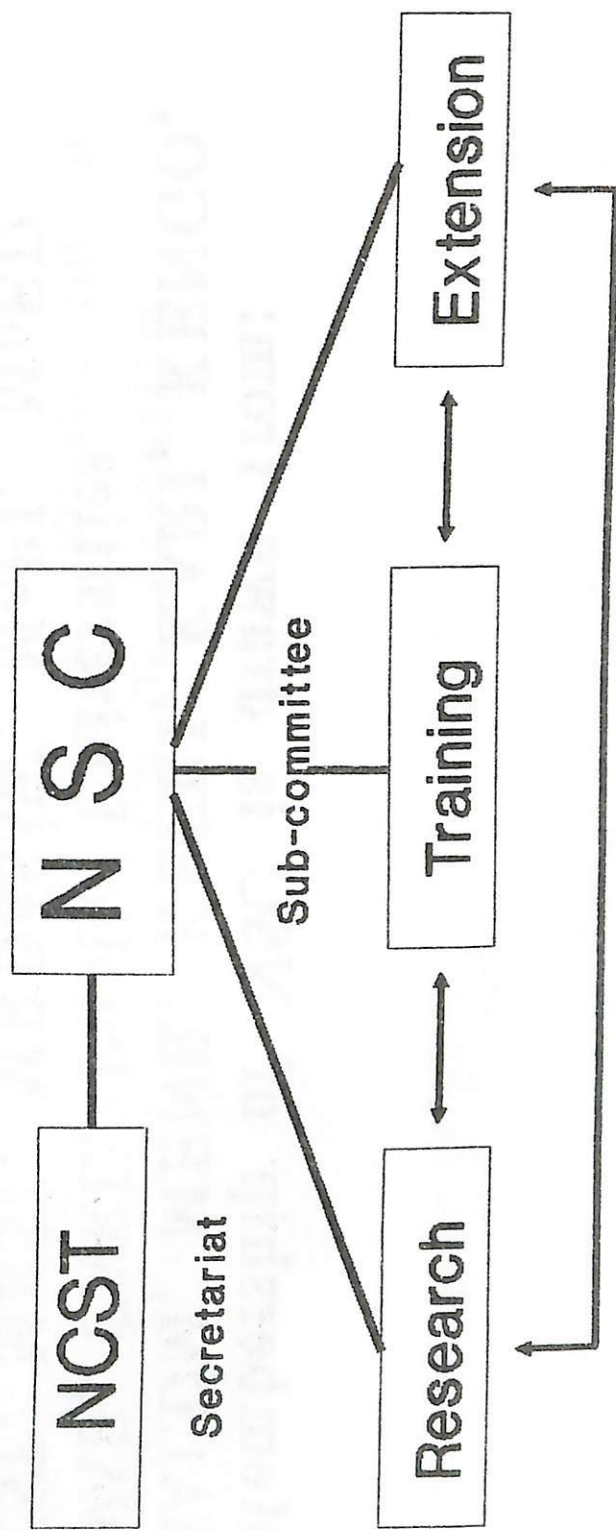
- Development of strategic plan is to describe how Kenya intends to develop its Agroforestry programmes.
- Such an effort is not only timely but crucial.
- The development of a strategy is of necessity and an inter intra - institutional effort.

Even though the establishment and development of a national policy or strategy lies with the GOK, the involvement of stake holders at every stage is not only essential, it is a must if we expect to marshal their goodwill participation and collaboration.

SPECIFIC STRATEGIES:

Inter-institutional collaboration and coordination

(a) Formulation of National Steering Committee (NSC) for Agroforestry Research and Development



- Membership of NSC is drawn from:
MoALDM, MENR, KEFRI, KARI, KENGO,
KWAP, CARE, Public Universities,
NCST, MRST, MRDASAW, MoPL, MoED,
PPCSCA, MoE, + Observers
- MOU, with modalities of operation has
been developed.
- NSC, main responsibility is coordination
and policy formulation and identification
soliciting for resources.

EXTENSION STRATEGIES:

- Based on mulch-displinary and inter-institutional
- MoALDM to lead while collaborating with other agencies
- At national level MoALDM (SWCB) and FESD to closely collaborate in identification, development, and provision of extension materials

ESTABLISHMENT of MARKETING/INCENTIVES:

- Creation of AF competition committee
- MoALDM, MENR, Donors etc. to establish AF credit Facilities and grant systems
- Also commercial companies using wood eg BAT, Paper Mills to contribute to Grant/credit schemes
- Develop market opportunities for AF products
- NSC to liase with IPC, KIRDI and KIE for advice on primary industry development

REVISION OF RELEVANT ACTS

- Review of relevant acts such as Agric. Act, Forest Act, Land-use Act, Chief Authority Act, and others.
- Develop an overall Act on Agroforestry.

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Key Presentation - 2

Agroforestry Training Needs in Kenya

Mr. R. Gikonyo

AGROFORESTRY TRAINING NEEDS IN KENYA

A paper prepared to National Social Training Workshop Muguga

16 - 2 - 94

By Gikonyo R.G.

CHIEF: FESD

AGROFORESTRY TRAINING NEEDS IN KENYA

I. PREAMBLE:

Agroforestry is a landuse system which enables the production of tree/shrubs foodcrops and/or livestock on a given unit of land either in spatial arrangement or temporal sequence to maximize productivity and sustainability of the land.

In the past the lifestyles of Kenyans were in equilibrium with the environment but today due to increasing population (at 3.5% per annum) which now in this country stands at 25 million people, land is becoming scarce and heavily used and has no time to regain its fertility (like in the past) through either fallow periods or shifting cultivation.

The consequence of upsetting the environment/human equilibrium are serious environmental degradation - soil degradation and erosion, disturbance of water regimes and such phenomenon like desertification; which is the diminuation or destruction of the biological potential of the land leading ultimately to desert like conditions.

The situation is likely to get worse by the year 2,000 when the population is expected to be about 35 million Kenyans yet the area under agricultural crop production is not likely to expand correspondingly. According to sessional Paper No.1 of 1986, Economic Management for Renewed growth, Production of maize should be doubled from 1986 stocks by the year 2,000 while land under maize will more or less remain constant with such challenges new technology for increasing food and other needs of the people is called for.

Agroforestry as a multiple landuse system enables one to produce agricultural crops, tree products and/or livestock from the same unit of land.

Recognising the potential of Agroforestry, Paul Harrison in his Book "The greening of Africa"he states"-- Agroforestry is not onlythe most promising approach to reforestation and supply of fuelwood, it is also in yield boosting forms like windbreaks, alley cropping the most hopeful avenue for intensifying Afircan agriculture over the next four to ten years increasing food production and reducing exposure to drought with few or no outside imported outputs. Agroforestry is arguably the single most important discipline for future sustainable development in Africa.

2. Several Agroforestry Practices are known e.g.

2:1 Mainly Agrosilvicultural

- (i) Planted Tree fullow
- (ii) Improved Tree fullow
- (iii) Taunyya *
- (iv) Trees on cropland *
- (v) Plantation Crop Combination *
- (vi) Tree Gardens *
- (vii) Alley Cropping
- (viii) Boundary Planting *
- (ix) Trees for Soil Conservation
- (x) Windbreaks and Shelterbelts
- (xi) Biomass Transfer

2:2 Mainly or Partly Silvipastural

- (i) Tree on rangeland or pastures *
- (ii) Plantation crops with pastures
- (iii) Live fences
- (iv) Fodder Barks

2:3 Tree Component Predominant

- (i) Woodlots with multipurpose Management *
- (ii) Reclamation Forestry leading to production

2:4 Others

- (i) Agriculture with Forestry
- (ii) AquaForestry
- (iii) Trees in Water Management
- (iv) Irrigated Agroforestry

3. CURRENT STATUS IN AGROFORESTRY TRAINING

3:1 Collaboration in Training (Inservice)

Currently there is collaborated Agroforestry Training whereby MOALDM, MENR, MOE, KEFRI, NGO and other ministries are all collaborating. A curriculum for Inservice Training in Agroforestry and Related subjects has been developed since 1991.

In KEFRI Social Forestry Training Programme with its main aim being promotion of Social Forestry is also implementing together with the above collaborators Agroforestry Inservice Curriculum.

ICRAF has Agroforestry Short Courses for Scientists and development planners responsible for research and development.

Fellowship Scheme for Researchers, on the job internship, Training materials are also areas addressed by ICRAF.

3:2 PRESERVICE AGROFORESTRY TRAINING UNIVERSITY/SECONDARY/PRIMARY

Training in Agroforestry is continuing in our institutes of higher learning and in secondary schools although there is need to strengthen Agroforestry Curriculum at all levels and institutionalize Agroforestry Curriculum in secondary and primary schools.

4. TRAINING NEEDS ASSESSMENT

When a Doctor diagnoses a disease he prescribes the correct treatment.

If the treatment is wrong the disease is not cured.

We could organize Agroforestry Training at all levels and have good Training Programmes but if that Trainings were not focussed to address needs and weaknesses of trainees the training would be irrelevant and of no consequence.

The Agroforestry Training has to state:

Who is to be trained?

What training needs are to be addressed?

How is the training benefitting the trainee?

How is the training assisting in addressing the objectives of the country and if the problems are related to training.

Who is to be trained?

- (i) University and Research Scientists
- (ii) Secondary Schools, Colleges, Institutes - trainers and students
- (iii) Primary schools - teachers and pupils
- (iv) Professionals in Government and NGO
- (v) Technical officers in Government and NGO
- (vi) Frontline Extension officers and workers
- (vii) Farmers, landusers and masses.

4:1 What training needs are to be addressed

Identification of training needs is a pre-requisite to training programme development.

We have first to know what Agroforestry is expected to achieve. The Short Term goals could be food, fuelwood, fodder, building materials while the longterm would be placing these benefits to the people on sustainable basis, amelioration of environment and climate aesthetic and Recreation.

4:2 What are the weaknesses in job performance

These could be lack of Agroforestry knowledge poor extension methods etc.

What are the problems faced in performance of duty?

These could be logistic, Institutional etc.

Through Diagnosis workshop or through Interviews some of the problems /Needs could be identified.

This would be the starting point.

A one week workshop in Nakuru jointly organized by MOALD &M, KEFRI MENR through assistance of RSCU SIDA attempted to identify needs based on job description and responsibilities.

Training needs were identified for Hq. staff, Provincial, District and Divisional staff dealing with AF training and Extension.

4:3 RESULTANT INSERVICE TRAINING PROGRAMME

Based on job descriptions and responsibilities of staff at various levels, training needs were identified and a number of proposals were developed for course outline to cater for these needs. Further development of the curriculum ensued.

The objective of the inservice Training Programme was to impart additional Agroforestry knowledge on Extension staff.to enable them to assist the farmers in achieving the multiple needs of woodproducts, food and fodder.while simultaneously conserving the productive natural resource base.

4:4 A I M:

To train all Agriculture, Forestry, NGO Extension Staff and other leaders, chiefs, elders from Hq. to Division who could later train frontline extension workers and farmers.

4.5 MAGNITUDE:

Approximately 8700 staff were targetted, 165 from Hq. and Provinces, 360 from Districts, 1490 from Divisions and 6700 from Frontline extension staff.

TARGET

- 4:6 Hq, Provincial, District, Division officers involved in Agroforestry.
Lecturers, Technical Officers of NGO involved in AF Extension.

5. NEEDS IDENTIFICATION

5:1 Needs Identified For Inservice Trainees

The needs were then translated into curriculum of Inservice AF Training:

1. The Agroforestry concept knowledge
- 2A. Tree propagation and Seed Technology
3. Dryland Farming and Afforestation
4. Conservation Utilization and Marketing of Tree Products.
5. Agriculture, Soil, Water Conservation and Extension
6. Fruit Management
7. Extension, Communication and Training
8. Socio-Economic issues, Monitoring and Evaluation
9. Catchment Planning PRA
10. Management Administration and Planning.
11. Specialized course series
- 11A. Development and Disseminating of Agroforestry Materials
12. Tours local and Overseas.

5:2 IDENTIFICATION OF FARMERS' NEEDS

The farmer is the decision maker in his farm. In order to develop Agroforestry technologies that meet farmers needs and fulfil their objectives in their order of priority farmers must be involved in developing their training programme.

Farmers' participation could be enlisted through the following approaches:

- (i) Consultation - Surveys and discussion by groups
- (ii) Collaboration - Involvement of farmers
- (iii) Collegiate - farmers do research and the researchers facilitate and strengthen informal research
- (v) Contractual - Extension officer/researchers could use farmers land for trials.

Methods used to enlist farmers support of:

Discussions

Demonstrations

Field trips

Workshops

Courses

5.3 PARTICIPATORY RURAL APPRAISAL

In a PRA local planning exercise carried out by Nakuru/Nyandarua MMM Project, some of the problems of the farmer were identified in subego Nyandarua District in 1993. e.g.

fuelwood in short supply

shortage knowledge of seed handling

shortage of water

shortage of fodder

prevalent animal diseases

poor bee husbandry

In a workshop:

Some of the farmers problems/needs were identified as:

- (i) Limited capital and low incomes
- (ii) Limited access to technical knowledge
- (iii) Limiting gender issues
- (iv) Wasteful conversion

- (v) Low adoption of Agroforestry practices
- (vi) Low motivation
- (vii) Low Land Productivity

5:4 INSTITUTIONAL AND NGO WEAKNESSES

In addition to inservice Training Needs it is necessary to know the Institutional and NGO weaknesses before developing AF curricula.

In a National AF Strategy Seminar in Nyeri in 1992 and through participation Analysis the following weaknesses of Govt. and NGO were identified.

- (i) Inadequate AF knowledge
- (ii) " Social cultural knowledge
- (iii) Untrained personnel in AF
- (iv) Inadequate guidelines
- (v) Inadequate resources
- (vi) Weak extension services
- (v) Poor implementation
- (vi) Inadequate AF packages
- (vii) " Frontline staff
- (viii) Poor communication of research findings
- (ix) Lack of facilities and aspects in AF
- (x) Discouraging Lawa
- (xi) Inappropriate AF Extension System
- (xii) Low motivation
- (xiii) Low appreciation of Local/Indigenous AF knowledge

These inadequancies need to be addressed during preparation of Training programme.

6. CONSTRAINTS THAT HAVE BEEN EXPERIENCED IN AF EXTENSION AND TRAINING

Before Training Programmes are made it is necessary to review constrained encountered during Extension and some of these are:

6:1 Inadequate Collaboration:

There has been inadequate collaboration of ministries, NGO, Research Institutes, Universities in Training, Development of Training (packages) materials and methods of delivery.

6:2 Land Tenure Problem:

In most areas especially in ASALs, land is state or communally owned. In such cases property ownership is still individual in nature. This leads to competition and over exploitation and devegetation overstocking and overgrazing.

6:3 Gender Issue

Even in individually owned areas, the ownership of tree is at stake. In some communities commercial trees are owned by men while fuelwood is a domain of women. In some communities women describe trees as 'his trees'.

6:4 Pastrolism and Overstocking

Pastrolists give priority to large stock over crops or trees. There is always danger especially during draught.

6:5 Cultural Issues

Beliefs, 'taboo exist especially in closed communities. In some communities women may not wish to plant some AF species as they could have a belief that they could be barren if they did.

6:6 Contradictory Policy Pronouncement

Over enthusiasm by some Chiefs who demand to issue Tree Felling permits to farmers who planted the same trees voluntarily.

Some Govt and NGO officials give varying messages confussing the clienttile.

6:7 Inadequate Preservice Training

From primary upto secondary schools, Training Colleges and Universities the AF curriculum has been weak compared to the Monodisciplines e.g Forestry (Silviculture) Agriculture (Crop production).

6:8 Inadequate Inservice Training

Until recently there has been inadequate inservice AF training at all levels. Inappropriate and Unco-ordinated AF/Training Sectoral and Monodisciplinary approach has been employed. Lack of harmonized joint Training Programme was prevalent.

6:9 Inadequate Technical Packages

Unsuitable technical packages sometimes devoid of relevant ecological and social needs of the specific area and too uniform to address different Agro-Climatic Zones have been drawn.

6:10 Inappropriate approaches in Extension and Training

Top down approach with no recognition of indigenous knowledge and experience and total ignorance of local materials from research and development.

6:11 Lack of effective Monitoring and Evaluation

Successful AF Programmes should be monitored on a continuous basis. This is not so due to lack of trained personnel.

6:12 Inadequate Research Liaison

A lot of information (research) may be available but not with farmers. Research has not addressed farmers 'discoveries'.

6:13 Inadequate Information

Information would be in institutions or Hq. but not with the users.

6:14 Climatic Problems

With little, erratic and unreliable rainfall, high evaporation due to high temperatures and long dry season plant survival is difficult. Heavy downpours also cause soil erosion due to scanty vegetation in ASALs.

6:15 Termite Attack

Termites are also a common feature in ASAL landscape. Afforestation strategies must address this problem.

7. AGROFORESTRY TRAINING IN FUTURE

7:1 Why AF Training has to be Intensified

Training in the Long Term should make target technically self reliant in manipulation of AF technology available and making logical decisions on their farms for betterment of their wellbeing. Farmers need intensive training to changeⁱⁿ inclinations evasive to change. Training has to deal with resistance radical to change in Agroforestry techniques, while simultaneously enhancing local initiatives.

Extension Agents at all levels need appraisal with new information on the technologies advocated and on appropriate extension communication. Training circumstances should be localized with deliberate efforts made to use local resources.

7:2 Development of Appropriate and Adequate Technical and Training Materials

Availability of technical packages and training materials in AF is a pre-requisite for better Training. The information can then be disseminated by Extension networks through public meetings, farm visits, Agricultural shows 'mirror' technique, education tours publications and mass media.

7:3 Intensified Collaboration

Past approaches in Training have been sectoral and monodisciplinary. AgroForestry is multidisciplinary and interinstitutional in application. In future Rural development and Agricultural programmes e.g Soil Conservation, Water Conservation and Planning will be integrated. This is because specialists have become aware of linkages among all their activities.

7:4 Recognition of Indigenous Knowledge

AF Training Programmes must recognise indigenous knowledge. Farmers know best their farms and agro-climatic conditions around their localities. Trainers must recognize and acknowledge farmers experience. An approach of partnership in Training to be adopted. We should build Training Programme on existing farmers knowledge and experience.

7:5 Creating Independence

AF Training must aim at changing the trainees/farmers/extension officers from a state of material dependence to Independence. Free issue of materials should only be given for 'take off'. Continuous issue of this creates dependence and lack of sustainability. Knowledge and practice of using indigenous and locally available materials trains people to be independent and their activities cost efficient.

7:6 Harmonizing AF Curricula

In the part sectoral approaches in Training led to 'going it alone' attitude in Training. Joint training will facilitate joint Extension and avoid authoritarian Contradictions which confuse the farmers.

7:7 Participatory Training Programmes

Participatory approach should be adopted. Donors, farmers, trainers, researchers must all be involved. Participation should be 'voluntary'. Some projects are arranged from Hq. and then implemented at the grassroots. This leads to lack of sustainability. Local level planning to be used. People to define how training will solve these problems.

7:8 Addressing Inappropriate Legal and Policy Framework

Land use Laws need harmonization. The chiefs Authority Act when not carefully applied is Counter-Productive in AF Development. They may require people to do certain actions without them having knowledge why. Farmers past experience with Govt officers especially in Soil and Forest Conservation are sceptical on new ideas from Govt. officers. They think there is a hidden Agenda.

7:9 Assessment of Training Needs

Training of Frontline Extension staff is important as they are the people on contact with farmers and landuses. Training needs for these is necessary. Continous assessment of Inservice staff Training needs is also important in order to develop AF curricular.

Emphasis should be given to improving systems already practised by farmers. Agroforestrysystems are site specific and the area covered by Frontline Extension agents is relatively homogenous.

7:10 Preservice and Inservice Curriculum

Already the joint curriculum exists between MOALDM, MENR, KEFRI, Agroforestry Training should be strengthened at all levels.

7:11 Grassroot Training

The needs assessment of farmers should be carried out at local level planning exercised by multidisciplinary AF teams. Other ways suitable should also be employed.

7:12 Preservice Curriculum

All the AF Training Institutes should institutionalize AF curriculum in their training programmes. The A/F curricula should be strengthened and revised. ICRAF in collaboration with Institutes and Universities have developed AF Curriculum which is a base for future curricula. Universities and Research Institutes should ensure that increased research results in AF are available for incorporating with the curriculum at all levels.

Youth Clubs and Primary Schools should also be synthesized in A/F and AF curricular for primary schools developed.

Ministries and KIE should look into improvement of AF curricula at primary/secondary and Teacher Training Institutes.

7:13 Research Liaison

Universities and Trainers should have fora for examining new Research information and how best the information can be extended to users. This is very important especially to ASALs.

7:14 Funding

AF Training is an expensive undertaking and the continuous support by donors is important. The current progress of SFT Programme is as a result of Donor (JICA) support.

Other donors will need to be found to support Agroforestry Training.

LEADING ROLE OF NSC A/F

The National Steering Committee on AF has identified need to have a MOU between Agroforestry actors both GOK and NGO. Joint Training Research and Extension will be undertaken.

The role of GOK and NGO will no longer be duplicating efforts but will be complementary cost effective in survey planning, implementation and evaluation of Training Programmes among others.

The essence of Collaboration and harmonization could be strengthened through regular meetings e.g NSC AF.

Training Subcommittee

The initial strategy is to inventorize all existing institutions with A/F Training Programmes and account the institutions capacity, constraints carauties in identifying levels of desirable integration in collaborative Training Programmes.

8. MONITORING AND EVALUATION

Assessment of Accomplishment of project objectives immediate and Long Term should be developed. The database should give continous update for implementation process and also create institutional memory for use by the Managers.

Training Programmers should monitor and Evaluate their programmes.

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Key Presentation - 3

Development of Agroforestry Training/Extension
Materials, Opportunities and Constraints
Mr. P. Ongugo

DEVELOPMENT OF AGROFORESTRY TRAINING/EXTENSION MATERIALS:
OPPORTUNITIES AND CONSTRAINTS

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INTRODUCTION

Agroforestry is an approach to land use based on the integration of trees and shrubs into crops and/or livestock production systems. Agroforestry has the potential to provide rural households with food, fodder, fuelwood and other tree crop and animal products. At the same time, agroforestry can help in the sustenance of the productivity of natural base by enhancing soil fertility, controlling erosion and improving the micro-climate of cropping and grazing lands.

Agroforestry as a land use system is an age old practice but as a science. It is fairly new; and therefore the need for information in this field is very crucial for its development. In such a new and complex field as this, the nature and structure of its information are equally complex and there are gaps of knowledge on the subject. This means that identification and acquisition of relevant information is more difficult than in the case of well established disciplines such as crop, forest and animal sciences. It must be realized that it was not until the late seventies when people really started thinking and writing in or on agroforestry; but it should not be forgotten that scientists had been writing about various food production or land use systems which in reality involved agroforestry; but since the writers were either foresters or agronomists, information ended up being biased on one of the two disciplines. Again, a lot of the documented information was never published in conventional media and as a result, this kind of information was not easily accessible.

Formal training in agroforestry is as new as its science. It is only recently when curricula have been developed by ICRAF for the inclusion of the subject in universities, teaching programme. There are already about five universities in Africa which have started the teaching of Agroforestry. Noteworthy to mention are Moi University (Kenya), Makerere University (Uganda), Ibadan University (Nigeria), Kumasi University (Ghana) etc. It is however hoped that similar curricula will soon be developed for the secondary level education.

1.1 WHO NEEDS AGROFORESTRY INFORMATION?

ICRAF (1993) have identified the target groups who need to be kept informed about agroforestry research developments. These include:

- (a) Policy makers - who need information in order to prioritize their decisions on the general national development.
- (b) Donor agencies - require information to be able to either give funds for starting certain projects and/or to continue funding on-going ones.
- (c) Researchers - then require information in order to formulate research proposals and/or find out what has been done in their appropriate fields elsewhere or in their own countries; so as to conduct their research activities.
- (d) Extension agents - they require information to advise farmers. It should be remembered that this is the group which translates research results which are usually produced in complicated scientific language, to the farmers.
- (e) NGOs - need information to enable them carry out their development programmes.
- (f) Educationists/Trainers - need information to impart knowledge to those they train.
- (g) Students - require information to prepare their projects/dissertations.
- (h) All other land users/farmers - they require information in order to better their production systems, and/or enhance the land productivity.

2.0 THE ROLE OF TRAINING AND EXTENSION IN AGROFORESTRY RESEARCH AND DEVELOPMENT

Training may be described as a process that enables individuals to acquire knowledge skills and abilities to fulfil the requirements of their job. Training may be a formal or an informal process. Training is extremely vital in the acquisition, utilization and retention on an organization's most vital resource: the human resource. Training thus ensures the life of an organization. Agroforestry can be made sustainable only where there is a continued training of those involved in its Research and Development efforts.

The need to pass down to farmers, who are the main beneficiaries agroforestry, the various technologies developed has spontaneously arisen and hence, extension is being regarded as a means of achieving this end. Conventional agricultural extension system which has been widely adopted in this country, was innovation centred - viz the model farmer approach. It relied heavily on the cadre, of extension workers defined as "frontline extension agents". According to the Training and visit (T&V), an extension approach developed in the Asian sub-continent, viz Benor and James (1977); the frontline extension agent is the most physically taxed cadre in the extension service and it is on him/her that the success of the extension method depends. The conventional extension approaches have not been successful with agroforestry. This has led to the rapid development of the on-farm approach to agroforestry R & D. Some of the reasons why the success has been minimal are deficiency in knowledge of agroforestry; the rapid development of its science and its complex nature. Training of the extension agent can again be considered as an important undertaking.

2.1 DIAGNOSING TRAINING NEEDS

Training does not exist for its own sake its function is to increase among others, efficiency and productivity; it is part of a total human resource utilization commitment. The identification of training needs must be resolved before training itself can be undertaken. A training needs assessment describes knowledge, skills and attitudes required by staff in each position and the areas to be addressed through a training session.

2.2. TYPES OF TRAINING

Training activities may take various forms. Broadly, these may be defined or categorized as follows:

- (a) Workshop - This is defined as a brief intensive education programme, usually targeted towards a relatively small group. The emphasis here is problem solving.
- (b) Conference - A formal exchange of ideas, knowledge etc between two or more persons. The emphasis here is commonality in areas of operation, problems, etc. Expression of views become the modality of operation.
- (c) Seminar - A forum for information exchange. Sometimes it can be in the form of a course.
- (d) Colloquium - This is a meeting whereby a specialist in a certain topic delivers an address and subsequently answers questions on it.
- (e) Consultation - This is a deliberation/discussion between two experts where critical review, comments and recommendations are offered on a theme, paper or case.
- (f) Council - This is an assembly or meeting for consultation, advice, or discussion.

2.3 TRAINING SUPPORT MATERIAL

Whatever, the type of a training activity chosen, training is better undertaken when employed in the training session. This is the same with the different extension approaches as the saying goes "Don't just tell them show them!".

Training/Extension support materials can be described as any technique, device, item or equipment that a presenter/trainer uses for reinforcing an idea or concept as he/she addresses a group or an individual. Research experience has shown that for example, audio visual techniques can significantly increase and reinforce learning (Zbebertum 1990). Not only do they add interest to a presentation, but by engaging more than

one of the senses they also facilitate listening and remembering. In the teaching of abstract concepts or unfamiliar subjects, visualization can be essential to understanding when properly used, support materials reinforce and supplement oral communication.

There are other important reasons why visual aids and other support materials are important:

(a) To aid understanding

Psychologists have found out that we learn through various senses; spread as follows:

- . Taste - 1.0%
- . Touch - 1.5%
- . Smell - 3.5%
- . Hearing - 11.0%
- . Sight - 83.0%

When we use the sense of sight we encourage more acquisition and retention. A combination of sight and hearing only accounts for 94% of learning reception.

(b) Extending human experience

Every extensionist/trainer will have it easier if farmers/trainers had the same experience of the issue being discussed e.g. in one case, agroforestry.

Training/extension support materials bring the extensionist/trainers experience etc without being told why. Experiences can also be broadened.

(c) Stimulating Interest

This role is the most known, used and abused. Extensionists/trainers need interest by seeking more lifelike, realistic and financial problem solving activities.

Audio visual aids and other support materials, provide the extensionist/trainer with interest compelling spring boards which can launch the recipients into a wider variety of learning activities. This is especially true when colour, humour and lightning are used appropriately.

(d) **Time Saving**

Agroforestry as 'new' science has its own terminologies, norms etc which can take a lot of time trying to explain. Support materials can simplify this and save time when concepts, norms etc are not only described in words but are also illustrated.

(e) **Wider reach**

Support materials can be used as avenues for the wider adoption of the agroforestry technologies. This is especially important in communicating extension information to enable individuals and groups to share the information, the feelings and the activities of the newly introduced technologies.

(f) **Persuasion aspect**

Support materials make things real. They hence provide a stronger persuasion power than where their use is neglected.

3.0 **TYPES OF TRAINING/EXTENSION SUPPORT MATERIALS**

The support materials most commonly used in extension and training can be divided into through groups (a) Visual (b) Audio (c) Audio visual.

3.1 **VISUAL AIDS**

The include black/white board, flip charts, posters, overhead transparencies, slides. I will briefly discuss three examples from this group which are most commonly used in training and extension.

(i) **Black/White boards**

This is among the simplest and least expensive aid to use. It is well suited for presenting brief messages and simple diagrams to small audiences. Speakers using black boards should generally plan in advance what they will write and draw.

(ii) Flip charts

These are used to present simple and brief messages and simple diagrams to small groups. They can be prepared in advance or sketches can also be made in pencil then traced on in felt tipped marker at the relevant times in a speech. One option is to leave alternative pages blank, so that these can be used appropriately during the presentation. Flip charts are especially useful in outdoor situations.

(iii) Overhead transparencies

The overhead projector is a favourite of many speakers. It is convenient and versatile and thus ideally suited to scientific and other presentation requiring detail. It is effective in various size settings, can be used in a normally lit room, and lets the presenter face the audience. Overlays can be made before presentation during the presentation or both overlays can also be piled on top of each other to build diagrams of increasing complexity.

(iv) Print media

These include books, papers, magazines etc. They are very important in that they are cost effective.

(b) Audio aids

The most important examples of these is the radio.

(c) Audio visual

These are support materials which involve both the hearing and the seeing senses. Examples include television, video recorder/player, slides with background sound etc.

4.0 DECIDING ON THE CHOICE OF SUPPORT MATERIALS TO USE

Proper use of support materials requires a considerable investment in time and thought material is the best answer in all situations. In choosing the support material to use, in a particular situation, the following are among the factors to be considered.

(a) Circumstances

To whom is the presentation to be made - one man, a class, a convention etc where is the talk to be held, the office, classroom, auditorium. These will affect the size of the display. The number of

times the talic is to be given and what types of support materials are available and familiar to the presenter.

Other important factors are subject matter, cost and availability.

5.0 DEVELOPMENT OF SUPPORT MATERIALS

For this section, I will discuss two important support materials. These are:

5.1 OVERHEAD TRANSPARENCIES

Each transparency should be designed to express one idea. This should be expressed in a maximum of 608 lines with not more than six words per line. A maximum of two types of letters and 3 colours should be used one transparency. Lettering and colours should be used systematically and consistently.

The letter prints should be large enough. Labels should be readable (not upside down) or slanting. special pens are available for drawing on transparencies (it is also possible to xerox on to transparencies) and stencils, press on letters or Kroy lettering machines help to make text clear. Key should be given for non-standard abbreviations. Abbreviations should be used consistently and main topics indicated by TITLE. Significant figures must be highlighted.

It is also useful to use symbols and diagrams rather than straight text. There are computer packages which can make good and clear transparencies.

When using transparencies, they should not be waved around and this will distract the audience. Transparencies should not be packed up in the middle of a presentation as this will waken the presentation. Only the projector should be turned off then the presenter should move forward to give the closing remarks.

5.2 SLIDES

Slides can be seen by nearly any size of audience and can lend great authenticity and immediacy. When the real thing cannot be brought into the lecture room, slides can be excellent second best. To be effective however, slides must be appropriately made and used. They are only effective in a room that can be darkened completely. Most of the points presented in 5.1 above in regard to the design and use of transparencies also apply to slides. However, there are additional points to consider in the development of this aid:

- (a) Simplicity is even more important in a slide than in a transparency, each slide show one piece of evidence that supports one point.
- (b) A slide should never be taken from a printed paper as a print is very small and it will contain too much unnecessary data.
- (c) Slides should be arranged and marked to avoid sideways, upside down and backward projections.
- (d) It is important to make sure that the slides work in the available machine and these should be pre-arranged.

Other important support materials which are easily developed are books, posters, magazines, films, video cassettes etc.

In addition, the following support materials can be acquired, especially from ICRAF.

- (i) Agroforestry Database,
- (ii) Agroforestry Bibliographic Database (AFBIB)
- (iii) Multipurpose Trees and Shrubs (MPTS) Database
- (iv) Agroforestry Systems Inventory (AFSI) Database

6.0 CONSTRAINTS AND OPPORTUNITIES

The lack of appropriate agroforestry training/extension materials is a serious constrain to its development. This is an area which requires not just resources but also attitudinal change. More often than not, wrong and/or ineffective materials are used.

There is currently a heavy reliance on materials produced by the Ministry of Agriculture through the SIDA (Sweden) Supported Regional Centre for soil and water conservation. This however, tend to be biased towards agriculture.

Due to the fact that is the extensionist/trainer who knows what materials he/she needs for a particular situation, participatory preparation/production should be encouraged. Not even the beneficiary of agroforestry technologies, the farmer should be let out in this endeavour. The catchment approach is a good way of involving communities, experts etc in the preparation to support materials. Other PRA methods like mental mapping, venn diagramming etc using locally available materials could be used to enhance this participatory production if support materials for training and extension.

One noteworthy effort which is already underway, is the annual training workshop which is being conducted by ICRAF as the production of Agroforestry training materials. This will go along way in providing all those involved in agroforestry R & D with the necessary skills. ICRAF also a unit which can assist in the development of such materials. Other important materials were produced by the CARE international in Kenya. Two volumes of agroforestry training literature including a set of slides were produced. However, these are soon running out and the sooner they are acquired by interested individuals and organizations the better.

SIDA recently produced a set of slides on the book Dryland Agroforestry in Africa and a video cassette is also available entitled "Fruits of our Labour". This cassette produced by SIDA and accompanied by an illustrated booklet, is based on experiences of the extension officer from Tanzania with agroforestry extension.

Another avenue available for the production of training materials is the Desk Top Publishing using the several software in the market. The most common being VENTURA.

Key Presentation - 4

**Training Activities and Curricula
of the Social Forestry Training Project (Phase II)
SFTP**

Explanatory Paper (Training activities)

1 Background

In Phase 1, the Project implemented 65 training courses and 5 national events. At Muguga National Training Centre, 30 training courses were completed with 732 participants, and four National Social Forestry Prize Days and one Social Forestry Seminar were held. At Kitui Regional Training Centre, 35 training courses were conducted with 875 participants.

Though Muguga Centre almost finished its training target in Phase 1, systematic training on agroforestry, which is an important tool of social forestry, has not yet been given satisfactory. Necessity of agroforestry training has recently been recognized by such governmental organizations for forestry, agriculture, livestock, energy, etc.

As for Kitui Centre, it has not covered its target group and needs to continued the training for farmers, extensionists, and primary school teachers. And in order to promote social forestry activities in the region, it has been recommended that more emphasize should be given WID (Women In Development) and Grass-root level training activities.

(See Annex)

2 Main point of Phase 2

Judging from the above mentioned background, the training activities of the Project are summarized as follows;

For Muguga Centre,

- * To provide training courses on agroforestry at District, Division, and extension officers levels
- * To expand its target group and enhance more involvement of other fields such as agriculture, livestock, energy, education, etc.
- * To conduct national events to promote social forestry and agroforestry

For Kitui Centre,

- * To introduce Women's courses and community leaders' courses in addition to the training courses implemented in Phase 1
- * To put emphasis on agroforestry techniques in extension officers courses
- * To conduct field oriented training such as field seminar

3 Curriculum and Target Group

The Project has set up working group to develop and discuss the curriculum and target group of Phase 2 training activities. The curriculum will be further developed and reviewed in course of training implementation.

(See Annex)

RESULT OF TRAINING

SOCIAL FORESTRY TRAINING PROJECT

Phase I
I. Muguga Centre

No.	Courses	Duration	Participants	Comments
1	National Social Forestry Seminar	31/08/88	(100)	
2	Social Forestry Refresher Course II	25/09/88 - 30/09/88	24	
3	Social Forestry Refresher Course I	21/11/88 - 25/11/88	10	
4	Social Forestry Extension Officers Course	13/02/89 - 22/02/89	31	
5	Social Forestry Extension Officers Course	27/02/89 - 08/03/89	35	
	Sub-total		100	
6	National Social Forestry Prize Day	26/04/89	(80)	
7	Social Forestry Refresher Course II	02/04/89 - 07/04/89	13	
8	Social Forestry Extension Officers Course	05/06/89 - 14/06/89	33	
9	Social Forestry Refresher Course I&II	17/09/89 - 22/09/89	28	PFD, DFO
	Social Forestry Refresher Course II	29/10/89 - 03/11/89	24	
11	Social Forestry Extension Officers Course	22/01/90 - 31/01/90	23	
12	Social Forestry Extension Officers Course	19/02/90 - 28/02/90	27	
13	Social Forestry Refresher Course I	12/03/90 - 16/03/90	6	
	Sub-total		154	
14	National Social Forestry Prize Day	26/04/90	(110)	
15	Social Forestry Extension Officers Course	12/06/90 - 21/06/90	37	Special
16	Social Forestry Refresher Course II	15/07/90 - 20/07/90	15	
17	Social Forestry Refresher Course II	12/08/90 - 17/08/90	16	
18	Social Forestry Refresher Course I	10/09/90 - 14/09/90	14	
19	Social Forestry Extension Officers Course	23/10/90 - 01/11/90	34	
20	Social Forestry Extension Officers Course	21/01/91 - 30/01/91	25	
21	Social Forestry Extension Officers Course	18/02/91 - 27/02/91	31	
	Sub-total		172	
22	National Social Forestry Prize Day	25/04/91	(100)	
23	Social Forestry Extension Officers Course	10/06/91 - 19/06/91	23	
24	Social Forestry Extension Officers Course	15/07/91 - 24/07/91	32	
25	Social Forestry Refresher Course II	11/08/91 - 16/08/91	12	
26	Social Forestry Refresher Course II	15/09/91 - 20/09/91	17	
27	Social Forestry Refresher Course I	14/10/91 - 18/10/91	8	
28	Social Forestry Extension Officers Course	13/01/92 - 22/01/92	30	
29	Social Forestry Extension Officers Course	10/02/92 - 19/02/92	40	
	Sub-total		162	
30	National Social Forestry Prize Day	23/04/92	(140)	
31	Social Forestry Extension Officers Course	02/06/92 - 11/06/92	25	
32	Social Forestry Extension Officers Course	27/06/92 - 09/07/92	31	
33	Social Forestry Refresher Course	26/07/92 - 01/08/92	20	Special
34	Social Forestry Extension Officers Course	31/08/92 - 10/09/92	29	
35	Social Forestry Extension Officers Course	28/09/92 - 08/10/92	39	
	Sub-total		144	
	Total		732	

NB: The participants of National Events are not included in Sub-totals and Total.

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RESULT OF TRAINING

SOCIAL FORESTRY TRAINING PROJECT

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Courses	Duration	Partici- pants	Comments
Nursery Foremen Course	14/12/88 - 17/12/88	24	
Nursery Foremen Course	24/01/89 - 27/01/89	29	
Nursery Foremen Course	22/02/89 - 25/02/89	28	
Nursery Foremen Course	14/03/89 - 16/03/89	14	
Sub-total		95	
Nursery Foremen Course	11/06/89 - 17/06/89	30	
Teachers Course Course	03/07/89 - 07/07/89	19	
Leading Farmers Course	31/07/89 - 04/08/89	29	
Teachers Course	27/08/89 - 01/09/89	21	
Nursery Foremen Course	24/09/89 - 30/09/89	34	
Teachers Course	26/11/89 - 01/12/89	20	
Leading Farmers Course	28/01/90 - 02/02/90	22	
Leading Farmers Course	25/02/90 - 02/03/90	25	
Sub-total		200	
Leading Farmers Course	13/05/90 - 18/05/90	23	
Leading Farmers Course	17/06/90 - 22/06/90	26	
Field Technical Assistant Staff Course	09/07/90 - 20/07/90	24	
Teachers Course	13/08/90 - 24/08/90	18	
Field Technical Assistant Staff Course	17/09/90 - 28/09/90	27	
Teachers Course	26/11/90 - 07/12/90	29	
Field Technical Assistant Staff Course	28/01/91 - 08/02/91	30	
Famers Course	25/02/91 - 08/03/91	21	
Sub-total		198	
Field Technical Assistant Staff Course	13/05/91 - 24/05/91	33	
Famers Course	10/06/91 - 21/06/91	28	
Famers Course	08/07/91 - 19/07/91	18	
Teachers Course	12/08/91 - 23/08/91	29	
Field Technical Assistant Staff Course	09/09/91 - 20/09/91	27	
Community Leaders Course	27/10/91 - 01/11/91	12	Trial
Teachers Course	18/11/91 - 29/11/91	27	
Famers Course	27/01/92 - 07/02/92	19	
Field Technical Assistant Staff Course	24/02/92 - 06/03/92	29	
Sub-total		222	
Famers Course	11/05/92 - 22/05/92	26	
Field Technical Assistant Staff Course	08/06/92 - 19/06/92	23	
Famers Course	13/07/92 - 24/07/92	26	Trial
Teachers Course	10/08/92 - 21/08/92	28	
Field Technical Assistant Staff Course	14/09/92 - 25/09/92	27	
Teachers Course	23/11/92 - 04/12/92	25	
Sub-total		160	
Total		875	

RESULT OF TRAINING SOCIAL FORESTRY TRAINING PROJECT

Phase II

1. Muguga Centre

No	Courses	Duration	Partici- pants	Comments
1	District Level Agroforestry Course	14/02/93 - 19/02/93	28	
2	Agroforestry Extension Officers Course	14/03/93 - 26/03/93	19	
	Sub-Total		47	
3	National Social Forestry Prize Day	22/04/93	(130)	
	Total		47	

NB: The participants of National Social Forestry Prize Day are not included in Total.

2. Kitui Centre

No	Courses	Duration	Partici- pants	Comments
1	Farmers' Course	25/01/93 - 05/02/93	22	
2	Women's Course	08/03/89 - 19/03/93	19	
3	Field Seminar	26/03/93	(289)	
	Total		41	

NB: The participants of Field Seminar are not included in Total.

Training Activities for MUGUGA Centre for Phase 2

1 District Level Agroforestry Course

- Objective To provide District level officers in charge of management and extension with current information and knowledge on agroforestry
- Target group District level officers from Forest Department (FD), Ministry of Agriculture, Livestock Development and Marketing (MoALDM), Ministry of Energy (MoE) and allied natural resource field, including NGOs. ($30 \times 2 \times 5 = 300$ trainees)
The potential participants would include graduates and senior experienced technical officers.
(720 potential trainees -- 42%)

2 Divisional Level Agroforestry Course

- Objective To up-date field officers at Divisional level on agroforestry technologies and dissemination techniques.
- Target group Divisional level officers from the same organizations as above course. ($30 \times 2 \times 5 = 300$ trainees)
The potential participants would include diplomates and senior experienced technical staff.
(2,325 potential trainees -- 13%)

3 Extension Officers Agroforestry Course

- Objective To enhance the knowledge of field extension officers on current agroforestry practice and dissemination.
- Target group Divisional and Locational level extension officers in charge of agroforestry implementation from the same organizations as above course. ($30 \times 2 \times 5 = 300$ trainees)
The potential participants would include certificate graduates and experienced senior technical extension agents.
(3,668 potential trainees -- 8%)

4 Teachers' Social Forestry Course

- Objective To provide teachers with fundamental knowledge on social forestry so as to improve their capacity to lead their environmental clubs and others in afforestation.
- Target group Teachers of secondary schools, tertiary institutions, etc. who lead environmental youth clubs ($30 \times 1 \times 5 = 150$ trainees)
(522 potential trainees -- 29%)

5 Orientation Course

- Objective To provide newly recruited officers with knowledge on social forestry development and promotion.
- Target group Newly recruited District level officers in the forestry sector. ($30 \times 1 \times 5 = 150$ trainees)
(225 potential trainees -- 67%)

6 Training of Trainers Course

- Objective To develop training ability of resource persons in the above mentioned training courses.
- 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.
- Target group Group/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 among research, management and extension agencies and to review the training curricula.
- Target group Researchers, managers and extension officers at professional level in allied institutions/organizations in the country.

TRAINING CONTENTS OF THE COURSES AT MUGUGA CENTRE

DISTRICT LEVEL AGROFORESTRY COURSE

ARBA	TOPIC/ACTIVITY	Lecture(hr)	Practice(hr)
Introduction	Agroforestry concepts and practices	1.0	
Technology Development	Tree seed technology	3.0	
	Adaptive on-farm agroforestry research	1.0	
	Pests and diseases management in agroforestry	3.0	
	Plants of medicinal and nutritious values	1.0	
Technology Application	Socio-cultural issues in agroforestry development	1.0	
	Socio-economic issues in agroforestry	1.0	
	Rehabilitation and integrated management of degraded areas	1.5	
	Application of agroforestry in watershed management	1.0	
	Silvipastoral management strategies in ASAL	1.5	
Technology Dissemination	Agroforestry extension strategies	1.0	
	Communication skills for agroforestry	1.0	
Support Subjects	Application of social sciences in agroforestry	1.5	
	Leadership and management for agroforestry development	1.5	
	Presentations by participants		5.0
	Group discussions		2.0
	Presentation of results of group discussion		1.5
	Field trips		1 day

TRAINING CONTENTS OF THE COURSES AT MUGUGA CENTRE

DIVISIONAL LEVEL AGROFORESTRY COURSE

AREA	TOPIC/ACTIVITY	Lecture(hr)	Practice(hr)
Introduction	Agroforestry concepts and practices	1.5	
Technology Development	Tree seed technology	3.0	
	Advances in nursery techniques	3.0	
	Adaptive on-farm agroforestry research	1.5	
	Pests and diseases management in agroforestry	3.0	
	Classification of agroforestry technologies and practices	1.5	
	Annual plan of agroforestry	1.5	
Technology Application	Tree species for agroforestry	1.5	
	Socio-cultural issues in agroforestry development	1.5	
	Socio-economic issues in agroforestry	1.5	
	Rehabilitation and integrated management of degraded areas	2.0	
	Application of agroforestry in watershed management	1.5	
	Silvipastoral management strategies in ASAL	2.0	
	Principles of crop production in agroforestry farming systems	2.0	
	Strategies for private forestry development	1.5	
Technology Dissemination	Training for local community needs	1.5	
	Agroforestry extension strategies	1.5	
	Communication skills for agroforestry	1.5	
	Effective use of training and extension materials	2.0	
Support Subjects	Psychology of adult learning	1.5	
	Presentations by participants		5.0
	Group discussions		2.0
	Presentation of results of group discussion		1.5
	Field trips		3 days

TRAINING CONTENTS OF THE COURSES AT MUGUGA CENTRE

AGROFORESTRY EXTENSION OFFICERS COURSE

AREA	TOPIC/ACTIVITY	Lecture(hr)	Practice(hr)
Introduction	Agroforestry concepts and practices	1.5	
Technology Development	Tree seed collection and handling	3.0	
	Adaptive on-farm agroforestry development	1.0	
	Pests and diseases management	3.0	
	Plants of medicinal and nutritious values	1.5	
	Classification of agroforestry technologies and practices	1.5	
	Annual plan of agroforestry activities	1.5	
Technology Application	Tree species for agroforestry	1.5	
	Socio-cultural issues in agroforestry development	1.5	
	Socio-economic issues in agroforestry	1.5	
	Rehabilitation and integrated management of degraded areas	2.0	
	Application of agroforestry in watershed management	1.5	
	Silvipastoral management strategies in ASAL	2.0	
	Principles of crop production in agroforestry farming systems	1.5	
	Strategies for private forestry development in rural areas	2.0	
	Policy and tree tenure issues in agroforestry	2.0	
Technology Dissemination	Training for local community needs	2.0	
	Preparation of agroforestry training/Extension materials	1.0	2.0
	Effective use of training and extension materials	2.0	
	Agroforestry extension strategies	1.5	
Support Subjects	Psychology of adult learning	1.5	
	Presentations by participants		5.0
	Group discussions		2.0
	Presentation of results of group discussion		1.5
	Field trips		3 days

TRAINING CONTENTS OF THE COURSES AT MUGUGA CENTRE

TEACHERS' SOCIAL FORESTRY COURSE

AREA	TOPIC/ACTIVITY	Lecture(hr)	Practice(hr)
Introduction	Introduction to social forestry	3.0	
Technology development	Agroforestry concepts and practices	1.5	
	Tree seed collection and handling	3.0	
	Classification of agroforestry technologies and practices	1.5	
	Pests and diseases management in social forestry	3.0	
	Social forestry nurseries; Establishment and management techniques	3.0	
	Appropriate tree establishment techniques	1.0	
	Appropriate tree management techniques	1.5	
Technology Application	Tree species for social forestry development	3.0	
	Socio-cultural issues in social forestry development	1.5	
	Rehabilitation and integrated management of degraded areas	2.0	
	Social forestry practices for watershed management	1.5	
	Silvipastoral management strategies ASAL areas	1.5	
Technology Dissemination	Social forestry extension strategies	1.5	
Support Subjects	Presentations by participants		5.0
	Group discussions		3.0
	Presentations of results of group discussions		2.0
	Field trips		3 days

TRAINING CONTENTS OF THE COURSES AT MUGUGA CENTRE

ORIENTATION COURSE IN SOCIAL FORESTRY

ARBA	TOPIC/ACTIVITY	Lecture(hr)	Practice(hr)
Introduction	Overviews of agroforestry research and development in Kenya	1.5	
	Social forestry concepts and practices	1.5	
	Agroforestry concepts and practices	1.5	
Technology Development	Tree seed technology	1.5	
	Pest and diseases management agroforestry	2.0	
Technology Application	Socio-cultural issues in agroforestry development	1.5	
	Socio-economic issues in agroforestry	1.5	
Technology Dissemination	Agroforestry extension strategies	1.5	
	Preconditions for promotion of adult learning	1.5	
	Leadership and resource management	3.0	
	Forestry policy and law	1.5	
	Group discussions		2.0
	Presentation of results of group discussions		2.0
	Panel discussion		2.0

TRAINING CONTENTS OF THE COURSES AT MUGUGA CENTRE

TRAINING OF TRAINERS FOR AGROFORESTRY DEVELOPMENT

AREA	TOPIC/ACTIVITY	Lecture(hr)	Practice(hr)
Introduction	Introduction to social forestry	1.5	
	Agroforestry concepts and practices	1.0	
	Application of social sciences in agroforestry	1.0	
Support Subject	Preconditions for promotion of adult learning	2.0	
Subject Application	Training needs assessment I	1.5	
	Training needs assessment II		3.0
	Organization and design of training programmes	1.5	
	Preparation of training materials I	2.0	
	Preparation of training materials II		2.0
	Effective use of training materials	2.0	
	Effective utilization of lesson time	1.5	
	Monitoring and evaluation	1.5	
	Exercises		5.0

Training Activities for KITUI Centre for Phase 2

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 (30*2*5=300 trainees)
(810 potential trainees -- 38%)

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 Woman farmers such as members of women's groups (30*2*5=300 trainees)

3 Teachers' Course

- Objective To create awareness on the need to plant trees as well as to train participants on practical knowledge and techniques 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 (30*2*5=300 trainees)

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 Livestock and other organizations.
(30*1*5=150 trainees)
(680 potential trainees -- 22%)

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.
(15*2=30 trainees)
(520 potential trainees -- 6%)

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.
(30*1*5=150 trainees)
(2,280 potential trainees -- 7%)

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' Courses in Kitui.

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.

Annex 2 Contents of Each Course

1. Farmers' Course

Subject Title	Lecture(h.)	Practice(h.)
Role of Farmers in Promoting Tree Planting Activities	1	
Usefull Tree Species for Social Forestry	2.5	
Seed Collection and Handling	2	
Seed Pretreatment	0.5	1
Establishment of Small Scale Nursery	1.5	
Nursery Techniques	2.5	2
Nursery Record & Management	1	
Nursery Protection from Pest & Disease	1.5	
Planting & Tending Techniques	2	1.5
Tree Management Techniques (Natural & Planted)	2	1.5
Protection from Termites and Animals	1.5	
Agroforestry Practices	2	2
Organic Farming	1	1.5
Recommendable Fruit Trees	2	
Grafting and Budding Techniques	1	1
Soil Conservation	2	3
Grazing Land Management	2	
Energy for Rural Life	2	2
Medicinal & Edible Plants for Rural Life	1.5	
Bee Keeping	2	3
Field Trip to Small Scale Nursery and Model Farmers		3
Study Tour		7
Group Discussions on Topical Issues		2
Subtotal	33.5	30.5
Total		64

2. Women's Course

Subject Title	Lecutur(h.)	Practice(h.)
Women's Role on Community Tree Planting Activities	1	
Usefull Tree Species for Homestead and Shamba	2.5	
Seed Collection and Handling	2	
Seed Pretreatment	0.5	1
Establishment of Small Scale Nursery	1.5	
Nursery Techniques	2.5	2
Nursery Record & Management	1	
Nursery Protection from Pest & Disease	1.5	
Planting & Tending Techniques	2	1.5
Tree Management Techniques (Natural & Planted)	2	1.5
Protection from Termites and Animals	1.5	
Agroforestry Practices	2	1.5
Organic Farming	1	1.5
Recommendable Fruit Trees & Use	2	1.5
Grafting and Budding Techniques	1	1
Soil Conservation	2	1.5
Grazing Land Management	2	
Economic Management of Household Energy	2	1.5
Medicinal & Edible Plants for Family Use	2	2
Bee Keeping	2	1.5
Field Trip to Women Group Nursery and Model Farmers		3
Study Tour		7
Group Discussions on Topical Issues		2
Subtotal	34	30
Total		64

3. Teachers' Course

Subject Title	Lecture(h.)	Practice(h.)
Role of Schools in Rural Tree Planting Activity.	1	
Usefull Tree Species for Social Forestry	2.5	
Seed Collection and Handling	2	
Seed Pretreatment	0.5	1
Establishment of Small Scale Nursery in School	1.5	
Nursery Techniques	2.5	2
Nursery Record & Management	1.5	
Nursery Protection from Pest & Disease	1.5	
Planting & Tending Techniques	2	1.5
Tree Managment Techniques (Natural & Planted)	2	1.5
Protection from Termites and Animals	1.5	
Agroforestry Practices	2	2
Organic Farming	1	
Recommendable Fruit Trees	2	
Grafting and Budding Techniques	1	1
Soil Conservation	2	3
School Approach Programme to Soil Conservation	1	
Grazing Land Management	2	
Energy for Rural Life	2	2
Medicinal & Edible Plants for Rural Life	1.5	
Bee Keeping	2	
Communication Techniques	2	
Field Trip to School Nursery and Model Farmers		3
Study Tour		7
Group Discussions on Topical Issues		3
Subtotal	37	27
Total		64

4. Front-line Extension Staff Course

Subject Title	Lecture(h.)	Practice(h.)
Role of Extension Staff in Social Forestry Development	1	
What is Expected of Extension Staff	1	
Useful Tree Species for Social Forestry	2.5	
Seed Collection and Handling	2	
Seed Pretreatment	0.5	1
Establishment of Small Scale Nursery	1.5	
Nursery Techniques	2.5	2
Nursery Record & Management	1.5	
Nursery Protection from Pest & Disease	1.5	
Planting & Tending Techniques	2	1.5
Tree Management Techniques (Natural & Planted)	2	1.5
Protection from Termites and Animals	1.5	
Agroforestry Practices	2	2
Organic Farming	1	
Recommendable Fruit Trees	2	
Grafting and Budding Techniques	1	1
Soil Conservation	2	3
Medicinal & Edible Plants for Rural Life	1.5	
Communication Techniques In Extension Work	2	
Field Survey Method for Extension Work	2	
Methods of Extension	2	
Management of Field Operation with Annual Plan	1	1
Experience in Extension Services through Pilot Forest Scheme	2	
Field Trip to Small Scale Nursery and Model Farmers		3
Study Tour		7
Group Discussions on Topical Issues		3
Subtotal	38	26
Total		64

5. FTAS Course for Agroforestry

Subject Title	Lecture(h.)	Practice(h.)
Perspective of Agroforestry (Introduction)	1	
Agroforestry Systems	2	
Recent Advancement in Agroforestry	2	
Potential Agroforestry Practices	3	
Field Tour to Agroforestry Sites		5
Diagnostic & Design for Agroforestry	2	5
Effective Presentation Techniques for Extension	3	
Practical Presentation by Each Trainee		3
Evaluation of Trainees' Presentation		4
Subtotal	13	17
Total		30

6. Training of Trainers

Subject Title	Lecture(h.)	Practice(h.)
Concept of Social Forestry & Role of Kitui Centre	1	
Lecture Plan Making	2	2
Teaching Materials Preparation & Use	3	
OHP Sheet Making and Operation Techniques	2	2.5
Slide Material Making	2	1.5
Operation of Slide Projector	1	1
Effective Lecture Presentation	3	
Practical Presentation by Each Trainee		3
Evaluation of Trainees' Presentation Practice		4
Subtotal	14	14
Total		28

7. Community Leaders' Course

Subject Title	Lecture(h.)	Practice(h.)
Laws & Regulations Related to Social Forestry	1	
Role of Community Leaders for Promoting Social Forestry	1	
Useful Tree Species for Social Forestry	2	
Seed Collection and Handling	1.5	
Seed Pretreatment	0.5	0.5
Establishment of Small Scale Nursery	1	
Nursery Techniques	1.5	2
Nursery Record & Management	1	
Nursery Protection from Pest & Disease	1	
Planting & Tending Techniques	1.5	1.5
Tree Management Techniques (Natural & Planted)	1.5	1.5
Agroforestry Practices	1.5	1.5
Soil Conservation	1.5	1.5
Medicinal & Edible Plants for Rural Life	1	
Field Trip to Small Scale Nursery and Model Farmers		2
Group Discussions on Topical Issues		2
Subtotal	17.5	12.5
Total		30

8. Follow up Workshop

Subject Title	Lecture(h.)	Practice(h.)
Recent Agroforestry Practices for Semi-Arid Land	3	
Case Study to On-Farm Agroforestry Sites		7
Short Presentation & Recommendation Session		4
Subtotal	3	11
Total		14

9. Field Seminar

Subject Title	Demonstration & Practice
Importance of Tree Planting for Rural Life	1
Popular Tree Species for Social Forestry	2
Simple Seed Collection and Pretreatment Techniques	2
Simple Nursery Establishment & Basic Nursery Techniques	3.5
Common Planting Tending & Management Techniques	3.5
Question & Answer Session	2
Total	14

Key Presentation - 5

**The Social/Agroforestry Project
Training Curriculum: an Analysis of the Kitui Case
Mr. C.O. Nyandiga**

THE SOCIAL/AGROFORESTRY PROJECT **TRAINING CURRICULUM: AN ANALYSIS OF THE KITUI CASE**

C. O. Nyandiga¹

Introduction

After the inception of the forestry institute (KEFRI) in 1986, the Kenya/Japan link was shortly established a year later with the culmination of the Social Forestry Training Project (SFTP) in 1988. Training activities were/are implemented both at Muguga for the National level cadres and Kitui for the regional levels. The Kitui regional level programmes were designed after a training needs survey was carried out in 1987 in Eastern Province, which has been until today the Project designated area of operation. The target population encompasses those involved in grassroot level implementation and practice of Social Forestry principles and concepts. Farmers and other local populace were expected to be the eventual beneficiaries.

Currently, a greater emphasis is on development of packages that stress on dryland (ASAL's) agroforestry concepts and practices. The target group includes: farmers, women's, teachers, front-line extension agents, community leaders and field technical assistants.

The curriculum

The curriculum was designed to be more practice oriented with limited introductory lectures that aimed at imparting the basic technological packages that will enable a trainee to effectively carry on limited tree planting at a level of his/her farm to meet basic domestic needs and supports environmental requirements in a sustainable manner. Such objective undoubtedly needs a multidisciplinary (holistic) approach. Therefore, the Project recruited a diversified experienced personnel (lecturers) from both the government departments (Forest dpts., Ministry of Livestock, Ministry of Agriculture and Energy) and environmental organizations, (KENGO and etc.). As much as possible, the resource persons were nominated from those working within Kitui District to reduce costs but must have proven experience on the related discipline or subject.

From the experiences of the first phase (1987-1992), the second phase (1992 - 1997) programme included additional courses which became apparent from the evaluations on the previous course participants. Mass media approaches such as field seminars, follow-up workshops etc. were included. Research on training impacts and training of trainers have been incorporated primarily because of the need to rapidly train more farmers and systematically evaluate the training schedules. These are expected to supplement the residential training at the centre.

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The curriculum at Kitui Centre undergoes continuous revision each time a course is held. New subjects suggested by the trainees during evaluation are assessed and incorporated after a thorough discussion by the Training sub-committee. The committee draws members from National and regional level centres. Currently the following subjects have been included:-

- Silvopastoral aspects
- Family planning
- Organic farming
- Medicinal and edible plants for rural family use
- Tree management techniques (natural and artificial)

However, some subjects have been suggested but not yet included in curriculum such as:-

- Poultry farming
- Group organization and Management
- Public relations for chiefs and field assistants
- Landscape architecture in schools

The curriculum incorporated about 19 core-subjects. A few more courses were designed to be client oriented and have been included for each target group. This format, however does not include mass media approaches, field seminars, follow-up workshops, and e.t.c. The core subjects addressed issues of:

- seeds collection, handling, tending and pretreatment,
- nurseries establishment, techniques, record keeping, tending and management
- Planting, tending and management techniques
- Agroforestry practices and principles
- Useful, medicinal and recommended fruit trees
- Organic farming, budding and grafting techniques
- A component of discussion (plenary) session, study tours and excursions to women group nurseries and model farmers.

Generally, the course plan for the regional level has nine components as shown in table 1.

Table 1. Course plan for the regional training centre - Kitui

Course Name	Duration	Frequency	Participants
Farmer's Course	2 weeks	2	30
Women's Course	2 weeks	2	30
Teachers Course	2 weeks	2	30
FTA's Course	2 "	1	30
FTA's for agroforestry Course	1 "	1 or 0	30
TOT Course	1 "	0 or 1	15
Community leaders Course	1 "	1	30
Follow-up workshop	3 days	1	30
Field seminar	3 days	1	aprox. >50

Constraints, revision needs and recommendations

The major constraints for curriculum development in the programme is with regard to the nature of review which does not take care of the empirical data collected from the field. Trainees suggestions while on station have been used for redefining curriculum objectives. Instructional methods and materials and aids that should be changing according to curriculum and societal needs have not been exhaustively done, largely because the resource personnel are specialists in their own fields but have no background of effective communication techniques. Training of trainer's was then incorporated in the curriculum to address itself to these needs. It is however, too early to judge its success since it is been tried only once.

The drawback of relying on such curriculum revision method is that if the trainees nomination was not done well, their suggestions may not incorporate valid experiences. There is a tendency to have very young (<20 yrs) or too old (>60 yrs) participants at the regional centre who are currently not very active in Social Forestry. Therefore, curriculum should spell out the age and experience brackets of expected nominees, something that is seriously overlooked in the current curriculum (Kaudia et al. 1993).

The training impact is being carried out and the use of less interfered with areas in terms of NGo's involvement, like Taita Taveta, will form an adequate ground for pre-testing and moderating the current curriculum. A trial site for appropriateness and evaluation of impacts of training should be an issue not to be forgotten in the curriculum.

The curriculum at Kitui is geared towards those who practice some sort of farm forestry. However, the extension bit in the training component is not adequately covered, though, now a pointer towards this direction is taking place through the field seminars. It is my sincere believe that mass propaganda methods forms integral training sessions and should not be left only for the extension sub-programme in the project. The stress on institutional training should be complimented by outdoor training types, extension , field visits and excursions by the participants. The school approach programme, now practiced by extension wing of the SFTP and already planned for by National level training at Muguga should be extended to schools at the grassroot level in Kitui.

Normally curriculum development begins by the needs assessment, deficiency recognition and evaluation of target groups. From these assessments, a curriculum is formulated which has to be tried out. Conversely, the Kitui courses were organized and implemented disregarding the chronological development stages (see Lowry, 1979, Oluoch 1992) only to be found to be necessary later. Despite this, the regional curriculum assessment findings did not deviate from the one developed later (Kaudia et al. 1993) and its relevance was quickly accepted.

At the grassroot level, priority in training methods should be focused on practice and demonstrations as oppose to lectures. Therefore, since the mode of training is residential, an enormous effort has been made by the project on incorporating practical work and visitation. From the analysis presented in table 2, this was not adhere to in the first phase and even the courses planned for the second phase does not tally with this requirements. A revision of the curriculum with special stress on demonstration and practice hours should be enhanced especially with farmers, women's and community leaders courses. Nevertheless, lectures are often conducted with some demonstrations at the level of a lecture hall and this may level out the stress and strength of lectures and practice sessions.

Table 2. Number of hours spent (planned) in lectures and practice / demonstrations for phase I (1986 - 1992) and Phase II (1992-1997)

Course name	Duration	Number of hours spent (proposed) Lectures	Practice
Farmer's	1987 - 1992	59.0 (59%)	41.0 (41%)
	1992 - 1997	33.5 (53%)	30.5 (47%)
Women's	1987 - 1992	61.0 (61%)	39.0 (39%)
	1992 - 1997	34.0 (53%)	30.0 (45%)
Community Leader's	1987 - 1992	63.0 (63%)	37.0 (37%)
	1992 - 1997	17.5 (58%)	12.0 (42%)
FES	1987 - 1992	53.0 (53%)	47.0 (47%)
	1992 - 1997	38.0 (59%)	26.0 (41%)
FTA's	1987 - 1992	67.0 (67%)	33.0 (33%)
	1992 - 1997	13.0 (43%)	17.0 (57%)
Teachers	1987 - 1992	52.0 (52%)	48.0 (48%)
	1992 - 1997	57.0 (58%)	27.0 (42%)
ToT	1987 - 1992	-	-
	1992 - 1997	14.0 (50%)	14.0 (50%)

Key

FES - Frontline extension staff
 FTA's - Field technical assistants
 ToT- Training of Trainers

A review of the first National forestry workshop revealed a thorough coverage on Social forestry policy needs, extension packages and linkages by the line ministries and training institutional establishment (KEFRI/JICA, 1988). The recommendations however, did not crystallize the curriculum outline to achieve institutionalized training schedules.

Inherent forestry management knowledge from the target population and rehabilitative forestry subjects are not adequately incorporated in the syllabi with exceptions of tree uses. Additional topics that may be included in the curriculum to offset the current short comings may include some of those mentioned in table 3 with details expounded in the RESCUE'S report (Nyandiga, 1993).

Table 3. Some courses for consideration in the event of a curriculum revision

Course Name	Time (hrs)	Target group
- Socio-economic and cultural implication in social forestry	2.0	Trainers (ToT)
- The role of pupils as motivators	2.0	Teachers
- Local population involvement in tree planting	2.0	Chiefs
- Participatory forestry development	1.5	FTA's
- Tree regeneration option in ASAL's	2.0	Farmers
- Saplings management in ASAL's	1.0	Farmers
- Riverine ecosystem management	2.0	Farmers, Chiefs opinion Leaders

Evaluation and monitoring

Evaluation and monitoring are processes whereby effectiveness of a training session within a period of training time is valued and assessed. This should be viewed only as a remote exercise organized by the project. It is expected to place a value on attitudes and achievements of such trainings. The method currently being used of questionnaires and field interviews are good and thorough but time consuming. The project further incorporated participative evaluation criteria where the target group play an active role in making assessment of the result by being brought to a level of asking questions and give answers.

Similarly, a "good free" evaluation criteria has been deployed in the curriculum where performances are compared with goals. This method has two components: formative evaluation of the implementers and a summative evaluation for the target group. Such questions as "did the training schedule have any impact on the target recipient" should be directed to the implementers.

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Suggestions of the Participants

SUGGESTIONS OF THE LITERARY

THE LITERARY SUGGESTIONS OF THE LITERARY

EVALUATION SUMMARY

1st NATIONAL SOCIAL FORESTRY WORKSHOP (15 -18 February, 1994)

30 = ANSWERED

LOGISTICS

Invitations

Did you get the invitation in time?

- | | | |
|-----|-----------|------|
| (a) | Too Early | (1) |
| (b) | In time | (25) |
| (c) | Late | (4) |

Transport

How do you rate the transport arrangements?

- | | | |
|-----|------------|------|
| (a) | Adequate | (12) |
| (b) | Inadequate | (4) |

Accommodation

How do you rate the accommodation arrangements?

- | | | |
|-----|------------|------|
| (a) | Adequate | (10) |
| (b) | Inadequate | (4) |

Meals

How do you rate the Meals?

- | | | |
|-----|------|------|
| (a) | Good | (23) |
| (b) | Fair | (7) |
| (c) | Poor | (0) |

Workshop Materials

- | | | |
|-----|------|------|
| (a) | Good | (26) |
| (b) | Fair | (3) |
| (c) | Poor | (0) |

Participants

Comment about the participation in the event.

- * Wouldn't it have been prudent to invite curriculum formulation experts from the universities and K.I.E. (at least 2 people), plus a few farmers
- * In future mix a little bit more, ie. different levels of policy maker etc.
- * Well diversified, but the provincial administration and gender issues be stressed in selection of participants to such a workshop.
- * Participation was fairly good and impressive
- * The participation was very forth coming only that time schedule was not enough.
- * Well attended and the composition of the attenders well balanced
- * Well attended and many different groups attended
- * The participation was good and the interaction was important
- * Participation in the event was good and participants showed seriousness and vigour

WORKSHOP CONTENT

Relevancy

How do you rate the relevancy of this workshop to your work?

- | | |
|---------------------|------|
| (a) very relevant | (21) |
| (b) Fairly relevant | (6) |
| (c) Irrelevant | (0) |

Comment

- * Require one to address critically the content and presentation for the topic
- * Extension case studies should be included in future
- * Should be an annual event.
- * Quite relevant
- * Good for our curriculum development
- * Useful to our way and work, ie. training
- * Will assist in training - and preparation of resource materials
- * Especially focusing in areas hitherto not touched
- * But there was limited time. Too much rushing
- * Curriculum development is a necessary tool for
- * My work cuts across all activities of R&D including human resources development for R&D

Presenters competency

- | | |
|----------------------|------|
| (a) very competent | (19) |
| (b) Fairly competent | (8) |
| (c) Not competent | (0) |

Comment

- * There is need for more resource persons from KEFRI
- * Varied, but generally good and honest
- * The presenters were competent, but lacked presentation skills - to involve participants and to keep the participants awake.
- * Adherence to time allotment should be strict
- * They were of excellent
- * Well versed and involved participatory approach
- * Presenters mostly up to the point
- * No enough time
- * The lead presentations were excellently done

Which session did you like most?

- * Requirements on curriculum development
- * Mr. Gikonyo's presentation
- * Agroforestry training needs in Kenya
- * Kanani's exposition and challenge
- * Agroforestry training needs in Kenya
- * Agroforestry training and extension
- * Extension
- * The social / AF Project training curriculum
- * Presentation by Dr. Nyamai
- * Critique and discussion of curriculum
- * Discussion although it required double the time given
- * Group discussion
- * Discussion of group presented work
- * Session two, because it was participatory
- * The group discussions, though too much was expected from it in a very short time. The seminar should have run an extra day if curriculum perfection was to be fully realised.
- * Brain storming ie. Discussion
- * Discussion session
- * The group discussions and curriculum analysis sessions.
- * Group discussion despite the time constraint
- * Group discussions
- * Group discussions
- * Group discussion and presentation
- * Presentation were thrilling and exposing
- * The presentation sessions were very good. The discussions were a bit rushed.
- * All
- * All

What area would you have liked discussed in such a forum that wasn't?

- * Collaboration
- * More on ways and improving collaboration between operating agencies
- * Strategies for strengthening research - extension linkages
- * More time for curriculum review
- * Case studies in the three areas discussed in GP 1-3
- * A detailed review of what has been done, eg. in the case of case studies
- * There should have been a topic on how to prepare a curriculum - what points to consider
- * The role of women as change agents
- * Communication skills
- * Utilization and marketing AF products was not discussed exhaustively as I would have liked
- * The involvement of technocrats / politicians in such a workshop
- * More focus on the extension / technical needs of the practising farmers
- * Need to select clientele / consumer
- * Competency of the resource persons
- * Non- apart from little time for the whole workshop
- * N/A
- * None

Future Workshops

Suggest three areas you would like future workshops to cover.

- * Material to be used for AF teaching
- * Targeted farmers choice
- * Resource person quality to be used, especially at Regional Centre
- * Other landuse systems, which can be used (non-AF interventions)
- * Agroforestry needs assessment - results of case studies
- * Agroforestry and commercialization and economic value of agroforestry
- * Development and adaptation of agroforestry in Kenya
- * Case studies based on the curriculum
- * Status of SFTP
- * Monitoring and evaluation methods
- * Inter-institutional linkages in Agroforestry practice
- * Agroforestry practice and Commercial impact
- * Value of forestry research in social forestry development
- * Communication skills
- * Socio-cultural / economic studies
- * Bee-keeping
- * AF supporting areas
- * More discussion on ASAL AF technologies
- * Discussion on the needs of the farmers to enhance adoption
- * Presentation of all the training materials / modules so far produced in the country and try to harmonize the materials.
- * Role of the Youth Groups
- * Community participation in project design and implementation
- * Avenues for marketing of agroforestry products
- * Ways of marketing AF products
- * The methodologies for dissemination of AF technologies
- * A workshop in two years' time to evaluate the curriculum developed and verified now
- * To give an overview of syllabus and curriculum

(Other Comments)

- * Maybe give 1 day discussion & 1 day presentation to have a more thorough jobs.
- * More time should be given to group discussions
- * Reduce responses or questions from only a few participants in the conference room
- * The curriculum for discussion should have been sent with invitations for better analysis
- * More time should be given group discussions
- * Calculate amount of work against time allocated
- * Increase workshop duration to avoid hasty conclusions
- * Develop curriculum for political leaders / decision (policy) makers.
- * Address a bit more on the gender issue
- * Impacts after workshop
- * A more diversified / mixed participants
- * Should be exposed to other curriculum
- * Should deal with more discussions
- * More time for presentation and adequate time to prepare materials

General

What did you like Most About the whole workshop?

- * Group discussions
- * Group discussions
- * Group discussion sessions
- * Frank discussions
- * Brain storming
- * Exposure of the curriculum
- * It was very educative
- * Variety of views from many institutions
- * Organization
- * Facilitators were very organised
- * The attentiveness of organizers
- * The organization
- * Well conducted
- * The materials provided
- * Bags and discussion
- * Turnout, allowances
- * Inclusion of NGO's
- * The interaction aspect
- * Interactions
- * Seriousness in dealing with issues
- * Relevance and commitment
- * Keeping of time
- * Time was well spent
- * Well timed

AND What did you hate most ?

- * Time management is poor
 - * Time constraints
 - * Inadequate time allocated for the workshop
 - * Very little time to revise the document.
 - * Too little time in discussion
 - * Time was too short
 - * Time was too short. A whole week would have been adequate.
 - * Time not adequate
 - * Timing span
 - * Sitting arrangement
 - * People from OP were not included
 - * No entertainment on first day
 - * The boredom on the evening of the reporting day. there wasn't even a T.V. to watch and so we had to retire to our rooms as early as 8 pm.
 - * Being enclosed in the campus. Could have been given a safari in the evening to town.
 - * The reception on arrival and the 1st evening - very boring -
 - * The organizers not well prepared to receive participants
 - * The way one of the course organizers was know-it-all and top-down
 - * The washing rooms
 - * Delays in meals preparation
 - * N/A
 - * Nothing
- | | | | |
|---|------|---|-----------------------|
| * | N/A | * | Nothing |
| * | None | * | Nothing in particular |

