

ANNEX D. Improved Cooking Stove

ANNEX D1 Mid-term Evaluation Data Number of Constructed Stove

(1/2)

Mid-term Evaluation Data (1)

Improved Cooking Stove

Item	Name of Village	No. 1 Makonokay a	No. 2 Siyamdima	No. 3 Kaumbata	No. 4 Mdala	No. 5 Nanjiwa	No. 6 Chikoja	No. 7 Manjero	No. 8 Teula	No. 9 Chakana	No. 10 Lemu	No. 11 Magombo Ngondo	No. 12 Kam mata	No. 13 Kumanda	No. 14 Tamvekenji	No. 15 Chilangali	
1	Number of constructed	35	25	18	19	10	60	18	14	4	42	22	20	6	8	7	
1)	Usable number	35	25	17	19	9	57	18	12	4	41	10	-	6	-	4	
2)	Damaged number	-	-	1	-	1	3	0	2	-	1	12	-	0	-	3	
2	Two-hole stove (out of above)	5	3	0	4	0	4	0	7	-	2	2	5	0	-	0	
1)	Usable number (out of above)	5	3	0	4	0	4	0	7	-	2	2	-	0	-	0	
2)	Damaged number (out of above)	-	-	0	-	0	-	-	-	-	-	-	-	0	-	0	
3	Firewood consumption																
1)	per day (kg or bundle)	1 bundle/wk	1 bundle/wk	1 bundle/wk	2 bundles/wk	1 bundle/wk	10 bundles	12 bundle	10 bundles	2 bundles/wk	1 bundle/wk	1 bundle/wk	5 bundles	10 bundles	1 bundle	10 bundles	
2)	per month (kg or bundle)	4 bundles/m	4 bundle/m	-	-	10 bundles/m	300 bundles	360 bundle	300 bundles	8 bundles/m	4 bundle/m	4 bundles/wk	150 bundles	300 bundles	30 bundle	300 bundles	
3)	Frequency to fetch firewood	1	1	1 day/wk	1 day/wk	4 days	4 times/wk	3 times/wk	2 times/wk	2	once/wk	4 times/m	4 times/wk	5 times/wk	2 times/wk	4 times/wk	
4)	Frequency reduction to fetch firewood	-	-	-	-	1 hr	2 times/wk	1 time/wk	1 time/wk	-	-	-	1 time/wk	2 times/wk	1 time/wk	1 time/wk	
4	Time consumption																
1)	Time to fetch firewood (hour)	1 hr	1 hr	8 hrs	2 hrs	8 hrs	35 hrs	1.5 hr	2 hrs	1 hr	-	-	2.5 hrs	2 hrs	2.5 hrs	3 hrs	
2)	Time reduction to fetch firewood (hr)	-	-	3 hrs	5 days	2 hrs	1 hrs	45 min	1 hr	-	-	-	1.5 hrs	1 hr	1 hr	1.5 hrs	
5	Time consumption for cooking																
1)	Time for cooking	1 hr	1 hr	5 hrs	-	1 hr	1 hr	1 hr	1,25 hr	3 hrs	1 hr	6 hrs	2 hrs	1 hr	2 hr	1 hr	
2)	Time reduction for cooking	30 min.	30 min.	2 hrs	-	30 min.	30 min.	30 min.	45 min.	2 hrs	less than 1 hr	2 hrs	50 min.	30 min	1 hr	30 min.	
6	Others																
				Less firewood used. Less smoke compare to 3 mafuwa	Less firewood used. Less smoke compare to 3 mafuwa	People are used to mafuwa.	Most of them are started to use the new mafuwa.	Stoves are constructed outside. They are damaged easily.			You can prepare two/three dishes at once.	The bigger the door the consumption of wood are more.	People are used to mafuwa.				
				Cook more pots at once.	Cook more pots at once.	Most of them are started to use the new mafuwa.	Stoves are constructed outside. They are damaged easily.			There's reduction of time to cook	There's reduction of hoises should be closed.	Most of them are started to use the new mafuwa.					
				Time reduction.	Time reduction.					Reduced amount of firewood.		Stoves are constructed outside. They are damaged easily.					

Number of Constructed Cooking Stove

Name of Village	Mid-term Evaluation (May 2003)				Mid-term Evaluation (End of Dec. 2003)				Evaluation (End of Jun. 2004)			
	Total Number	(Usable Number)	(Two- hole stove)	(usable two- hole)	Total Number	(Usable Number)	(Two- hole stove)	(usable two- hole)	Total Number	(Usable Number)	(Two- hole stove)	(usable two- hole)
1 Makanokaya	35	35	5	5	35		5	5	35	35	5	5
2 Siyamdima	25	25	3	3	25	25	0	0	28	25	3	3
3 Kaumbata	18	17			18	18	0	0	18	15	0	0
4 Mdala	19	19	4	4	20	20	4	4	20	20	4	4
5 Namnjiwa	10	9	0	0	10	7	0	0	10	7	0	0
6 Chikoja	60	57	4	4	64	58			64	55	6	6
7 Manjero	18	18	0	0	18	17			18	17	0	0
8 Teula	14	12	7		14	12			14	12	2	2
9 Chakana	4	4			5	4			5	4	0	0
10 Lemu	42	41	2		48	45	5	5	48	45	5	5
11 Magombo Ngondo	22	10	2		22	22			22	22	0	0
12 Kam'mata	20		5		20	18			20	18	5	4
13 Kumanda	6	6	0	0	8	6			8	6	0	0
14 Tambekenji	8				10	10			10	10	0	0
15 Chilangali	7	4	0	0	14	13			14	13	3	3
16 Daniel Mbedza	1	1			2	2			2	2	0	0
17 Kamwendo	45	40	22	20	46				46	40	22	22
18 Peter Bilila	34	33	0		36				37	37	0	0
19 Ndemanje	17	15	0		21				21	14	0	0
20 Simon Mpombe	22	16	0		22				22	10	0	0
21 Kateya	18	7	9		10				18	5	0	0
22 Maluwa	9	9	0		10				10	7	0	0
23 Kumponda	22	18	9		25				25	21	9	9
24 Kumisati Chigumula	44	31	21	12	46				46	31	0	0
Total Villages	520	427	93	48	549	277	14	14	561	471	64	63

ANNEX D2 Results of Test on Cooking

(1/2)

Cooking Stove Results of Test

No.	Type	Date	Village Name/ Household Name	Cooking Materials	Firewood Weight (kg)		Time (min)		Consumption (g/minute)	Remarks/comments from household
					Start	Finish	Start	Finish		
1	Modern (Mbaulta)	Jul. 8, 2003	Ndemanje/ Ndemanje	Nsima 1.35kg, Chicken 1.05kg, Vegetable 2.05kg.	4.50	2.30	10:21	11:17	56	Modern one less consumes total firewood. However, its consumption per minute is larger. Tester: Ms. Chagoma, Mr. Chunga
	Traditional (Mafuwa)	Jul. 8, 2003	Ndemanje/ Ndemanje	Nsima 1.4kg, Chicken 1.2kg, Vegetable 2.2kg.	4.50	1.65	10:24	11:45	81	
	Difference					-0.65			-25.00	
2	Modern (Mbaulta)	Jul. 15, 2003	Peter Biliral/ Ms James	Nsima 1.45kg, Chicken 1.1kg, Vegetable 2.15kg.	4.65	1.25	10:02	11:21	79	Modern one less consumes firewood. Also, its consumption per minute is less. Tester: Ms. Chagoma, Ms. Banda
	Traditional (Mafuwa)	Jul. 15, 2003	Peter Biliral/ Ms James	Nsima 1.2kg, Chicken 1.2kg, Vegetable 2.05kg.	6.15	1.20	10:20	11:59	109	
	Difference					-1.55			-30.00	
3	Modern (Mbaulta)	Jul. 17, 2003	Kammate/ Ms. Brown	Nsima 1.3kg, Chicken 1.31kg, Vegetable 2.3kg.	4.60	1.00	10:45	12:06	81	Modern one consumes more firewood. Also, its consumption per minute is more. Because its mouth is rather wider than the recommended. Tester: Ms. Chagoma, Ms. Lipato
	Traditional (Mafuwa)	Jul. 17, 2003	Kammate/ Ms. Brown	Nsima 1.2kg, Chicken 1.2kg, Vegetable 2.25kg.	4.25	1.25	10:47	12:22	95	
	Difference					0.60			-14.00	
4	Modern (Mbaulta)	Jul. 18, 2003	Tamvekenji/ Tanvekenji	Nsima 1.5kg, Chicken 1.3kg, Vegetable 1.95kg.	3.65	1.10	10:25	11:35	70	Modern one less consumes firewood. Also, its consumption per minute is less. Tester: Ms. Chagoma, Ms. Lipato
	Traditional (Mafuwa)	Jul. 18, 2003	Tamvekenji/ Tanvekenji	Nsima 1.3kg, Chicken 1.25kg, Vegetable 2.3kg.	5.00	0.95	10:31	12:15	104	
	Difference					-1.50			-34.00	
5	Modern (Mbaulta)	Jul. 22, 2003	Mdala/ Mr. Khomba	Nsima 1.5kg, Chicken 1.25kg, Vegetable 2.35kg.	3.85	1.00	12:50	13:55	65	Modern one less consumes total firewood. However, its consumption per minute is larger. Tester: Ms. Chirwa, Ms. Khonje, Ms. Chagoma
	Traditional (Mafuwa)	Jul. 22, 2003	Mdala/ Mr. Khomba	Nsima 1.85kg, Chicken 1.25kg, Vegetable 2.45kg.	4.50	1.30	12:44	14:20	96	
	Difference					-0.35			-31.00	
6	Modern (Mbaulta)	Jul. 24, 2003	Makonokaya / Ms. Kamsto	Nsima 2.0kg, Chicken 1.3kg, Vegetable 0.6kg.	4.80	1.20	11:10	12:00	50	Modern one less consumes total firewood. However, its consumption per minute is larger. Tester: Ms. Chirwa, Ms. Khonje, Mr. Mbewe, Mr. Khomba
	Traditional (Mafuwa)	Jul. 24, 2003	Makonokaya / Ms. Kamsto	Nsima 2.0kg, Chicken 1.4kg, Vegetable 0.6kg.	4.90	0.50	11:15	12:26	71	
	Difference					-0.80			-21.00	

Cooking Stove Results of Test

1 Comments:

- (1) Traditional three stone stove may be better consumption per minute than modern one.
- (2) However, Total consumption of firewood of modern stove is better than traditional one.
- (3) Moreover, cooking time by modern stove is shorter than traditional one.

2 Recommendation:

To have the best results on the improved stove and fulfil our purpose of firewood and time saving, we have to adjust the measurements on the fireplace, it should be 16–18cm for feeding mouth and 20–23cm for inside height, as shown below:

- #### 3. Construction Materials
- (1) Brick: large size, around 80 pcs
 - (2) Sludged mud: for plastering
 - (3) Flat stone: some for top holes
- #### 4. Construction time
- (1) 1.0 to 1.5 hrs by few labors.

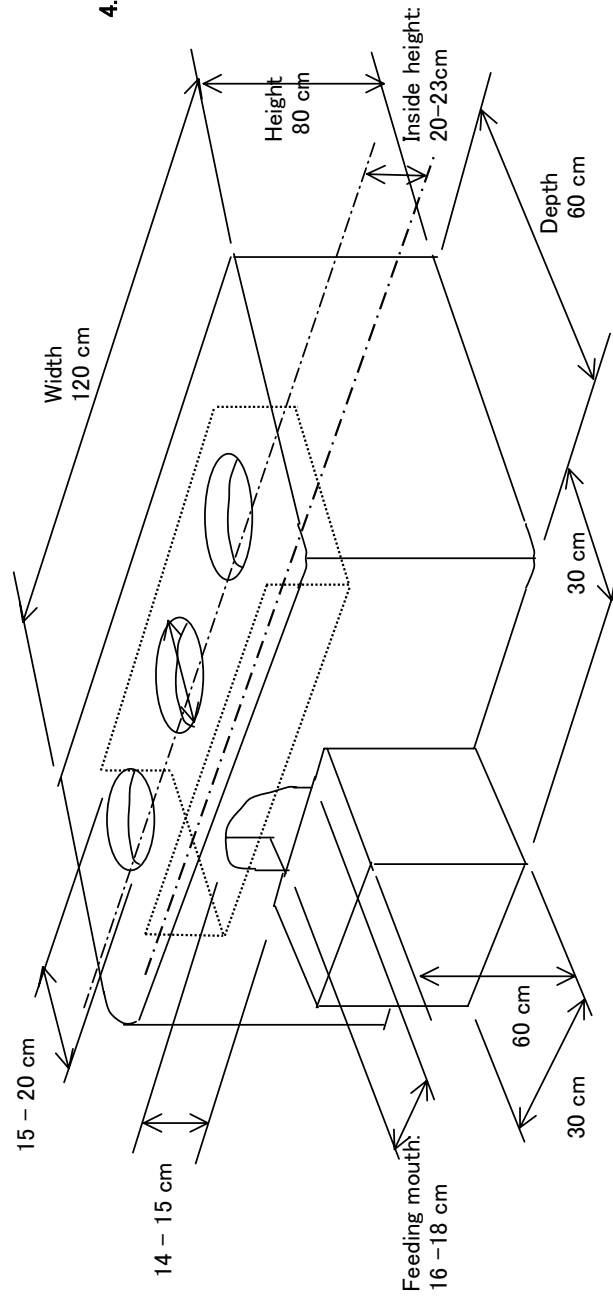


Figure 1. Improved Cooking Stove
(2nd phase)

ANNEX E. Project Design Matrix

ANNEX E1

Summary of Evaluation by PDM

Evaluation by PDM

Each component was evaluated through PDM. This evaluation was based on five evaluation criteria, namely, efficiency, effectiveness, impact, relevance and sustainability. The detailed processes of evaluation and PDM are shown in Annex E. The definition of five criteria is shown in Table 4.7

Table 1 Definition of five Criteria

Efficiency	Productivity of the implementation process: how efficiently the various inputs are converted into outputs
Effectiveness	Effectiveness concerns the extent to which the project purpose has been achieved, or is expected to be achieved, in relation to the outputs produced by the project
Impact	Impact is intended and unintended, direct and indirect, positive and negative changes as a results of the project
Relevance	Relevance is to question whether the outputs, project purpose and overall goal are still in keeping with the priority needs and concerns at the time of evaluation
Sustainability	Sustainability of the development project is to question whether the project benefits are likely to continue after the external aid has come to an end

Evaluation summary of nursery works by PDM is Table 4.8:

Table 2 Evaluation summary of Nursery Works

Five Evaluation Criteria	Evaluation Results	Basis
Efficiency	Not so high	Enough materials and personnel input are utilized for nursery works. Rates of participation in nursery and out-planting works are namely, 36%, 44%, a little less than half.
Effectiveness	Mostly achieved	Survival rate of out-planted seedlings is about 60%
Impact	Positive impacts only, but yet to be observed	Soil fertilization by forestation is expected, however, the impact has not been materialized
Relevance	Quite high	Almost all the villages cited forest degradation as significant problem. Afforestation is a big issue for Malawi Government
Sustainability	Acceptable	Incomes from IGA are distributed to participants in some villages. Continuous nursery works are managed by people, no more inputs such as seeds from outside are necessary

According to evaluation listed in Table 4.8, participants rate for nursery activity is less than 50%, it can be said that efficiency is to be improved. Survival rate must be improved through more active collaboration. Concerning sustainability, system of income distribution from IGA in all the villages must be established as soon as possible. On the other hand, seed banks have been utilized, which make it possible for people to continue nursery activity without new input from outside. Hence, suitability of the work is considered acceptable.

Evaluation summary of IGA activities, namely, goat rearing, treadle pump irrigation, Guinea fowl rearing, bread baking and aquaculture are shown below. Their project purposes are more or less similar, focusing “income increase”. Generally, “effectiveness” of these projects is relatively low because of remaining the stage yet to generate income. To the contrary, the “relevance” of each project is high, because poverty reduction is a big issue in the area to overcome. On the other hand, since IGAs are now manageable by the villagers, suitability is judged relative high.

Table 3 Evaluation summary of Goat Rearing

Five Evaluation Criteria	Evaluation Results	Basis
Efficiency	Not so high	Cages (Khola) are not necessarily enough for prevention of thieves. Although vaccines are thought to be effective for diseases, sixteen goats died possibly of parasite fluke.
Effectiveness	Not so high	So many newborn kids are acquired, but the group members have not sold them and earned any cash.
Impact	Positive impacts only, but yet to be observed	Any impact such as income improvement has not manifested because increase of goat heads have not yet remarkably occur
Relevance	High	Poverty reduction is key factor in the area
Sustainability	Relatively high	Equitable system of goats distribution within the group members have already been established in some villages

As shown in Table 4.9, goat rearing has become most popular IGA in the area due to quick productivity and little trouble. But it takes time until all participants get their own goats and get income by sale of goats. It results in “not so high effectiveness”. On the other hand, as most of villages make a decision on their distribution procedure within the group of participants, “sustainability” is thought to be relatively high.

Table 4 Evaluation summary of Treadle Pumps Irrigation

Five Evaluation Criteria	Evaluation Results	Basis
Efficiency	High	People understand the skill of irrigation. The input material is efficiently used
Effectiveness	Not so high	Members in some villages got income, but in many cases they keep the income and necessarily don't share it. Other villages couldn't gain any income due to water sources dried up
Impact	Positive impacts only, but yet to be observed	Any impacts such as income improvement due to increase of crop sale have yet to occur
Relevance	High	Poverty reduction is key factor in the area
Sustainability	Moderate	Equal system of income distribution within the members has been established in a few villages. Securing water sources is difficult

People came to learn the method of treadle pump irrigation through repeated trial and error. However, some villages didn't succeed to gain crop products due to some adverse natural conditions such as surface water shortage. Hence, it led to “not high effectiveness”.

Table 5 Evaluation summary of Guinea Fowl Rearing

Five Evaluation Criteria	Evaluation Results	Basis
Efficiency	Relatively low	Cages are suitable for prevention of thieves and dogs Although vaccines are thought to be effective for diseases, fifteen fowls died. Some fowls laid eggs, but none of them hatched yet owing to lack of hatching hens.
Effectiveness	Low	No income from Guinea fowls rearing yet realized
Impact	Positive impacts only, but yet to be observed	Any impact such as income improvement due to increase of number of fowls has yet to occur
Relevance	High	Poverty reduction is key factor in the area
Sustainability	Unknown	Equitable system of Guinea fowls and eggs distribution within the members have not yet been established

Progress of Guinea fowl rearing is not satisfactory due to various reasons described in chapter 3.7. That is why “efficiency” and “effectiveness” are relatively low.

Table 6 Evaluation summary of Bee Keeping

Five Evaluation Criteria	Evaluation Results	Basis
Efficiency	Relatively low	Not all bee hives are colonized
Effectiveness	Low	Only a few village gained income from apiculture
Impact	Positive impacts only, but yet to be observed	Any impacts such as income improvement due to sale of honey have yet to occur
Relevance	High	Poverty reduction is key factor in the area
Sustainability	Unknown	Equal system of income distribution of apiculture within the members have not yet been established

Bee keeping is not so progressed, due to the reasons described in previous chapter, they learned the way of managing bee management, honey harvesting, though. Further technical improvement of participants through training is desirable.

Table 7 Evaluation summary of bread baking

Five Evaluation Criteria	Evaluation Results	Basis
Efficiency	High	All members learned how to bake bread
Effectiveness	Relatively low	The members have already gotten about Mk3,000 from bread baking, but they haven't shared it for the sake of rotation fund
Impact	Positive and negative impacts observed, needs further monitoring	Any impacts such as income improvement due to sale of bread have yet to occur. Intensive bread baking needs much firewood
Relevance	High	Poverty reduction is key factor in the area
Sustainability	Relatively high	Reproduction cycle continues for 10 weeks without adding input help from outside. Continuous firewood supply is needed

Bread baking is one of most advanced IGAs installed in the area. Income gained by sale of bread is kept for purchase of raw materials for continuous bread baking. But enough firewood supply is indispensable for sustainability of this activity.

Table 8 Evaluation summary of aquaculture

Five Evaluation Criteria	Evaluation Results	Basis
Efficiency	High	People learned how to repair and maintain net
Effectiveness	High	They have earned about MK30,000
Impact	Both negative and positive impacts	Income improvement have already occurred, but excessive fish activity might give damage to fish resource
Relevance	High	Poverty reduction is key factor in the area
Sustainability	High on condition that fish resource is sustained	Considerable catch still continued through excessive exploitation is major concern

Aquaculture is also satisfactory IGA in the area, the people got about MK.30,000 by this IGA. The fish resource in the Milala dam is quite rich, they don't have to input any fry to the dam at this time. But special consideration for conservation of fish resource has to be taken for sustainable aquaculture.

ANNEX E2

PDM for individual activities by group

Project Design Matrix (PDM) 1

Date _____ :

Target Group : Makonokaya (Group R)

Project Name _____ :

: Nursery Duration of the project :Participants: 3 Males and 17 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal Soil fertility is improved. Soil water holding capacity is improved. Fetching firewood becomes easier.	<ul style="list-style-type: none"> • Crop productivity is increased by 30% • Time for fetching firewood is decreased by 50% 	<ul style="list-style-type: none"> • Observation • Committee records 	<ul style="list-style-type: none"> • Policy of Malawi Government is not changed
Project Purpose Seedlings planted in woodlots are grown satisfactory	<ul style="list-style-type: none"> • Survival rate is more than 60% 	<ul style="list-style-type: none"> • Communal records • PIU reports • Observation 	<ul style="list-style-type: none"> • Population is not increased rapidly • Demand of firewood is not increased rapidly
Outputs <ul style="list-style-type: none"> • System for reforestation is set up • Villagers manage the seedlings out-planted properly 	<ul style="list-style-type: none"> • 50% of villagers participate in nursery activity regularly 	<ul style="list-style-type: none"> • Nursery committee records • VNRMC records • Committee records 	<ul style="list-style-type: none"> • No severe disaster • No severe termites attack
Activities <ul style="list-style-type: none"> • Nursery committee formation • Training for tree planting • Land cleaning • Nursery fence lay out • Organization of nursery materials • Nursery soil collection • Pot-filling, seed-sawing, watering, root pruning • Rules & regulation formation • Tree nursery established • Seedlings for woodlot are out-planted • Seedlings for agro-forestry are out-planted • Villagers manage the seedlings out-planted properly • Regular meetings concerning of nursery are hold 	Inputs <ul style="list-style-type: none"> • Hoes • Watering can • Rakes • Wheel burrow • Seeds • Tape • Plastic tube • Knife • PIU members 	<ul style="list-style-type: none"> • No one monopolize the tools for nursery • People realize importance of forestation <p>Pre-conditions Villagers don't oppose the project</p>	

Project Design Matrix (PDM) 1

Date _____ :

Target Group : Sivamdima (Group R)

Project Name _____ :

: Nursery Duration of the project :Participants: 25 Males and 5 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal Increase of forest area	<ul style="list-style-type: none"> • Reforestation area is increased 45% 	<ul style="list-style-type: none"> • Observation • Committee records 	<ul style="list-style-type: none"> • Policy of Malawi Government is not changed
Project Purpose Seedlings planted in woodlots are grown satisfactory	<ul style="list-style-type: none"> • Survival rate is more than 60% 	<ul style="list-style-type: none"> • Communal records • PIU reports • Observation 	<ul style="list-style-type: none"> • Population is not increased rapidly • Demand of firewood is not increased rapidly
Outputs <ul style="list-style-type: none"> • Villagers manage the seedlings out-planted properly 	<ul style="list-style-type: none"> • More than 50% of villagers participate in nursery activity • Weekly meetings of nursery are hold 	<ul style="list-style-type: none"> • Nursery committee records • VNRMC records • Committee records 	<ul style="list-style-type: none"> • No severe disaster • No severe termites attack
Activities <ul style="list-style-type: none"> • Nursery committee formation • Training for tree planting • Land cleaning • Nursery fence lay out • Organization of nursery materials • Nursery soil collection • Pot-filling, seed-sawing, watering, root pruning • Rules & regulation formation • Tree nursery established • Seedlings for woodlot are out-planted • Seedlings for agro-forestry are out-planted • Regular meetings concerning of nursery are hold 	Inputs <ul style="list-style-type: none"> • Hoes • Watering can • Rakes • Wheel burrow • Seeds • Tape • Plastic tube • Pangar knife 	<ul style="list-style-type: none"> • No one monopolize the tools for nursery • People realize importance of forestation <p>Pre-conditions Villagers don't oppose the project</p>	

Project Design Matrix (PDM) 1

Date _____ Target Group : Kaumbata (Group R)
 Project Name _____ : Nursery Duration of the project : _____
 Participants: 7 Males and 4 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Soil fertility is improved. Soil water holding capacity is improved. Fetching firewood becomes easier.	<ul style="list-style-type: none"> • Crop productivity is increased by 30% • Time for fetching firewood is decreased by 50% 	<ul style="list-style-type: none"> • Observation • Committee records 	<ul style="list-style-type: none"> • Policy of Malawi Government is not changed
Project Purpose			
Seedlings planted in woodlots are grown satisfactory	<ul style="list-style-type: none"> • Survival rate is more than 60% 	<ul style="list-style-type: none"> • Communal records • PIU reports • Observation 	<ul style="list-style-type: none"> • Population is not increased rapidly • Demand of firewood is not increased rapidly
Outputs			
<ul style="list-style-type: none"> • Villagers manage the seedlings out-planted properly • Regular meetings concerning of nursery are hold 	<ul style="list-style-type: none"> • 50% of villagers participate in nursery activity • Weekly meetings of nursery are hold 	<ul style="list-style-type: none"> • Nursery committee records • VNRMC records • Committee records 	<ul style="list-style-type: none"> • No severe disaster • No severe termites attack
Activities		Inputs	
<ul style="list-style-type: none"> • Nursery committee formation • Training for tree planting • Land cleaning • Nursery fence lay out • Organization of nursery materials • Nursery soil collection • Pot-filling, seed-sawing, watering, root pruning • Rules & regulation formation • Tree nursery established • Seedlings for woodlot are out-planted • Seedlings for agro-forestry are out-planted 	<ul style="list-style-type: none"> • Hoes • Watering can • Rakes • Wheel burrow • Seeds • Tape • Plastic tube • Pangar knife 	<ul style="list-style-type: none"> • No one monopolize the tools for nursery • People realize importance of forestation <p>Pre-conditions Villagers don't oppose the project</p>	

Project Design Matrix (PDM) 1

Date _____ Target Group : Mdala
 Project Name _____ : Community forestry (Nursery) Duration of the project : 2002-2005
 Participants: _____

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Soil fertility is improved. Soil water holding capacity is improved. Fetching firewood becomes easier.	<ul style="list-style-type: none"> • Crop productivity is increased by 30% • Time for fetching firewood is decreased by 50% 	<ul style="list-style-type: none"> • Observation • Committee records 	<ul style="list-style-type: none"> • Policy of Malawi Government is not changed
Project Purpose			
Seedlings planted in woodlots are grown satisfactory	<ul style="list-style-type: none"> • Survival rate is more than 60% 	<ul style="list-style-type: none"> • Communal records • PIU reports • Observation 	<ul style="list-style-type: none"> • Population is not increased rapidly • Demand of firewood is not increased rapidly
Outputs			
<ul style="list-style-type: none"> • Villagers manage the seedlings out-planted properly • Regular meetings concerning of nursery are hold 	<ul style="list-style-type: none"> • 50% of villagers participate in nursery activity • Weekly meetings of nursery are hold 	<ul style="list-style-type: none"> • Nursery committee records • VNRMC records • Observation • Committee records 	<ul style="list-style-type: none"> • No severe disaster • No severe termites attack
Activities		Inputs	
<ul style="list-style-type: none"> • Nursery committee formation • Training for tree planting • Land cleaning • Nursery fence lay out • Organization of nursery materials • Nursery soil collection • Pot-filling, seed-sawing, watering, root pruning • Rules & regulation formation • Tree nursery established • Seedlings for woodlot are out-planted • Seedlings for agro-forestry are out-planted 	<ul style="list-style-type: none"> • Hoes • Watering can • Rakes • Wheel burrow • Seeds • Tape • Plastic tube • Pangar knife 	<ul style="list-style-type: none"> • No one monopolize the tools for nursery • People realize importance of forestation <p>Pre-conditions Villagers don't oppose the project</p>	

Project Design Matrix (PDM) 1

Date : 25/7/03

Target Group : Nanjiwa (Group R)

Duration of the project : 2002-2005

Project Name: Nursery

Participants: 4 males and 10 females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal <ul style="list-style-type: none"> • Soil fertility is improved. • Soil water holding capacity is improved. • Fetching firewood becomes easier. 	<ul style="list-style-type: none"> • Crop productivity is increased by 30% • Time for fetching firewood is decreased by 50% 	<ul style="list-style-type: none"> • Observation • Committee records 	<ul style="list-style-type: none"> • Policy of Malawi Government is not changed
Project Purpose Seedlings planted in woodlots are grown satisfactory	<ul style="list-style-type: none"> • Survival rate is more than 60 	<ul style="list-style-type: none"> • Communal records • PIU reports • Observation 	<ul style="list-style-type: none"> • Population is not increased rapidly • Demand of firewood is not increased rapidly
Outputs Community forestation system is set up Villagers manage the seedlings out-planted properly	<ul style="list-style-type: none"> • 50% of villagers participate in nursery activity • Weekly meetings of nursery are hold 	<ul style="list-style-type: none"> • Nursery committee records • VNRMC records • Observation • Committee records 	<ul style="list-style-type: none"> • No severe disaster • No severe termites attack
Activities <ul style="list-style-type: none"> • Nursery committee formation • Training for tree planting • Land cleaning • Nursery fence lay out • Organization of nursery materials • Nursery soil collection • Pot-filling, seed-sowing, watering, root pruning • Rules & regulation formation • Tree nursery established • Seedlings for woodlot are out-planted • Seedlings for agro-forestry are out-planted • Villagers manage the seedlings out-planted properly • Regular meetings concerning of nursery are hold 	Inputs <ul style="list-style-type: none"> • Hoes • Watering can • Rakes • Wheel burrow • Seeds • Tape • Plastic tube • Pangar knife 	<ul style="list-style-type: none"> • No one monopolize the tools for nursery • People realize importance of forestation <p>Pre-conditions</p> <ul style="list-style-type: none"> • Villagers don't oppose the project 	

Project Design Matrix : CHIKOJA Village

PROJECT NAME: Forestry, Soil/Water & Energy Conservation DURATION: June 2002 – August 2004

Group: Q Date: 11th AUGUST, 2003 ATTENDANCE: Male: 10 Female: 17

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Increased Availability of Environmental/Natural Products/Services.	At Least a 40% increase in the availability of environmental/natural resource products/services by 2010.	<ul style="list-style-type: none"> - Household Survey Reports. - Evaluation Reports. 	No change of Malawi Government's policy
Project Purpose: - Environmental/natural resource rehabilitation	- At least 60% survival rate after out-planting.	<ul style="list-style-type: none"> - PIU monitoring reports - Mid-term Evaluation Reports 	<ul style="list-style-type: none"> -No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal Woodlot/forest is established and managed.	-At Least 50% of households join nursery works.	<ul style="list-style-type: none"> - Nursery Records - PIU monitoring Reports. 	- There is enough rainfall to support tree planting.
Activities: <ul style="list-style-type: none"> - Establish Committee - Train Committee - Establish and manage nursery. - Establish & manage communal woodlot/forest. - Plant and manage individual household trees. 	Inputs <ul style="list-style-type: none"> -Hoes -Watering can -Rakes -Wheel burrow -Seeds -Tape 	<ul style="list-style-type: none"> -Plastic tube -Knife -PIU members -Manual -Labor force from villagers 	<p>Important Assumption</p> -Availability of water resource such as stream.
			<p>Precondition</p> - Environmental/natural resource degradation problem requiring redress.

Project Design Matrix : MANJELO Village

PROJECT NAME: Forestry, Soil/Water & Energy Conservation **DURATION:** June 2002 – August 2004

Group: Q **Date:** 12TH AUGUST, 2003 **ATTENDANCE:** Male: 7 Female: 16

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Increased Availability of forestry and related Products/Services.	- At Least a 30% increase in the availability of environmental/natural resource products/services by 2010.	- Household Survey Reports. - Evaluation Reports.	-No change of Malawi Government's policy
Project Purpose: - Environmental/natural resource rehabilitation	- At least 60% survival rate after out-planting.	- PIU monitoring reports - Vegetation Cover Maps - Mid-term Evaluation Reports	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: Communal Woodlot/forest is established and managed. Individual household tree planting is done.	-At Least 50% of households join nursery works.	- Nursery Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- There is enough rainfall to support tree planting.
Activities:	Inputs		Important Assumption
- Establish Committee - Train Committee - Establish and manage nursery. - Establish & manage communal woodlot/forest. - Plant and manage individual household trees.	-Hoes -Watering can -Rakes -Wheel burrow -Seeds -Tape	-Plastic tube -Knife -PIU members -Manual -Labor force from villagers	-Availability of the water resource such as stream Precondition - Environmental/natural resource degradation problem requiring redress.

Project Design Matrix : TEULA Village

PROJECT NAME: Forestry, Soil/Water & Energy Conservation **DURATION:** June 2002 – August 2004

Group: Q **Date:** 12TH AUGUST, 2003 **ATTENDANCE:** Male: 10 Female: 13

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Increased Availability of Environmental/Natural Resource related Products/Services.	- At Least a 25% increase in the availability of environmental/natural resource related products/services by 2010.	- Household Survey Reports. - Evaluation Reports.	-No change of Malawi Government's policy
Project Purpose: - Environmental/natural resource rehabilitation	- At least 60% survival rate after out-planting.	- PIU monitoring reports - Vegetation Cover Maps - Mid-term Evaluation Reports	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: -Communal Woodlot/forest is established and managed. -Individual household tree planting is done.	-At Least 50% of households join nursery works.	- Nursery Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- There is enough rainfall to support tree planting.
Activities:	Inputs		Important Assumption
-Establish Committee -Train Committee -Establish and manage nursery. -Establish & manage communal woodlot/forest. -Plant and manage individual household trees.	-Hoes -Watering can -Rakes -Wheel burrow -Seeds -Tape	-Plastic tube -Knife -PIU members -Manual -Labor force from villagers	-Availability of the water resource such as stream Precondition - Environmental/natural resource degradation problem requiring redress.

Project Design Matrix (PDM) 1

Date _____

Target Group : Chakana

Duration of the project : 2002-2005

Project Name: Community forestry (Nursery)

Participants: _____

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
<ul style="list-style-type: none"> • Soil fertility is improved. • Soil water holding capacity is improved. • Fetching firewood becomes easier. 	<ul style="list-style-type: none"> • Crop productivity is increased by 30% • Time for fetching firewood is decreased by 50% 	<ul style="list-style-type: none"> • Observation • Committee records 	<ul style="list-style-type: none"> • Policy of Malawi Government is not changed
Project Purpose			
<ul style="list-style-type: none"> • Seedlings planted in woodlots are grown satisfactory 	<ul style="list-style-type: none"> • Survival rate is more than 60% 	<ul style="list-style-type: none"> • Communal records • PIU reports • Observation 	<ul style="list-style-type: none"> • Population is not increased rapidly • Demand of firewood is not increased rapidly
Outputs			
<ul style="list-style-type: none"> • Villagers manage the seedlings out-planted properly • Regular meetings concerning of nursery are hold 	<ul style="list-style-type: none"> • 50% of villagers participate in nursery activity • Weekly meetings of nursery are hold 	<ul style="list-style-type: none"> • Nursery committee records • VNRMC records • Observation • Committee records 	<ul style="list-style-type: none"> • No severe disaster • No severe termites attack
Activities		Inputs	
<ul style="list-style-type: none"> • Nursery committee formation • Training for tree planting • Land cleaning • Nursery fence lay out • Organization of nursery materials • Nursery soil collection • Pot-filling, seed-sawing, watering, root pruning • Rules & regulation formation • Tree nursery established • Seedlings for woodlot are out-planted • Seedlings for agro-forestry are out-planted 	<ul style="list-style-type: none"> • Hoes • Watering can • Rakes • Wheel burrow • Seeds • Tape • Plastic tube • Pangar knife 	<ul style="list-style-type: none"> • No one monopolize the tools for nursery • People realize importance of forestation <p>Pre-conditions</p> <ul style="list-style-type: none"> • Villagers don't oppose the project 	

Project Design Matrix (PDM) 1

Date _____

Target Group : Lemu Village (Group R)

Duration of the project : 2002-2005

Project Name: Nursery

Participants: _____

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
<ul style="list-style-type: none"> • Soil fertility is improved. • Soil water holding capacity is improved. • Fetching firewood becomes easier. 	<ul style="list-style-type: none"> • Crop productivity is increased by 30% • Time for fetching firewood is decreased by 50% 	<ul style="list-style-type: none"> • Observation • Committee records 	<ul style="list-style-type: none"> • Policy of Malawi Government is not changed
Project Purpose			
<ul style="list-style-type: none"> • Seedlings planted in woodlots are grown satisfactory 	<ul style="list-style-type: none"> • Survival rate is more than 60% 	<ul style="list-style-type: none"> • Communal records • PIU reports • Observation 	<ul style="list-style-type: none"> • Population is not increased rapidly • Demand of firewood is not increased rapidly
Outputs			
<ul style="list-style-type: none"> • Villagers manage the seedlings out-planted properly • Regular meetings concerning of nursery are hold 	<ul style="list-style-type: none"> • 50% of villagers participate in nursery activity • Weekly meetings of nursery are hold 	<ul style="list-style-type: none"> • Nursery committee records • VNRMC records • Observation • Committee records 	<ul style="list-style-type: none"> • No severe disaster • No severe termites attack
Activities		Inputs	
<ul style="list-style-type: none"> • Nursery committee formation • Training for tree planting • Land cleaning • Nursery fence lay out • Organization of nursery materials • Nursery soil collection • Pot-filling, seed-sawing, watering, root pruning • Rules & regulation formation • Tree nursery established • Seedlings for woodlot are out-planted • Seedlings for agro-forestry are out-planted 	<ul style="list-style-type: none"> • Hoes • Watering can • Rakes • Wheel burrow • Seeds • Tape • Plastic tube • Pangar knife 	<ul style="list-style-type: none"> • No one monopolize the tools for nursery • People realize importance of forestation <p>Pre-conditions</p> <ul style="list-style-type: none"> • Villagers don't oppose the project 	

Project Design Matrix (PDM) 1

Date : 24/07/03

Target Group : M. Ngondo (Group R)

Duration of the project : 2002-2005

Project Name: Nursery

Participants: 7 Males and 10 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
<ul style="list-style-type: none"> Soil fertility is improved. Soil water holding capacity is improved. Fetching firewood becomes easier. 	<ul style="list-style-type: none"> Crop productivity is increased by 30% Time for fetching firewood is decreased by 50% 	<ul style="list-style-type: none"> Observation Committee records 	<ul style="list-style-type: none"> Policy of Malawi Government is not changed
Project Purpose			
<ul style="list-style-type: none"> Seedlings planted in woodlots are grown satisfactory 	<ul style="list-style-type: none"> Survival rate is more than 60% 	<ul style="list-style-type: none"> Communal records PIU reports Observation 	<ul style="list-style-type: none"> Population is not increased rapidly Demand of firewood is not increased rapidly
Outputs			
<ul style="list-style-type: none"> Villagers manage the seedlings out-planted properly Regular meetings concerning of nursery are hold 	<ul style="list-style-type: none"> 50% of villagers participate in nursery activity Weekly meetings of nursery are hold 	<ul style="list-style-type: none"> Nursery committee records VNRMC records Committee records 	<ul style="list-style-type: none"> No severe disaster No severe termites attack
Activities		Inputs	
<ul style="list-style-type: none"> Nursery committee formation Training for tree planting Land cleaning Nursery fence lay out Organization of nursery materials Nursery soil collection Pot-filling, seed-sawing, watering, root pruning Rules & regulation formation Tree nursery established Seedlings for woodlot are out-planted Seedlings for agro-forestry are out-planted 	<ul style="list-style-type: none"> Hoes Watering can Rakes Wheel burrow Seeds Tape Plastic tube Pangar knife 	<ul style="list-style-type: none"> No one monopolize the tools for nursery People realize importance of forestation <p>Pre-conditions</p> <ul style="list-style-type: none"> Villagers don't oppose the project 	

Project Design Matrix : KAMMATA Village

PROJECT NAME: Forestry, Soil/Water & Energy Conservation DURATION: June 2002 – August 2004

Group: Q Date: 11TH AUGUST, 2003 ATTENDANCE: Male: 9 Female: 19

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Increased Availability of Environmental/Natural Products/Services.	- At Least a 40% increase in the availability of environmental/natural resource products/services by 2010.	- Household Survey Reports. - Evaluation Reports.	-No change of Malawi Government's policy
Project Purpose: - Environmental/natural resource rehabilitation	- At least 60% survival rate after out-planting.	- PIU monitoring reports - Vegetation Cover Maps - Mid-term Evaluation Reports	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal Woodlot/forest is established and managed. - Individual households plant and manage trees at the homestead, field, along stream banks, etc.	-At Least 50% of households join nursery works.	- Nursery Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- There is enough rainfall to support tree planting.
Activities:		Inputs	
- Establish Coordinating Committee - Train Committee - Establish and manage nursery. - Watering - Sowing - Weeding	-Hoes -Watering can -Rakes -Wheel burrow -Seeds -Tape	-Plastic tube -Knife -PIU members -Manual -Labor force from villagers	-Availability of the water resource such as stream Precondition - Environmental/natural resource degradation problem requiring redress.

Project Design Matrix : KUMANDA Village

PROJECT NAME: Forestry, Soil/Water & Energy Conservation

DURATION: June 2002 – August 2004

Group: Q

Date: 14th AUGUST, 2003

ATTENDANCE: Male: 10 Female: 18

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Increased Availability of Environmental/ Natural Products/Services.	- At Least a 35% increase in the availability of environmental/natural resource products/services by 2010.	- Household Survey Reports. - Evaluation Reports.	-No change of Malawi Government's policy
Project Purpose: - Environmental/natural resource rehabilitation	- At least 60% survival rate after out- planting.	- PIU monitoring reports - Vegetation Cover Maps - Mid-term Evaluation Reports	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: -Communal Woodlot/forest is established and managed.	-At Least 50% of households join nursery works.	- Nursery Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- There is enough rainfall to support tree planting.
Activities:	Inputs		Important Assumption
- Establish Committee - Train Committee - Establish and manage nursery. - Plant and manage individual household trees. - Individual household tree planting is done.	-Hoes -Watering can -Rakes -Wheel burrow -Seeds -Tape	-Plastic tube -Knife -PIU members -Manual -Labor force from villagers	-Availability of the water resource such as stream Precondition - Environmental/natural resource degradation problem requiring redress.

Project Design Matrix : TAVEKENJI Village

PROJECT NAME: Forestry, Soil/Water & Energy Conservation

DURATION: June 2002 – August 2004

Group: Q

Date: 11th AUGUST, 2003

ATTENDANCE: Male: 8 Female: 17

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Increased Availability of forestry related Products/Services.	- At Least a 30% increase in the availability of forestry related services and products by 2010.	- Household Survey Reports. - Evaluation Reports.	-No change of Malawi Government's policy
Project Purpose: - Environmental/natural resource rehabilitation	- At least 60% survival rate after out- planting.	- PIU monitoring reports - Vegetation Cover Maps - Mid-term Evaluation Reports	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal Woodlot/forest is established and managed. - Individual households tree planting is done.	-At Least 50% of households join nursery works.	- Nursery Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- There is enough rainfall to support tree planting.
Activities:	Inputs		Important Assumption
- Establish Committee - Train Committee - Establish and manage nursery. - Establish & manage communal woodlot/forest. - Plant and manage individual household trees.	-Hoes -Watering can -Rakes -Wheel burrow -Seeds -Tape	-Plastic tube -Knife -PIU members -Manual -Labor force from villagers	-Availability of the water resource such as stream Precondition - Environmental/natural resource degradation problem requiring redress.

Project Design Matrix : CHILANGALI Village

PROJECT NAME: Forestry, Soil/Water & Energy Conservation **DURATION:** June 2002 – August 2004

Group: Q **Date:** 8TH AUGUST, 2003 **ATTENDANCE:** Male: 6 Female: 13

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Increased Availability of Forestry related Products/Services.	- At Least a 30% increase in the availability of forestry related products/services by 2010.	- Household Survey Reports. - Evaluation Reports.	-No change of Malawi - Government's policy
Project Purpose: - Environmental/natural resource rehabilitation	- At least 60% survival rate after out-planting.	- Committee Records - Vegetation Cover Maps - Mid-term Evaluation Reports	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: -Communal Woodlot/forest is established and managed.	-At Least 50% of households join nursery works.	- Nursery Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- There is enough rainfall to support tree planting.
Activities:	Inputs		Important Assumption
- Establish Committee - Train Committee - Establish and manage nursery. - Establish & manage communal woodlot/forest. - Plant and manage individual household trees.	-Hoes -Watering can -Rakes -Wheel burrow -Seeds -Tape	-Plastic tube -Knife -PIU members -Manual -Labor force from villagers	- Availability of water resource such as stream Precondition - Environmental/natural resource degradation problem requiring redress.

Project Design Matrix : DANIEL MBEDZA Village

PROJECT NAME: Forestry, Soil/Water & Energy Conservation **DURATION:** June 2002 – August 2004

Group: Q **Date:** 13TH AUGUST, 2003 **ATTENDANCE:** Male: 8 Female: 16

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Increased Availability of Environmental/Natural Resource related Products/Services.	- At Least a 30% increase in the availability of environmental/natural resource related products/services by 2010.	- Household Survey Reports. - Evaluation Reports.	-No change of Malawi Government's policy
Project Purpose: - Environmental/natural resource rehabilitation	- At least 60% survival rate after out-planting.	- PIU monitoring reports - Mid-term Evaluation Reports	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal Woodlot/forest is established and managed.	-At Least 50% of households join nursery works.	- Nursery Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	-There is enough rainfall to support tree planting.
Activities:	Inputs		Important Assumption
- Establish Coordinating Committee - Train Committee - Establish and manage nursery. - Establish & manage communal woodlot/nursery. - Plant and manage individual household trees.	-Hoes -Watering can -Rakes -Wheel burrow -Seeds -Tape	-Plastic tube -Knife -PIU members -Manual -Labor force from villagers	- Availability of water resource such as stream Precondition - Environmental/natural resource degradation problem requiring redress.

Project Design Matrix : KAMWENDO NURSERY

Group: P Date: 24/11/03 Participants: Male: 14 Female: 22

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Reduced Poverty Levels through improved and Sustainable management of natural resources.	- More than 50% of the community have own woodlots for firewood by 2005	- Transect walk while observing no. of trees and vegetative cover available	-No change of Malawi Government's policy
Project Purpose: -Increased afforestation activities.	- At least 60% survival rate after out-planting.	- Observation	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal forest is set up and managed. - Individual woodlots' management.	-At Least 50% of households participate in forest management.	- Committee records.	- There is enough rainfall to support tree planting.
Activities: -Form a VNRM committee. -Assist with the formulation of bye-laws. -Provide technical training - Bye-laws for the management of natural resources are set up. - A Village nursery is established.	Inputs		Important Assumption
	-Species of various tree seeds supplied. -Materials for nursery construction are supplied.		- Water resource is available.
			Precondition - Continued political Stability.

Project Design Matrix : PETER BILILA Village

Group: P Date: 29/08/03 Participants: Male: 12 Female: 18 Project Name: NURSERY Duration: 2002 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved forest cover and other natural resources.	- An increase of at least 30% of the availability of natural resources by 2012.	- Transect walk while observing no. of trees and vegetative cover available	-No change of Malawi Government's policy
Project Purpose: - Intensive afforestation activities.	- At least 60% survival rate after out-planting.	- Secretary's Records showing no. of seedlings out planted. - Secretary's Records showing no. of seedlings survived. - PIU monitoring and evaluation records.	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal forest is set up and managed. - Individual household woodlots are established	-At Least 50% of households participate in forest management.	Secretary's records. Training report. PIU reports	- There is enough rainfall to support tree planting.
Activities: - Establish and manage nursery. - Establish and manage agro-forestry trees. - A Nursery coordinating committee is formed. - Committee members are trained on the management of nursery activities	Inputs		Important Assumption
	-Seedling of various tree spp. supplied to the community. -Starter pack equipment for the construction of nursery supplied. - Training and extension		- Water resource is available.
			Precondition - Community realises the importance of being actively involved in NRM

Project Design Matrix : NDEMANJE Village

Group: P Date: 23/08/03 Participants: Male: 15 Female: 30 Project Name: NURSERY Duration: 2002 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved forest cover and other natural resources.	- An increase of at least 70% of the availability of natural resources by 2012.	- Transect walk while observing no. of trees and vegetative cover available	-No change of Malawi Government's policy
Project Purpose: - Intensive afforestation activities.	- At least 60% survival rate after out-planting.	- Secretary's Records showing no. of seedlings out planted. - Secretary's Records showing no. of seedlings survived. - PIU monitoring and evaluation records.	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal forest is set up and managed. - Individual household woodlots are established.	-At Least 50% of households participate in forest management.	-Secretary's records. -Training report. -PIU reports	- There is enough rainfall to support tree planting.
Activities: - Train the committees - Establish and manage nursery. - Establish and manage agro-forestry trees. - A Nursery coordinating committee is formed.	Inputs -Seedling of various tree spp. supplied to the community. -Starter pack equipment for the construction of nursery Supplied. -Training and extension		Important Assumption - Water resource is available. Precondition - Community realizes the importance of being actively involved in NRM

Project Design Matrix : SIMON MPOMBE Village

Group: P Date: 30/08/03 Participants: Male: 10 Female: 12 Project Name: NURSERY Duration: 2002 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved forest cover and other natural resources.	- An increase of at least 40% of the availability of natural resources by 2012.	- Transect walk while observing no. of trees and vegetative cover available	-No change of Malawi Government's policy
Project Purpose: - Intensive afforestation activities.	- At least 60% survival rate after out-planting.	- Secretary's Records showing no. of seedlings out planted. -Secretary's Records showing no. of seedlings survived. - PIU monitoring and evaluation records.	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: -Forest management is done properly	-At Least 50% of households participate in forest management.	-Secretary's records. -Training report. -PIU reports	- There is enough rainfall to support tree planting.
Activities: - Establish and manage nursery. - A Nursery coordinating committee is formed. - Committee members are trained on the management of nursery activities - Communal nursery is set up. - Individual household woodlots are established - Establish agro-forestry trees.	Inputs -Seedling of various tree spp. supplied to the community. -Starter pack equipment for the construction of nursery supplied. -Training and extension		Important Assumption - Water resource is available. Precondition - Community realizes the importance of being actively involved in NRM

Project Design Matrix : KATEYA Village

Group: P Date: 21/08/03 Participants: Male: 15 Female: 18 Project Name: NURSERY Duration: 2002 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved forest cover and other natural resources.	- An increase of at least 60% of the availability of natural resources by 2012.	- Transect walk while observing no. of trees and vegetative cover available	-No change of Malawi Government's policy
Project Purpose: - Intensive afforestation activities.	- At least 60% survival rate after out-planting.	- Secretary's Records showing no. of seedlings out planted. - Secretary's Records showing no. of seedlings survived. - PIU monitoring and evaluation records.	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal forest is set up and managed. - Individual household woodlots are established.	-At Least 50% of households participate in forest management.	Secretary's records. Training report. PIU reports	- There is enough rainfall to support tree planting.
Activities:	Inputs		Important Assumption
- Establish and manage nursery. - Establish and manage agro-forestry trees. - A Nursery coordinating committee is formed. - Committee members are trained on the management of nursery activities	-Seedling of various tree spp. supplied to the community. -Starter pack equipment for the construction of nursery supplied.		- Rainfall is available to keep on replenishing the water sources. Precondition - Committee remains activated coordinates activities. - Community realises their importance of being actively involved in NRM

Project Design Matrix : MALUWA Village

Group: P Date: 14/08/03 Participants: Male: 7 Female: 13 Project Name: NURSERY Duration: 2002 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved forest cover and other natural resources.	- An increase of at least 30% of the availability of natural resources by 2012.	- Transect walk while observing no. of trees and vegetative cover available	-No change of Malawi Government's policy
Project Purpose: - Intensive afforestation activities.	- At least 60% survival rate after out-planting.	- Secretary's Records showing no. of seedlings out planted. - Secretary's Records showing no. of seedlings survived. - PIU monitoring and evaluation records.	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal forest is set up and managed. - Individual household woodlots are established.	-At Least 50% of households participate in forest management.	-Secretary's records. -Training report. -PIU reports	- There is enough rainfall to support tree planting.
Activities:	Inputs		Important Assumption
- Establish and manage nursery.. - Establish and manage agro-forestry trees. - A Nursery coordinating committee is formed. - Committee members are trained on the management of nursery activities	-Seedling of various tree spp. supplied to the community. -Starter pack equipment for the construction of nursery supplied. - Training and extension		- Water resource is available. Precondition - Community realises the importance of being actively involved in NRM

Project Design Matrix : KUMPONDA Village

Group: P Date: 22/08/03 Participants: Male: 12 Female: 20 Project Name: NURSERY Duration: 2002 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved forest cover and other natural resources.	- An increase of at least 50% of the availability of natural resources by 2012.	- Transect walk while observing no. of trees and vegetative cover available	-No change of Malawi Government's policy
Project Purpose: - Intensive afforestation activities.	- At least 60% survival rate after out-planting.	- Secretary's Records showing no. of seedlings out planted. - Secretary's Records showing no. of seedlings survived. - PIU monitoring and evaluation records.	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal forest is set up and managed. - Individual household woodlots are established.	-At Least 50% of households participate in forest management.	Secretary's records. Training report. PIU report	- There is enough rainfall to support tree planting.
Activities: -Form Nursery committees. - Train the committees - Establish and manage nursery. - Establish and manage agro-forestry trees.	Inputs		Important Assumption
	- Seedling of various tree spp. supplied to the community. - Starter pack equipment for the construction of nursery - Supplied. - Training and extension		- Water resource is available.
			Precondition - Community realises the importance of being actively involved in NRM

Modified PDM

Project Design Matrix : CHIGUMULA Village

Group: P Date: 15/08/03 Participants: Male: 9 Female: 17 Project Name: NURSERY Duration: 2002 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved forest cover and other natural resources.	- An increase of at least 40% of the availability of natural resources by 2012.	- Transect walk while observing no. of trees and vegetative cover available	-No change of Malawi Government's policy
Project Purpose: - Intensive afforestation activities.	- At least 60% survival rate after out-planting.	- Secretary's Records showing no. of seedlings out planted. - Secretary's Records showing no. of seedlings survived. - PIU monitoring and evaluation records.	-No severe disease or insect's attack -Fertilizer /chemical price don't rise drastically
Outputs: - Communal forest is set up and managed. - Establish and manage individual woodlots.	-At Least 50% of households participate in forest management.	Secretary's records. Training report. PIU reports and physical locations.	- There is enough rainfall to support tree planting.
Activities: -Conduct meetings to form Nursery. - Train the committees - Establish and manage nursery. - Establish and manage agro-forestry trees.	Inputs		Important Assumption
	-Seedling of various tree spp. supplied to the community. -Starter pack equipment for the construction of nursery Supplied. -Training and extension		- Water resource is available.
			Precondition - Community realises the importance of being actively involved in NRM

Project Design Matrix (PDM) 2

Date _____ :

Target Group : Makonokaya (Group R)

Project Name _____

: Goat rearing (1st I.G.A)

Duration of the project : _____

Participants: 3 Males and 7 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Reduction of poverty in the village	• Poverty level reduced by 65%	• Report from P.I.U. members	• Availability of feeding resource
Project Purpose			
Increase of income levels	• 40 households get income from goat rearing	• Household income records • Sales records	• Availability of market to sell their goats
Outputs			
• Increase of goats number	• 40 households will be keeping goats	• Supervision • Reports	• Demand of goats in the market doesn't change
Activities			
<ul style="list-style-type: none"> • Constructing kholas for goats • Feeding and managing the goats • Organization of IGA committee • Rules & regulation formation • Install of goats 	Inputs		<ul style="list-style-type: none"> • Goats • Vaccines • Materials for kholas construction
			<ul style="list-style-type: none"> • No thieves • No epidemic diseases <p>Precondition People don't oppose the project</p>

Project Design Matrix (PDM) 2

Date _____ : 26/7/03

Target Group : Siyamdima (Group R)

Project Name _____

: Guinea fowl rearing (1st I.G.A)

Duration of the project : _____

Participants: 25 Males and 5 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Poverty level reduction	• Decrease of poverty by 60%	• PIU reports • Observation	• Resource for feeding is available
Project Purpose			
To generate income	• All households who have guinea fowl can get income by guinea fowl rearing	• Guinea fowl rearing committee records • Observation	• Price of guinea fowl and egg doesn't change dramatically
Outputs			
<ul style="list-style-type: none"> • Increased number of guinea fowls • Number of guinea fowl eggs increased 	• Increased number of guinea fowl rearing households by 50%	• PIU reports • Committee records	• Demand of guinea fowl in the market doesn't change
Activities			
<ul style="list-style-type: none"> • Guinea fowl committee formation • Rules & regulation formation • Site selection for guinea fowl khola • Khola construction • Feeding guinea fowls • Cleaning the khola 	Inputs		<ul style="list-style-type: none"> • Guinea fowls, doors, flame, wire
			<ul style="list-style-type: none"> • No thieves • No epidemic diseases <p>Precondition People don't oppose the project</p>

Project Design Matrix (PDM) 2

Date : 25/7/03

Target Group : Kaumbata (Group R)

Project Name : Treadle pump irrigation (1st I.G.A)

Duration of the project :

Participants: 7 Males and 4 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
• Reduction of poverty in the village	• Poverty level reduced by 80%	• Reports from PIU members	• Demands of the crops don't change drastically
Project Purpose			
• Increase of income levels	• Income increase of all participants	• Communal records • PIU reports	• The prices for fertilizer & chemicals/ seed don't change drastically. • Treadle pump price doesn't change drastically
Outputs			
• Improvement of productivity	• Variety of fresh food available	• Communal records • PIU reports	• No severe disease or insects damage
Activities		Inputs	
• Irrigation farming committee formation • Formation of rules & regulation • Site selection • Clearing • Plough • Plot lay out • Glass weeding • Watering • Cultivation	• Treadle pumps • Seeds • Fertilizer • Chemicals • Moshe stocks • Polythene pots • Watering cans	• The water resource doesn't dry up Precondition People are willing to work	

Project Design Matrix (PDM) 2

Date :

Target Group : Mdala

Project Name : Bee keeping (1st I.G.A)

Duration of the project : 2002-2005

Participants:

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Poverty reduced and improved livelihood	• Poverty level reduced by 65 %	• Committee reports	• No demand change of honey in the market
Project Purpose			
Increased income generated from bee product sales	• Sales of bee honey increased from 0 % to 55 l by 2005 • Bee wax and other product sales increased by 60 % by 2005	• Observation • Reports	• No severe climate change
Outputs			
Honey harvest	• Honey harvest 55l by 2005	• Reports	• No drastic price down of honey
Activities		Inputs	
1. Bee hives hanging / locating 2. Farmer training in bee keeping 3. Forest establishing / conservation	• Beehives • Bee suits • Buckets • Torches • Globes	• Enough nectar source Precondition • People are willing to do bee business	

Project Design Matrix (PDM) 2

Date : 25/7/03

Target Group : Nanjiwa (Group R)

Duration of the project : 2002-2005

Project Name: Bee keeping (1st I.G.A)

Participants: 4 males and 10 females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal • Poverty reduction	• Reduced poverty level by 50%	• Observation • Committee records • PIU reports	• No demand change of honey in the market
Project Purpose • Increase income levels	• Income increase of all participants	• Committee record • PIU report	• No severe climate change
Outputs • Honey combs and bee wax available	• Processed honey & wax increased by 80 %	• Committee sales records • PIU report	• No drastic price down of honey
Activities • Bee keeping committee formation • Rules & regulation formation • Hive installation • Hive baiting • Hive numbering • Hive record keeping • Apiary management • Hive inspection	Inputs • Bee hives, bee suit, torch, globe		• Enough nectar source Precondition People are willing to do bee business

Project Design Matrix

1st IGA Irrigation

VILLAGE: CHIKOJA

GROUP: Q

DATE: 14-12-02

ATTENDANCE: MALE: 7

FEMALE: 20

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATION	MEANS OF VERIFICATION	IMPORTANT ASSUMPTION
OVERALL GOAL Poverty reduction	-At least 150 households have their poverty reduction.	- Household Food Security Survey Reports. - Household well-being survey reports - Evaluation Reports.	- A good balance is maintained between crop sales for cash and storage for food.
PROJECT PURPOSE - Economic empowerment of participating households	-At least 50% of participating households are empowered economically.	- Household well-being Survey reports - Committee records. - Mid-term Evaluation Reports	-No competes -No severe disease or insect attack -Fertilizer/ chemical price don't rise drastically
OUTPUTS -Food production suffices the household needs.	-An increase in food production to at least 15 bags 50kg each of maize per ha.	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- Good prices for crops on the market. - Good crop storage
ACTIVITIES -Micro-dam construction. -Irrigation farming using Treadle Pumps.	INPUTS Seed Fertilizer Chemicals Treadle pumps Wheel barrows	Watering cans Polythene pots PIU members Labour of villagers Manual	Availability of the water resource. Precondition Community have willing to do irrigation farming

Project Design Matrix (PDM) 2

Date : _____
 Project Name: Bee Keeping (1st I.G.A.)
 Participants: _____

Target Group : Chakana

Duration of the project : 2002-2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
• Poverty reduced and improved livelihood	• Poverty level reduced by 2005 by 65%	• Reports	• No demand change to honey in the market
Project Purpose			
• Increased income levels earned bee products sales	• Income increase of all participants	• Observation • Reports	• No severe climate change
Outputs			
• Honey harvesting	• Sales of bee production is 55 l by 2005	• Reports • Observation	• No drastic price down of honey
Activities		Inputs	
<ul style="list-style-type: none"> • Bee keeping committee formation • Rules & regulation formation • Hive installation • Hive baiting • Hive numbering • Hive record keeping • Apiary management • Hive inspection 	<ul style="list-style-type: none"> • Bee hives • Bee suits • Buckets • Torches 	<ul style="list-style-type: none"> • Enough nectar source <p>Precondition</p> <ul style="list-style-type: none"> • People are willing to do bee business 	

Project Design Matrix (PDM) 2

Date : _____
 Project Name: irrigation (1st I.G.A.)
 Participants: _____

Target Group : Lemu Village (Group R)

Duration of the project :2002-2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
• Enough food • Education	• Period of hunger is decreased by 50% • Drop out rate of children is decreased by 40%	• Reports from committee	• Demands of the crops don't change drastically
Project Purpose			
• Income increase	• 80% of the communities will have income from treadle pump irrigation	• Supervision by P.I.U. members	• Treadle pump price doesn't change drastically • The prices for fertilizer & chemicals/ seed don't rise drastically.
Outputs			
• Increase of crop products • Diversification of crop varieties	• Maize production is increased by 50% • Additional 3 crops are harvested	• Supervision • Reports	• No severe disease or insects damage
Activities		Inputs	
<ul style="list-style-type: none"> • Dimba cultivation • Weeding of the plot • Planting • Fertilizer application • Harvesting • Marketing of the produce 	<ul style="list-style-type: none"> • Treadle pumps • Hoes • Pangar knife • Wheelbarrows • Rakes 	<ul style="list-style-type: none"> • Water resource is available <p>Precondition</p> <ul style="list-style-type: none"> • People don't oppose the project 	

Project Design Matrix (PDM) 2

Date : 20/07/03

Target Group : M. Ngondo (Group R)

Project Name: G. Fowl Rearing (1st I.G.A)

Duration of the project : 2002-2003

Participants: 10 Males and 9 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
• Reduction in Poverty levels	• Decrease of poverty levels by 40 %	• PI.U reports • Observation	• Resource for feeding is available
Project Purpose			
• Income generating	• Increased number of households rearing guinea fowls from 0 to 50	• Guinea fowls rearing committee records	• Price of goat milk and meat doesn't change dramatically
Outputs			
• Increased number of guinea fowls and eggs at household levels	• Number of households have guinea fowls	• PIU reports • Committee records	• Demand of goats in the market doesn't change
Activities			
• Guinea fowls khola constructed • Khola cleaning • Feeding	Inputs • Guinea fowls • Wire mesh • Door frame		• No thieves • No epidemic diseases Precondition • People don't oppose the project

Project Design Matrix

1st IGA Irrigation

VILLAGE: KAM'MATA

GROUP: Q

DATE: 12-12-02

ATTENDANCE: MALE: 6

FEMALE: 21

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEAN OF VERIFICATION	IMPORTANT ASSUMPTIONS
OVERALL GOAL Poverty reduction through economic empowerment of villagers.	- At least 75% poverty reduction in all households.	- Household Food Security Survey Reports. - Household well-being survey reports - Evaluation Reports.	- A good balance is maintained between crop sales for cash and storage for food.
PROJECT PURPOSE -Economic empowerment of participants.	-At least 90% of the participating households are economically empowered.	- Household well-being Survey reports - Committee records. - Mid-term Evaluation Reports	-No competes -Fertilizer/ chemical price don't rise drastically -No severe disease or insect attack
OUTPUTS -Increase in food production.	-At least 15 bags, 50kg each of maize harvested per ha.	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- Good prices for crops on the market. - Good crop storage
ACTIVITIES -Goat rearing. -Vegetable growing. -Irrigation plots lay - out. -Irrigation farming using Treadle Pumps -Manure making and use.	INPUTS Seed Fertilizer Chemicals Treadle pumps Wheel barrows	Watering cans Polythene pots PIU members Labour of villagers Manual	Availability of the water resource. Precondition Community have willing to do irrigation farming

Project Design Matrix

1 st IGA Irrigation VILLAGE: KUMANDA		GROUP: Q	DATE: 091202	ATTENDANCE: MALE: 8	FEMALE: 11
NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION		IMPORTANT ASSUMPTIONS	
OVERALL GOAL -Improvement of community living standards through poverty alleviation.	- Improvement in the quality of life > 50% of the participating households.	- Household Food Security Survey Reports. - Household well-being survey reports - Evaluation Reports.		- A good balance is maintained between crop sales for cash and storage for food.	
PROJECT PURPOSE -Income increase of participants	-The per-capita income for the household increases by at least 80%.	- Household well-being Survey reports - Committee records. - Mid-term Evaluation Reports		-No competes -Fertilizer/ chemical price don't rise drastically -No severe disease or insect attack	
OUTPUTS -Food production increases.	- An Increase of 2 crop harvests per unit area	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.		- Good prices for crops on the market. - Good crop storage	
ACTIVITIES -Assembling and use of Treadle pumps for irrigation. -Field plot lay out for irrigation. -Manure making and use. -Physical soil/water conservation measures implementation.	INPUTS Seed Fertilizer Chemicals Treadle pumps Wheel barrows	Watering cans Polythene pots PIU members Labour of villagers Manual		Availability of the water resource.	
				Precondition Community have willing to do irrigation farming	

Project Design Matrix

1 st IGA Bee keeping VILLAGE: TAVEKENJI		GROUP: Q	DATE: 11-12-02	ATTENDANCE: MALE: 10	FEMALE: 17
NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION		IMPORTANT ASSUMPTIONS	
OVERALL GOAL Improvement of living standard	-At least 200 persons are economically empowered through the project activities.	- Evaluation Reports. - Committee records.		No strong competes	
PROJECT PURPOSE -Economic empowerment.	-At least a 50% increase in household income.	- Household Income Survey Reports - Committee records - Mid-term Evaluation Reports		No drastic price down of honey	
OUTPUTS Honey harvesting.	No data	- Committee Records - PIU monitoring Reports.		Market is available	
ACTIVITIES -Installation of beehives. -Bee keeping -Training of committee	Beehives Touch Musk Bee- suits Globe Smoker			Enough nectar source	
				Precondition People are willing to join the project	

Project Design Matrix

1st IGA Irrigation
VILLAGE: CHILANGALI

GROUP: Q

DATE: 091202

ATTENDANCE: MALE: 6

FEMALE: 10

NARRATIVE SUMMARY	OBJECTIVE VERIFIABLE INDICATION	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OVERALL GOAL -Improved quality of life as a result of economic empowerment.	- At least 50% improvement in quality of life.	- Household Food Security Survey Reports. - Household well-being survey reports - Evaluation Reports.	- A good balance is maintained between crop sales for cash and storage for food.
PROJECT PURPOSE -Improvement of participants' household economy	-Per capita income increases by 85%	- Household well-being Survey reports - Committee records. - Mid-term Evaluation Reports	-No competes -Fertilizer/ chemical price don't rise drastically -No severe disease or insect attack
OUTPUTS -Food production increases. -Per-capita income increases.	-Yield per hectare increases by 750 kg by the year 2005.	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- Good prices for crops on the market. - Good crop storage
ACTIVITIES (plural) -Manure making and use. -Undertaking physical soil/water conservation measures. -Field plot lay-out for irrigation. -Assembling and use of Treadle Pumps for irrigation farming.	INPUTS Seed Fertilizer Chemicals Treadle pumps Wheel barrows	Watering cans Polythene pots PIU members Labour of villagers Manual	Availability of the water resource. Precondition Community have willing to do irrigation farming

Project Design Matrix

1st IGA Guinea fowl

VILLAGE: DANIEL MBEDZA GROUP: Q

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATOR	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OVERALL GOAL -Improved living standards as a result of economic empowerment.	- An improvement of life of at least 80% of all participating households.	- Evaluation Reports. - Committee records.	-No competes
PROJECT PURPOSE -Economic empowerment of community members.	-At least 20% of participating households are economically empowered.	- Household Income Survey Reports - Committee records - Mid-term Evaluation Reports	-No severe epidemic disease to Guinea fowl
OUTPUTS -Decrease in unemployment.	-At least 50% increase in employment though IGAs.	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports. - Household income Survey Reports.	- Prices of birds on the market do not drastically go down.
ACTIVITIES -Guinea fowl khola construction. -Guinea fowl rearing. -Plot lay - out. -Irrigation farming using Treadle Pumps.	Guinea fowl Eggs Materials of khola Vaccine	PIU members Manual Labours of villagers	No thieves Precondition Community have willing to do guinea fowl

Project Design Matrix : KAMWENDO Village

Group: P Date: 24/11/03 Participants: Male: 14 Female: 22 Project Name: BEE-KEEPING Duration: 2002 - 2005
1st IGA

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Reduced Poverty Levels through the sale of honey.	- The community earns about K20,000 annually from the sale of honey	- Treasurer's records.	-No competes
Project Purpose: -Increased Bee-keeping activities.	No data	- Secretary's records. - Observation.	-No drastic price down of honey
Outputs: -Honey harvest	No data	Secretary's records. Observation.	-Market is available
Activities: - A Bee-keeping committee is formed. - Committee members are trained on the Management of beehives. - Community Beehives installed - Byelaws on the management of VNRM established. -Formulate a flowering calendar.	Inputs - 4beehives supplied by December, 2002. - Honey harvesting equipment provided by July 2003. - Beehives management training provided by 12/02. - Plastic Bottle containers for bottling processed honey provided		Important Assumption - Community Commitment is maintained in the preservation of Natural Resources. Precondition - Continued political Stability.

Project Design Matrix : PETER BILILA Village

Group: P Date:02/12/03 Participants: Male: 12 Female: 18 Project Name: BEE-KEEPING Duration: 2002 - 2005
1st IGA

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Reduced Poverty Levels through the sale of honey.	- The community earns about K20,000 annually from the sale. - The community has established at least 8 communal beehives.	- Treasurer's records.	-No competes
Project Purpose: -Income increase by Bee-keeping activities.	No data	- Secretary's records.	-No drastic price down of honey
Outputs: -Honey harvest	No data	-Secretary's records.	-Market is available
Activities: - A Bee-keeping committee is formed. - Committee members are trained on the Management of beehives. - Community Beehives installed - Bye-laws on the management of VNRM established. - Own beehives are made and installed. -Formulate a flowering calendar	Inputs - 4 Beehives supplied by December, 2002. -Honey harvesting equipment provided by July 2003. -Beehives management training provided by 12/02. -Plastic Bottle containers for bottling processed honey provided.		Important Assumption - Sustainable Use of natural resources is improved for nectar. Precondition -People have willingness to join in the project.

Project Design Matrix : NDEMANJE Village

Group: P Date: 03/12/03 Participants: Male: 13 Female: 18 Project Name: BEE-KEEPING Duration: 2002 - 2005
1st IGA

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Reduced Poverty Levels through the sale of honey.	- The community earns about K40,000 annually from the sale of honey by 2005.	- Treasurer's records.	-No competes
Project Purpose: -Income increase by Bee-keeping activities	No data	- Secretary's records.	No drastic price down of honey
Outputs: Honey production	No data	-Secretary's records.	Market is available
Activities: - A Bee-keeping committee is formed. - Committee members are trained on the Management of beehives. - Community Beehives installed - Byelaws on the management of VNRM established. - Own beehives are made and installed.	Inputs -3beehives supplied by December, 2002. -Honey harvesting equipment provided by July 2003. -Beehives management training provided by 12/02. -Plastic Bottle containers for bottling processed honey provided.		Important Assumption - Sustainable Use of natural resources is improved for nectar. Precondition -People have willingness to join in the project.

Project Design Matrix : SYMON MPOMBE Village

Group: P Date: 26/11/03 Participants: Male: 8 Female: 17 Project Name: GOAT-KEEPING Duration: 2002 - 2005
1st IGA

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved economic Levels through the sale of goats and goat meat.	- The community earns about K40,000 annually from the sale of goats and goats' meat.	- Treasurer's records.	-No competes
Project Purpose: -Income increase by goat keeping	No data	- Secretary's records.	-No epidemic disease
Outputs: -Increase of goat number	- At least 20% of the community have become goat owners.	-Secretary's records.	- Selling price of goats does not go down radically
Activities: - A goat-keeping committee is formed. - Committee members are trained on the management of goats. - Rules set up on the distribution process of goats. - A communal kraal constructed.	Inputs -11 goats supplied by December, 2002. -Goats' medications made available to all project goats - On continuous basis since October 2002.		Important Assumption - Theft is checked Precondition -Committee remains active and coordinates activities. - Community still regards goat keeping as an important IGA and protein source.

Project Design Matrix : KATEYA Village

Group: P Date: 18/11/03 Participants: Male: 8 Female: 7 Project Name: Irrigation Duration: 2002-2005
1st IGA

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Reduced Poverty Levels through the practise of mail scale irrigation using treadle pumps.	- The community has an annual income of at least K12,000 from selling the proceeds of irrigation activities.	- Annual produce sales records. - Bank account records	-No competes
Project Purpose: - Income increase by irrigation activities with treadle pumps.	- At least 20% of the community households increase income	- Observation. - Secretary 's records.	-No severe disease or insects ' attack. -No drastic change of fertilizer/chemical price
Outputs: -Crop production is increased	No data	Secretary 's records	- Good prices for crops on the market. - Good crop storage
Activities:	Inputs		Important Assumption
- An irrigation committee is formed. - A communal irrigation plot has been established. - Individual household irrigation plots established. - Training on the effective use of treadle pumps has been conducted. - IGA management training conducted.. - Supply necessary irrigation materials. - Provide technical advise on the establishment of irrigation plots. - Provide supervision and advice on the management of irrigation crops.	Three treadle pumps and accessories supplied. Seed and chemicals supplied.		-Availability of the water resource such as stream Precondition - The villoge head doesn 't changes her attitude towards the project and her subjects.

Project Design Matrix : MALUWA Village

Group: P Date:01/12/1/03 Participants: Male: 5 Female: 15 Project Name: GOAT-KEEPING Duration: 2002 – 2005
1st IGA

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved economic Levels through the sale of goats and goat meat.	- The community earns about K45,000 annually from the sale of goats and goats 'meat.	- Treasurer 's records.	-No competes
Project Purpose: -Income increase by goat keeping	No data	- Secretary 's records.	-No epidemic disease
Outputs: Goat number increase	- At least 80% of the community have become goat owners	Secretary 's record. Rules document	- Selling price of goats does not go down radically
Activities:	Inputs		Important Assumption
- A goat-keeping committee is formed. - Committee members are trained on the management of goats. - Committee members trained on IGA management. - Rules set up on the distribution process of goats. - A communal kraal constructed.	11 goats supplied by December 2002. Goats ' medications made available to all project goats On continuous basis since October 2002.		- Theft is checked Precondition -Committee remains active and coordinates activities. - Community still regards goat keeping as an important IGA and protein source.

Project Design Matrix : KUMPONDA Village

Group: P Date: 12/11/03 Participants: Male: 7 Female: 19 Project Name: Irrigation Duration: 2002-2005
1st IGA

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Reduced Poverty Levels through the practise of small-scale irrigation using treadle pumps.	- The community has an annual income of at least K30,000 from selling the proceeds of irrigation activities .	- Annual produce sales records. - Bank account records	-No competes
Project Purpose: - Income increase by irrigation activities with treadle pumps.	- At least 20% of the community households increase income	- Secretary's records	-No severe disease or insects' attack. -No drastic change of fertilizer/chemical price
Outputs: -Crop production is increased	No data	Secretary's records.	- Good prices for crops on the market. - Good crop storage
Activities: - An irrigation committee is formed. - A communal irrigation plot has been established. - Individual household irrigation plots established. - Training on the effective use of treadle pumps has been conducted.	Inputs Three treadle pumps and accessories supplied. Seed and chemicals supplied.		Important Assumption -Availability of the water resource such as stream Precondition -People have willing to do irrigation farming

Project Design Matrix : CHIGUMULA Village

Group: P Date: 19/11/03 Participants: Male: 5 Female: 7 Project Name: Irrigation Duration: 2002-2005
1st IGA

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Reduced Poverty Levels through the practise of small-scale irrigation using treadle pumps.	- The community has an annual income of at least K20,000 from selling the proceeds of irrigation activities .	- Annual produce sales records. - Bank account records	-No competes
Project Purpose: - Individual household irrigation plots established.	No data	- Observation. - Secretary's records.	-No severe disease or insects' attack. -No drastic change of fertilizer/chemical price
Outputs: Households' irrigation plots are managed properly	- At least 15% of the community have own irrigation plots	Secretary's records.	- Good prices for crops on the market. - Good crop storage
Activities: -Conduct meetings to form an Irrigation committee. - Supply necessary irrigation materials. -Provide technical advise on the establishment of irrigation plots. - Provide supervision and advice on the management of irrigation crops.	Inputs - Three treadle pumps and accessories supplied. - Seed and chemicals supplied.		Important Assumption -Availability of the water resource such as stream Precondition - The village head doesn't changes her attitude towards the project and her subjects.

Project Design Matrix (PDM) 3

Date _____

Target Group : Makonokava (Group R)

Project Name _____

: Irrigation (2nd I.G.A.)

Duration of the project : _____

Participants: 3 Males and 7 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Reduction of poverty in the village	• Poverty level reduced by 80%	• Report from P.I.U. members	• Demands of the crops don't change drastically
Project Purpose			
Communities have income for their households	• 80 households have income by the irrigation	• Survey reports • Income reports	• Treadle pump price doesn't change drastically • The prices for fertilizer & chemicals/ seed don't change drastically.
Outputs			
• Increase of crop products	• New three crop variety is introduced	• Reports from P.I.U. members	• No severe disease or insects damage
Activities		Inputs	
<ul style="list-style-type: none"> • Manure making • Glass weeding • Watering • Tree nursery establishment and management • Cultivation of dimba land • Organization of IGA committee • Rules & regulation formation 	<ul style="list-style-type: none"> • Seed • Fertilizer • Chemicals • Treadle pumps • Wheel barrows • Watering cans • Polythene pots 	<ul style="list-style-type: none"> • Water resource is available <p>Precondition People don't oppose the project</p>	

Project Design Matrix (PDM) 3

Date : 26/7/03

Target Group : Siyamdima (Group R)

Project Name _____

: Goat rearing (2nd I.G.A.)

Duration of the project : _____

Participants: 25 Males and 5 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Poverty level reduction	• Poverty level reduced by 70 %	• Observation • Committee records • PIM reports	• Resource for feeding is available
Project Purpose			
To generate income	• Increased number of goats per household by 55%	• Committee records	• Price of goat milk and meat doesn't change dramatically
Outputs			
<ul style="list-style-type: none"> • Increased number of goats • Increased milk production 	<ul style="list-style-type: none"> • Number of goat per household increased from 2 to 10 • Milk production to increase from 1/3 liter to 3 liter / household 	<ul style="list-style-type: none"> • Observation & Committee records • Observation & Committee records • Committee records 	<ul style="list-style-type: none"> • Demand of goats in the market doesn't change
Activities		Inputs	
<ul style="list-style-type: none"> • Goat committee formation • Formation of rules & regulation • Khola construction • Organization of materials for khola • Feeding the animals-goats • Dipping • Cleaning the khola 	<ul style="list-style-type: none"> • Goats • Feed • Vaccine • Ropes 	<ul style="list-style-type: none"> • No thieves • No epidemic diseases <p>Precondition People don't oppose the project</p>	

Project Design Matrix (PDM) 3

Date : 25/7/03

Target Group : Kaumbata (Group R)

Project Name : Goat rearing (2nd I.G.A.)

Duration of the project :

Participants: 7 Males and 4 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Reduction of poverty in the village	• Poverty level reduced by 80%	• Data collection from the village	• Availability of feeding resource
Project Purpose			
Increase of income levels	• Number of households keeping / rearing goats for business will increase by 100 %	• Report from PIU members	• Availability of market to sell their goats
Outputs			
<ul style="list-style-type: none"> Increased number of goats Increased manure production Increased milk production 	• Number of households keeping / rearing goats will increase from 0 to 22	• Reports from PIU members	• Demand of goats in the market doesn't change
Activities		Inputs	
<ul style="list-style-type: none"> Goat committee formation Khola construction Feeding Giving vaccine Dipping Khola cleaning 	<ul style="list-style-type: none"> Enough food Enough medications Adequate personnel for advice giving 	<ul style="list-style-type: none"> No thieves No epidemic diseases 	<p>Precondition People don't oppose the project</p>

Project Design Matrix (PDM) 3

Date : 22/7/03

Target Group : Mdala

Project Name : Treadle pump irrigation (2nd I.G.A.)

Duration of the project : 2002-2005

Participants: 10 Males and 20 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Poverty reduction	Poverty levels reduced by 65 % by 2005	• Committee Reports	• Demands of the crops don't change drastically
Project Purpose			
Improved food sufficiency	Food supply is enough though the year	<ul style="list-style-type: none"> Observation Field reports 	<ul style="list-style-type: none"> Treadle pump price doesn't change drastically The prices for fertilizer & chemicals/ seed don't change drastically
Outputs			
Increase of crop products Diversification of crop varieties	Diversified crops growing achieved from 2 to at least 6	<ul style="list-style-type: none"> Reports Observation 	• No severe disease or insects damage
Activities		Inputs	
<ol style="list-style-type: none"> Plough Harrowing Irrigation plots establishment Irrigation committee formation 	Hoes, Treadle pumps, shovels, watering cans, seed, Fertilizers	<ul style="list-style-type: none"> Water resource is available 	<p>Precondition • People don't oppose the project</p>

Project Design Matrix (PDM) 3

Date : 25/7/03

Target Group : Nanjiwa (Group R)

Duration of the project: 2002-2005

Project Name: Goat rearing (2nd I.G.A.)

Participants: 4 Males and 10 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
Poverty level reduction	• Poverty levels reduced by 50 %	• Observation	• Availability of feeding resource
Project Purpose			
To increase income level	• Income increase of 30 households	• Goat committee records	• Availability of market to sell their goats
Outputs			
<ul style="list-style-type: none"> • Number of goat increased • Milk production increased • Increased manure production 	<ul style="list-style-type: none"> • By the end of 2004 number of goats per household increased from 0 to 2 • Milk production per household to increase from 0 to 1 litre • Manure production to increase from 0 to 2 wheelbarrows. 	<ul style="list-style-type: none"> • Questionnaires • Observation • Questionnaire 	<ul style="list-style-type: none"> • Demand of goats in the market doesn't change
Activities			
<ul style="list-style-type: none"> • Goat committee formation • Formation of rules & regulation • Organization of materials for khola construction • Site selection for the khola • Feeding • Dipping • Cleaning the khola 	Inputs		<ul style="list-style-type: none"> • No thieves • No epidemic diseases <p>Precondition People don't oppose the project</p>
Inputs		• Goats, vaccines/drugs, feeds, ropes, construction materials	

Project Design Matrix : CHIKOJA Village

PROJECT NAME: 2ND IGA, GOAT REARING DURATION: JULY 2003 - 2004

Group: Q Date: 11TH AUGUST, 2003 ATTENDANCE: Male: 10 Female: 17

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Household Poverty Level is reduced in the village	- At Least a 50% Reduction in Poverty of the households by 2004	- Committee records.	- No competes
Project Purpose: - Increased Household Economic Empowerment	- At least 48% of the Households are empowered economically by 2004	- Committee records	- No epidemic disease
Outputs: Increased Number of Households rearing goats	At Least an increase of 10 House holds keeping goats yearly by 2004.	- Committee Records	- Prices of goats/meat do not decline drastically
Activities:			Important Assumption
<ul style="list-style-type: none"> - Establish Committee - Train Committee - Construct a communal feeding stall - Construct individual kholas - Feeding to goats 		Inputs <ul style="list-style-type: none"> - Goats - Materials for khola construction - Tag - Vaccine 	<ul style="list-style-type: none"> - Losses through theft, <p>Precondition - People have willing to do goat rearing</p>

Project Design Matrix : MANJELO Village

PROJECT NAME: 2ND IGA, GOAT REARING

DURATION: JULY 2003 - 2004

Group: Q **Date:** 12TH AUGUST, 2003 **ATTENDANCE:** Male: 7 Female: 16

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Household Poverty is reduced in the village	- At Least 48% of the households have a reduction in poverty by 2004	- Household Well-being Survey Reports. - Evaluation Reports. - Committee records.	-No competes
Project Purpose: - Increased Household Economic Empowerment	- At Least a K1,600 income contribution to the household from goats' sales annually by 2004.	- Household Income Survey Reports - Committee records - Mid-term Evaluation Reports	-No epidemic disease
Outputs: -Number of household rearing goat's increase.	- At Least 10 new households are keeping goats annually by 2004.	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports. - Household income Survey Reports.	- Prices of the goat does not decline drastically
Activities:	Inputs		Important Assumption
- Establish Committee - Train Committee - Construct communal feeding stall - Construct individual kholas - Share out additional goats to new households - Market goats/meat	-Goats -Materials for khola construction -Tag -Vaccine		- Losses through theft and death are minimised Precondition -People have willing to do goat rearing

Project Design Matrix : TEULA Village

PROJECT NAME: 2ND IGA, GOAT REARING

DURATION: JULY 2003 - 2004

Group: Q **Date:** 12TH AUGUST, 2003 **ATTENDANCE:** Male: 10 Female: 13

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Household Poverty is reduced in the village	- At Least a 30% reduction in poverty	- Household well being Survey Reports. - Evaluation Reports. - Committee records.	-No competes
Project Purpose: - Increased Household Economic Empowerment	- At Least a K1500 income contribution to the household from goats' sales annually by 2004.	- Household Income Survey Reports - Committee records - Mid-term Evaluation Reports	-No epidemic disease
Outputs: -Goats are shared out to participating households.	- At Least 9 new households are keeping goats annually.	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports. - Household income Survey Reports.	- Prices of the goat does not decline drastically
Activities:	Inputs		Important Assumption
- Establish Committee - Train Committee - Construct communal feeding stall - Construct individual kholas - Share out additional goats to new households - Market goats/meat	Goats Materials for khola construction Tag Vaccine		- Losses through theft and death are minimised Precondition -People have willing to do goat rearing

Project Design Matrix (PDM) 3

Date _____ : _____
 Project Name: Goat Rearing (2nd I.G.A.)
 Participants: 7 males and 5 females

Target Group : Chakana

Duration of the project : 2002-2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
• Poverty reduction and improved livelihoods	• Poverty level reduced by 65 %	• Reports	• Availability of feeding resource
Project Purpose			
• Increased income and nutritional status	• Households keeping goats increased from 12 to 40 by 2005	• Reports • Observation and reports	• Availability of market to sell their goats
Outputs			
• Increase of goat number	• Increase of goat number from 0 to 40	• Observation • Reports • Report	• Demand of goats in the market doesn't change
Activities		Inputs	
• Khola constructing • New stock provision • Training on goat rearing activities	• Poles • Goats • Nails • Pails	• No thieves • No epidemic diseases Precondition • People don't oppose the project	

Project Design Matrix (PDM) 3

Date _____ : _____
 Project Name: Goat Rearing (2nd I.G.A.)
 Participants: _____

Target Group : Lemu Village (Group R)

Duration of the project : 2002-2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
• Poverty reduction	• Poverty level reduce by 65%	• Reports by P.I.U. members	• Availability of feeding resource
Project Purpose			
• Income increase	• 40 households get income from goat rearing	• Household income records • Sales records	• Availability of market to sell their goats
Outputs			
• New born goats are acquired	• 40 households will get goats	• Communities have records	• Demand of goats in the market doesn't change
Activities		Inputs	
• Feeding and managing goats • Constructing kholas for goats	• Goats • Vaccines • Materials for khola	• No thieves • No epidemic diseases Precondition • People don't oppose the project	

Project Design Matrix (PDM) 3

Date : 20/07/03

Target Group : M. Ngondo (Group R)

Project Name: Irrigation (2nd I.G.A.)

Duration of the project : 2002-2005

Participants: 10 Males and 9 Females

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal			
• Poverty reduction	• Reduction of poverty levels by 60%	• Observation • P.I.U supervision	• Demands of the crops don't change drastically
Project Purpose			
• Community empowered economically	• 20 households' income increase by treadle pump irrigation	• Data from P.I.U. members	• Treadle pump price doesn't change drastically • The prices for fertilizer & chemicals/ seed don't rise drastically.
Outputs			
• Nutrition standard changed • Production increase	• 20 households have enough food • 20 households get 2 more crop harvest	• Households observed • Committee reports	• No severe disease or insects damage
Activities			
• Cultivation • Planning • Fertilizer application • Weeding • Harvesting	Inputs • Seed • Fertilizer • Chemicals • Hoes • Treadle pump		• Water resource is available Precondition • People don't oppose the project

Project Design Matrix : KAMMATA Village

PROJECT NAME: 2ND IGA: TREADLE PUMP IRRIGATION FARMING DURATION: June 2002 – August 2004

Group: Q Date: 11TH AUGUST, 2003 ATTENDANCE: Male: 9 Female: 19

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Increased Household Food Security - Reduced Household Poverty	- At Least a 55% of the households are food secure by 2004. - At least 55% of the households have a reduction in poverty by 2004	- Household Food Security Survey Reports. - Household well-being survey reports - Evaluation Reports.	-No competes
Project Purpose: - Increased Household self-sufficiency	- At least a 55% of the Households are self-sufficient in food and income by 2004.	- Household well-being Survey reports - Committee records. - Mid-term Evaluation Reports	-No severe disease or insects' attack. -No drastic change of fertilizer/chemical price
Outputs: -Food/crop production per unit area is increased.	- An Increase of 2 crop harvests per unit area by 2004.	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- Good prices for crops on the market. - Good crop storage
Activities:			
- Establish Committee - Train Committee - Grow crops using treadle pump irrigation - Harvest, market/store crops. - Weed - Apply chemical / fertilizer	Inputs		Important Assumption
	-Seed -Fertilizer -Chemicals -Treadle pumps -Wheel barrows	-Watering cans -Polythene pots -PIU members -Labor of villagers -Manual	-Availability of the water resource such as stream Precondition -People have willing to do irrigation farming

Project Design Matrix : KUMANDA Village

PROJECT NAME: 2ND IGA, GUINEA FOWL REARING **DURATION:** JULY 2003 - 2004

Group: Q **Date:** 14TH AUGUST, 2003 **ATTENDANCE:** Male: 10 Female: 18

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Household Poverty Levels Are Reduced	- At Least a 40% Reduction in the Household Poverty Levels by 2004	- Evaluation Reports. - Committee records.	-No competes
Project Purpose: - Increased Household Economic Empowerment	-At Least a K2000 income contribution to the household from guinea fowl sales annually by 2004.	- Household Income Survey Reports - Committee records - Mid-term Evaluation Reports	-No epidemic disease
Outputs: -Increased Number of Households rearing g/fowls	-At Least an increase of 30 House holds keeping guinea fowls annually by 2004.	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports. - Household income Survey Reports.	- Prices of the bird does not decline drastically
Activities:	Inputs		Important Assumption
- Establish Committee - Train Committee - Construct a communal guinea fowl khola. - Share out eggs/live birds to Households - Market Birds	-Guinea fowl -Eggs -Materials of khola -Vaccine	-PIU members -Manual -Labors of villagers	- Losses through theft and death are minimised Precondition -People have willing to do Guinea fowl rearing

Project Design Matrix : TAVEKENJI Village

PROJECT NAME: 2ND IGA: TREADLE PUMP IRRIGATION FARMING **DURATION:** July 2003 - 2004

Group: Q **Date:** 12TH AUGUST, 2003 **ATTENDANCE:** Male: 8 Female: 17

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Increased Household Food Security - Reduced Household Poverty Levels	- At Least a 50% of the households are food secure by 2004. - At least 50% of the households have a reduction in poverty by 2004	- Household Food Security Survey Reports. - Household well-being survey reports - Evaluation Reports.	-No competes
Project Purpose: - Income Increased	-At least a 30% income contribution from crop sales annually by 2004.	- Household well-being Survey reports - Committee records. - Mid-term Evaluation Reports	-No severe disease or insects' attack -No drastic change of fertilizer/chemical price
Outputs: -Food/crop production per unit area is increased.	-At least a 50% increase in crop production per unit area annually by 2004	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports.	- Good prices for crops on the market. - Good crop storage
Activities:	Inputs		Important Assumption
- Establish Committee - Train Committee - Grow crops using treadle pump irrigation - Harvest, market/store crops.	-Seed -Fertilizer -Chemicals -Treadle pumps -Wheel barrows	-Watering cans -Polythene pots -PIU members -Labor of villagers -Manual	- Availability of the water resource Precondition -People have willing to do goat rearing

Project Design Matrix : CHILANGALI Village

PROJECT NAME: 2ND IGA, GOAT REARING

DURATION: JULY 2003 - 2004

Group: Q **Date:** 8TH AUGUST, 2003 **ATTENDANCE:** Male: 6 Female: 13

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Household Poverty Levels Are Reduced	- At Least a 50% of the Households have reduced Poverty Levels by 2004	- Committee records.	No competes
Project Purpose: - Increased Household Economic Empowerment	- At least 50% of the participants are empowered economically by 2004	- Committee records	No epidemic disease
Outputs: Increased number of households keeping goats.	At Least 8 new households get goats each year by 2004.	- Committee Records	- Prices of goats/meat do not decline drastically
Activities: - Establish Committee - Train Committee - Construct a communal feeding stall - Construct individual kholas - Feeding to goats	Inputs -Goats -Materials for khola construction -Tag -Vaccine		Important Assumption -Losses through theft Precondition -People have willing to do goat rearing

Project Design Matrix : DANIEL MBEDZA Village

PROJECT NAME: 2ND IGA, GOAT REARING

DURATION: JULY 2003 - 2004

Group: Q **Date:** 15TH AUGUST, 2003 **ATTENDANCE:** Male: 8 Female: 16

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Household Poverty Levels Are Reduced	- At Least a 55% reduction in poverty	- Household Well-being Survey Reports. - Evaluation Reports. - Committee records.	-No competes
Project Purpose: - Increased Household Economic Empowerment	- At Least a K1000 income contribution to the household from goats' sales annually by 2004.	- Household Income Survey Reports - Committee records - Mid-term Evaluation Reports	-No epidemic disease
Outputs: Goats are shared out to participating households.	- At Least 10 new households are keeping goats annually.	- Committee Records - PIU monitoring Reports. - Mid-Term Evaluation Reports. - Household income Survey Reports.	- Prices of goats/meat do not decline drastically
Activities: - Establish Committee - Train Committee - Construct communal feeding stall - Construct individual kholas - Share out goats to new households - Market goats/meat	Inputs -Goats -Materials for khola construction -Tag -Vaccine		Important Assumption - Losses through theft and death are minimised Precondition -People have willing to do goat rearing

Project Design Matrix : KAMWENDO Village 2nd IGA

Group: P Date: 20/08/03 Participants: Male: 11 Female: 23 Project Name: GOAT-KEEPING Duration: 2003 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved economic Levels through the sale of goats and goat meat.	- The community earns about K25,000 annually from the sale of goats and goats' meat.	- Treasurer's records.	-No competes
Project Purpose: - Income increase by goat keeping.	No data	- Secretary's records.	-No epidemic disease
Outputs: -Goat's number increase	- At least 20% of the community become goat owners.	- Secretary's records. - Training report	- Selling price of goats does not go down radically
Activities: -A goat-keeping committee is formed. - Committee members are trained on the management of goats. - Rules set up on the distribution process of goats. - A communal kraal constructed.	Inputs -11 goats supplied by October, 2003. -Goats' medications made available to all project goats -Kraal construction materials provided prior to the supply of the goats.		Important Assumption -Security is maintained. Precondition - Committee remains active and coordinates activities. - Community still regards goat keeping as an important IGA and protein source.

Project Design Matrix : PETER BILILA Village

2nd IGA:

Group: P Date: 29/08/03 Participants: Male: 12 Female: 18 Project Name: GOAT-KEEPING Duration: 2003 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved economic Levels through the sale of goats and goat meat.	- The community earns about K20,000 annually from the sale of goats and goats' meat by 2005.	- Treasurer's records.	-No competes
Project Purpose: - Introduce goat-keeping.	No data	- Secretary's records.	-No epidemic disease
Outputs: -Increase of goat number	- At least 30% of the community have become goat owners by 2005	Secretary's records. Training report.	- Selling price of goats does not go down radically
Activities: - A goat-keeping committee is formed. - Committee members are trained on the management of goats. - Rules are set up on the distribution process of goats. - A communal kraal is constructed.	Inputs - 11 goats supplied by October 2003. - Goats' medications made available to all project goats - On continuous basis since October 2003. - Khola materials are provided prior to the supply of the goats		Important Assumption - Security is maintained. Precondition - Committee remains active and coordinates activities. - Community still regards goat keeping as an important IGA and protein source

Project Design Matrix : NDEMANJE Village

2nd IGA:

Group: P Date: 23/08/03 Participants: Male: 15 Female: 30 Project Name: GOAT-KEEPING Duration: 2003 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved economic Levels through the sale of goats and goat meat.	- The community earns about K30,000 annually from the sale of goats and goats' meat by 2005.	- Treasurer's records.	-No competes
Project Purpose: - Income increase by goat-keeping.	No data	- Secretary's records.	-No epidemic disease
Outputs: -Goat number increase	- At least 35% of the community have goat	-Secretary's records. -Training report.	- Selling price of goats does not go down radically
Activities: - Assist with the formulation of distribution rules. - A goat-keeping committee is formed. - Committee members are trained on the management of goats. - Rules are set up on the distribution process of goats. - A communal kraal is constructed.	Inputs -11 goats supplied by October 2003. -Goats' medications made available to all project goats -On continuous basis since October, 2003. -Kraal construction materials provided prior to the supply of the goats. -Provide medications for the infected goats.		Important Assumption Security is maintained. Precondition - Committee remains active and coordinates activities. - Community still regards goat keeping an important IGA and protein source.

Project Design Matrix : SYMON MPOMBE Village

2nd IGA:

Group: P Date: 30/08/03 Participants: Male: 10 Female: 12 Project Name: GOAT-KEEPING Duration: 2003 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved economic Levels through the sale of goats and goat meat.	- The community earns about K40,000 annually from the sale of goats and goats' meat by 2005.	- Treasurer's records.	-No competes
Project Purpose: - Income increase by goat keeping.	No data	- Secretary's records. - Number of goats seen around the homesteads.	-No epidemic disease
Outputs: -Increase of goat number	- At least 55% of the community have become goat owners	-Secretary's records. -Training report. -IGA management training reports.	- Selling price of goats does not go down radically
Activities: - A goat-keeping committee is formed. - Committee members are trained on the management of goats. - Rules are set up on the distribution process of goats. - A communal kraal is constructed.	Inputs - 11 goats supplied by October 2003. - Goats' medications made available to all project goats - On continuous basis since October 2002. -Kraal construction materials provided prior to the supply of the goats.		Important Assumption - Security is maintained. Precondition -Committee remains active and coordinates activities. - Community still regards goat keeping as an important IGA and protein source.

Project Design Matrix : KATEYA Village

2nd IGA:

Group: P Date: 21/08/03 Participants: Male: 15 Female: 18 Project Name: GOAT-KEEPING Duration: 2003 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved economic Levels through the sale of goats and goat meat.	- The community earns about K25,000 annually from the sale of goats and goats' meat.	- Treasurer's records.	-No competes
Project Purpose: - Income increase by goat keeping.	No data	- Secretary's records.	-No epidemic disease
Outputs: -Goat's number increase	- At least 55% of the community have become goat owners.	- Secretary's records. - Training report. - IGA management training reports.	- Selling price of goats does not go down radically
Activities: - A goat-keeping committee is formed. - Committee members are trained on the management of goats. - Rules set up on the distribution process of goats. - A communal kraal constructed.	Inputs		Important Assumption Security is maintained.
	- 11 goats supplied by October, 2003. - Goats' medications made available to all project goats - Kraal construction materials provided prior to the supply of the goats.		Precondition - Committee remains activated coordinates activities. - Community still regards goat keeping an important IGA and protein source.-

Project Design Matrix : MALUWA Village

2nd IGA

Group: P Date: 14/08/03 Participants: Male: 7 Female: 13 Project Name: GOAT-KEEPING Duration: 2002 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved economic Levels through the sale of goats and goat meat.	- The community earns about K45,000 annually from the sale of goats and goats' meat	- Treasurer's records.	-No competes
Project Purpose: Income increase by goat keeping	No data	- Secretary's records. - Number of goats seen around the homesteads.	-No epidemic disease
Outputs: Increase of goat number	- At least 80% of the community have become goat owners	Secretary's records. Training report.	- Selling price of goats does not go down radically
Activities: - A goat-keeping committee is formed. - Committee members are trained on the management of goats. - Rules set up on the distribution process of goats. - A communal kraal constructed.	Inputs		Important Assumption Security is maintained
	-11 goats supplied by October, 2003. -Goats' medications made available to all project goats - Kraal construction materials provided prior to the supply of the goats. -Provide medications for the infected goats.		Precondition - Committee remains active and coordinates activities. - Community still regards goat keeping an important IGA and protein source.

Project Design Matrix : KUMPONDA Village

2nd IGA:

Group: P Date: 22/08/03 Participants: Male: 12 Female: 20 Project Name: GOAT-KEEPING Duration: 2003 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved economic Levels through the sale of goats and goat meat.	- The community earns about K20,000 annually from the sale of goats and goats' meat by 2005.	- Treasurer's records.	-No competes
Project Purpose: Income increase by goat keeping	No data	- Secretary's records. - Number of goats seen around the homesteads	-No epidemic disease
Outputs: -Increase of goat number	- At least 45% of the community have become goat owners	- Secretary's records - Training report	- Selling price of goats does not go down radically
Activities:	Inputs		Important Assumption
-Provide medications for the infected goats. - A goat-keeping committee is formed. - Committee members are trained on the management of goats. - Set up of rules on the distribution process of goats. - A communal kraal is constructed.	- 11 goats supplied by October, 2003. - Goats' medications made available to all project goats		-Security is maintained. Precondition - Committee remains active and coordinates activities. - Community still regards goat keeping an important IGA and protein source

Project Design Matrix : CHIGUMULA Village

2nd IGA

Group: P Date: 15/08/03 Participants: Male: 9 Female: 17 Project Name: GOAT-KEEPING Duration: 2003 - 2005

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal: - Improved economic Levels through the sale of goats and goat meat.	- The community earns about K20,000 annually from the sale of goats and goats' meat.	- Treasurer's records.	-No competes
Project Purpose: -Income increase.	No data	- Secretary's records.	-No epidemic disease
Outputs: Goat's number increase	- At least 15% of the community have become goat owners.	-Secretary's records -Training report	- Selling price of goats does not go down radically
Activities:	Inputs		Important Assumption
- A goat-keeping committee is formed. - Committee members are trained on the management of goats. - Rules set up on the distribution process of goats. - A communal kraal constructed	-11 goats supplied by October, 2003. -Goats' medications made available to all project - Kraal construction materials provided prior to the supply of the goats.		-Security is maintained. Precondition -Committee remains active and coordinates activities. - Community still regards goat keeping an important IGA and protein source.

ANNEX F. Study Tour & Inter-location

Monitoring Tour

ANNEX F1

Results of Study Tour, May ~ June 2002

Study Tour to ICRAF and Botanical Training Center in Magomero

Questions to Participants	Number. of Respondents			% to visitors from 24 villages
	May 14	May 21	Total	
1. Which aspect of the tour did you like most ?				
Agroforestry in ICRAF	24	20	44	54
Weaving by Machine	5	1	6	7
Chicken rearing	5	0	5	6
Grafting of Fruit Trees	2	1	3	4
Pig Farming	2	0	2	2
Vegetable Nursery	1	1	2	2
Biogas Utilization	1	1	2	2
Leading Farmer's AF practice	2	0	2	2
Furniture made of Cane	2	0	2	2
Dairy Cattle Rearing	1	0	1	1
Everything about the Trips	2	11	13	16
TOTAL	47	35	82	98
2. Which aspect of the tour did you like least ?				
None	11	20	31	66
Pig Farming	5	9	14	30
Chicken rearing	7	2	9	19
Dairy Cattle Rearing	6	3	9	19
Biogas Utilization	2	1	3	6
Agroforestry in ICRAF	2	1	3	6
Lunch maize meal not served	3	0	3	6
Leading Farmer's AF practice	0	2	2	4
Weaving by Machine	1	1	2	4
Time Limitation during Visit	1	0	1	2
Furniture made of Cane	1	0	1	2
TOTAL	28	19	47	164
3. What do you think are the most important activities?				
Agroforestry	32	33	65	54
Chicken rearing	17	12	29	24
Grafting of Fruit Trees	14	14	28	23
Community Forestry	7	11	18	15

Questions to Participants	Number. of Respondents			% to visitors from 24 villages
	May 14	May 21	Total	
Compost-manure Preparation	8	8	16	13
Biogas Utilization	2	5	7	6
Pig Farming	1	6	7	6
Dairy Cattle Rearing	2	3	5	4
Furniture made of Cane	1	4	5	4
Nursery Activities	1	1	2	2
Indigenous Fruit-tree Growing	1	0	1	1
Weaving by Machine	1	0	1	1
Improved Stove	1	0	1	1
Small Scale Irrigation	1	0	1	1
TOTAL	57	64	121	155
4. What are you going to do with what you have learnt?				
Agroforestry Practices	8	9	17	71
Grafting	3	1	4	17
Compost Manure	0	2	2	8
Improved Stove	1	0	1	4
TOTAL	12	12	24	100

Results of Study Tour to Mwanza

Study Tour to Mwanza GTZ/WSM Funded Project (Conducted on 7th June, 2002)

No.	Question to Participants	Number of Respondents	Percent (%)
1			
	Bee keeping	23	26
	Guinea fowl rearing	18	20
	Treadle pump irrigation	14	16
	Individual trees and forests	10	11
	Agroforestry	10	11
	All areas	8	9
	Rain water harvesting	5	6
	Dairy cattle	1	1
	Total:	89	100
2			
	None	31	61
	Planting bluegam trees in streams	8	16
	Agroforestry	5	10
	Goat farming	3	6
	Cattle farming	3	6
	Guinea fowl rearing	1	2
	Total:	51	100
3			
	Individual trees and forests	30	22
	Guinea fowl rearing	27	20
	Irrigation	22	16
	Bee keeping	19	14
	Agroforestry	17	13
	Compost manure	10	7
	Livestock	7	5
	Vertiver	1	1
	Rain water harvesting	1	1
	Total:	134	100
4	What are you going to do with what you have learned?		
	Not decided	30	48
	Individual trees and forests	9	14
	Guinea fowl rearing	6	10
	Agroforestry	5	8
	Bee keeping	4	6
	Irrigation	4	6
	Compost manure	3	5
	Rain water harvesting	2	3
	Total:	63	100
5	Any other comments?		
	No comment	22	41
	Enjoyed the trip	19	35
	Need more extension worker visits	4	7
	Fruit growing	3	6
	Guinea fowl rearing	2	4
	Goat farming needed	2	4
	Rabbit farming	1	2
	Bee keeping	1	2
	Total:	54	100

Note: (1) Number of participants is 67, out of which number of PIU is 13.
 (2) Participants selected more than one item for questions.

ANNEX F2 Results of Inter-Location Monitoring Tour in 2003

(1/4)

Questionnaire on Inter-Location Monitoring Tour in May, 2003
Results

Item	No. 1 Makonokaya	No. 2 Siyandima	No. 3 Kaumbata	No. 4 Mdala	No. 5 Narjiwa	No. 6 Chikoja	No. 7 Manjiero	No. 8 Teula	No. 9 Chakana	No. 10 Lemu	No. 11 Magombo Ngondo	No. 12 Kamimata	No. 13 Kumanda
1 Which parts have you learned from each category?													
1 Nursery													
1 Caring nursery	1	1	1	1		1			1	1	-		
2 Construction	1												
3 Live fencing	1												
4 Use their own seed		1											
5 Caring remaining seed			1										
6 Cutting grass			1										
7 Sowing seeds					1		1	1					1
8 Add fertility to the soil								1					
9 Tree planting												1	
2 IGAs													
1 Guinea fowl rearing	1	1						1		1			1
2 Bee keeping	1	1		1						1			
3 Irrigation farming	1	1	1	1	1		1	1	1	1			1
4 Dyke, dam					1								
5 Goat rearing					1			1		1			
6 Manure making	1												
7 Management			1			1							
3 Improved Cooking Stove													
1 Not seen	1												
2 Don't use more firewood, economic				1		1			1			1	1
3 Can cook more faster							1						
4 More than one cook at time							1						
5 Good													
4 Community organization													
1 Unity	1	1				1			1	1			1
2 JICA				1			1					1	
3 Loan group								1					
4 Religious group								1					
2 Which are the most impressed parts for you?													
1 Irrigation farming	1			1					1				
2 Dyke, dam				1	1								
3 Nursery	1	1	1	1	1				1	1	1	1	1
4 Seed bank													
5 Community forest							1						
6 Guinea fowl rearing	1			1		1							
7 Goat rearing					1	1	1	1					

Questionnaire on Inter-Location Monitoring Tour in May, 2003
Results

Item	No. 1 Makonokaya	No. 2 Siyamdima	No. 3 Kaumbata	No. 4 Mdala	No. 5 Narjiwa	No. 6 Chikoja	No. 7 Manjiero	No. 8 Teula	No. 9 Chakana	No. 10 Lemu	No. 11 Magombo Ngondo	No. 12 Kam'inata	No. 13 Kumanda
8 Improved cooking stove		1							1		1	1	1
9 IGAs		1								1	1	1	1
10 Bee keeping				1			1						
11 Manure making				1	1	1		1					
12 Community organization										1			
3 What will be helpful to your village?													
1 Irrigation farming	1	1	1	1	1	1	1	1	1			1	
2 Dyke, dam					1								
3 Guinea fowl rearing	1		1	1									
4 Goats rearing	1	1	1		1	1	1	1	1				
5 IGAs										1	1		1
6 Pig rearing													
7 Improved cooking stove		1								1	1		1
8 Bee keeping				1			1						
9 Working together						1							
10 Nursery									1	1	1	1	1
11 Community forest													
12 Making manure						1		1					
13 Fish pond												1	
4 What and how do you intend to make use out of those you have learned?													
1 Construction of good khola; fowl & goat	1		1							1			
2 Providing good feed; fowl & goat			1										
3 Working together, community	1							1			1	1	
4 Irrigation farming	1	1	1	1			1				1		
5 Encouraging to work		1			1	1	1	1				1	1
6 Construction of cooking stove		1				1	1	1	1	1	1		
7 Caring for nursery				1					1		1		
8 Planting trees										1			
9 Improve forest							1						
10 Caring for IGAs				1					1		1		
11 Hold meeting					1								
12 Manure making						1							
13 Construction of model garden								1					
14 Following the leader													1
15 Loan group													
5 Others, choice of 2nd phase													
1 Treadle pump	1				1								
2 Guinea fowl rearing	1												
3 Goat rearing					1								

Questionnaire on Inter-Location Monitoring Tour Results

Item	No. 14 Tamvekeriji	No. 15 Chiliangali	No. 16 Daniel Mbedza	No. 17 Kamwendo	No. 18 Peter Bilila	No. 19 Ndemanje	No. 20 Simon Mpombe	No. 21 Kateya	No. 22 Maluwa	No. 23 Kumponda	No. 24 K. Chigumula	Total
1 Which parts have you learned from each category?												
1 Nursery												
1 Caring nursery	1	-	1	1		1	1	1	-	1	1	15
2 Construction												1
3 Live fencing												1
4 Use their own seed												1
5 Caring remaining seed												1
6 Cutting grass												1
7 Sowing seeds					1							5
8 Add fertility to the soil												1
9 Tree planting												1
2 IGAs												
1 Guinea fowl rearing				1			1					7
2 Bee keeping												4
3 Irrigation farming						1				1	1	12
4 Dyke, dam				1								2
5 Goat rearing	1					1		1	1			7
6 Manure making												1
7 Management			1		1							4
3 Improved Cooking Stove												
1 Not seen												1
2 Don't use more firewood, economic			1	1	1	1			1	1		12
3 Can cook more faster												1
4 More than one cook at time											1	2
5 Good							1					1
4 Community organization												
1 Unity							1				1	9
2 JICA	1											4
3 Loan group												1
4 Religious group												1
2 Which are the most impressed parts for you?												
1 Irrigation farming						1	1		1			7
2 Dyke, dam		1			1							4
3 Nursery			1	1			1			1	1	15
4 Seed bank									1			2
5 Community forest		1				1						4
6 Guinea fowl rearing		1			1		1		1		1	8
7 Goat rearing					1	1					1	7

Questionnaire on Inter-Location Monitoring Tour Results

Item	No. 14 Tamvekerji	No. 15 Chiliangali	No. 16 Daniel Mbedza	No. 17 Kamwendo	No. 18 Peter Bilila	No. 19 Ndemanje	No. 20 Simon Mpombe	No. 21 Kateya	No. 22 Maluwa	No. 23 Kumponda	No. 24 K. Chigumula	Total
8 Improved cooking stove			1	1						1		8
9 IGAs			1	1						1		8
10 Bee keeping												2
11 Manure making												4
12 Community organization												1
3 What will be helpful to your village?												
1 Irrigation farming	1		1		1	1	1			1		15
2 Dyke, dam												1
3 Guinea fowl rearing		1			1						1	6
4 Goats rearing	1		1			1	1		1		1	14
5 IGAs				1				1				5
6 Pig rearing					1							1
7 Improved cooking stove		1		1				1				7
8 Bee keeping	1		1			1						5
9 Working together									1			2
10 Nursery				1				1			1	7
11 Community forest										1		2
12 Making manure		1								1		4
13 Fish pond												1
4 What and how do you intend to make use out of those you have learned?												
1 Construction of good khola; fowl & goat												3
2 Providing good feed; fowl & goat												1
3 Working together, community	1	1	1	1		1				1	1	11
4 Irrigation farming												6
5 Encouraging to work	1			1	1	1	1	1		1	1	15
6 Construction of cooking stove								1				7
7 Caring for nursery		1										4
8 Planting trees	1				1			1				4
9 Improve forest												1
10 Caring for IGAs						1	1					5
11 Hold meeting											1	2
12 Manure making					1							2
13 Construction of model garden												1
14 Following the leader												1
15 Loan group		1										1
5 Others, choice of 2nd phase												
1 Treadle pump												2
2 Guinea fowl rearing												1
3 Goat rearing												1

Questionnaire on Inter-Location Monitoring
Tour (December, 2003)
Results

Item	No. 1 Makonokaya	No. 2 Siyamdima	No. 3 Kaumbata	No. 4 Mdala	No. 5 Nanjiwa	No. 6 Chikoja	No. 7 Manjero	No. 8 Teula	No. 9 Chakana	No. 10 Lemu	No. 11 Magombo Ngondo	No. 12 Kam'mata	No. 13 Kumanda	No. 14 Tamvekerji
Sample Number	3	2	4	4	1	5	4		5	5	1	5	5	4
1 Which parts and how are you interested in the nursery?														
a Structure	3													
1 Fence			2	4	1	5	3		5	5	1	5	3	3
2 Floor		2	1										2	1
3 Others			1										1	
b Management	3	2	1	4	1	4	3		5	5	1	5	3	3
1 Pot filling			1											1
2 Seed selection			1											
3 Watering													2	
4 Hardening														
5 Others														
c Working	3		1	4	1	4	3		5	5	1	5	2	3
1 Working activities														
2 Management														
3 Making plan														
d Committee activities	3		3	4	1	4	1		5	5	1	5	3	2
1 Committee activities														
2 Related IGAs committee														
3 Related VNRMC committee														
4 Related DVC committee														
2 Which are the most impressed parts for you?														
1 Laid plastic sheet				3							1			
2 Pot filling	2			3		1			1	3				1
3 Care nursery	1				1									
4 Care trees	2											1		
5 Watering nursery	1													
6 Working rotation/working well	1									1				1
7 Not sown tube														
8 Village develop			1											
9 Fence construction					1	2				2	1	2		
10 Unite committee, villagers					1					1				1
11 Weeding											1			
12 Terrace nursery														
13 Harden seedlings										1				
3 What will be helpful to your village?														
1 Planting gliricidia/trees	1		1	4				2		1		1	3	
2 Village head closely with committee	2			4										
3 Planting a lot of trees				4		1	3			4	1	1	1	2
4 Filling tubes	1						2		1					
5 Unite committee, villagers	2	2					3			1		1		1

**Questionnaire on Inter-Location Monitoring
Tour (December, 2003)
Results**

Item	No. 1 Makonokaya	No. 2 Siyamdima	No. 3 Kaumbata	No. 4 Mdala	No. 5 Nanjiwa	No. 6 Chikoja	No. 7 Manjero	No. 8 Teula	No. 9 Chakana	No. 10 Lemu	No. 11 Magombo Ngondo	No. 12 Kam'mata	No. 13 Kumanda	No. 14 Tamvekerji
6 Sample Number	3	2	4	4	1	5	4		5	5	1	5	5	4
6 Root pruning							2		1					1
7 Plastic sheet							1							
8 Shading							1							
9 Working rotation	1													
10 Forest woodlot/communal woodlot		2												1
11 Care trees														
12 Make manure										1		2		
13 Encourage working														
14 Awareness of soil fertility			2			1			1			3	3	
15 Care nursery		2							1	1				
16 Terrace nursery														
17 Good planning														
18 Establish rules/constitutions														
19 Fence construction														
20 Different species			2						1				1	
21 Seed sowing/seed selection			1						2				1	
22 Watering										2		1		1
23 Others						4								
4 What and how do you intend to make use out of those you have learned?														
1 Lay plastic tube	1	2	1	4								1		1
2 Care of fence/good fence				4	1		3		1			1	1	
3 Harden seedlings	2	2		4								1		1
4 Different species			1				2		1					1
5 Awareness of environment							2							
6 Fast pot filling/many pot filling	2				1		1					1	1	
7 Terrace nursery					1		2							1
8 Root pruning	1					1			1			1	1	1
9 Awareness of soil fertility	1								1			1	1	
10 Water nursery/Care nursery			1						1	1			1	1
11 Seed sowing			1			1							3	
12 Work hard										1	1			
13 Communal woodlot												1		
14 Unite community										1			1	1
15 Rotation watering													1	
16 Pot filling														
17 Making manure														1
18 Extension worker's instruction														1
19 Establish rules/constitutions														
20 Making plans										1				
21 Selection of land														1
22 Others						4				2				

Questionnaire on Inter-Location Monitoring
Tour (December, 2003)
Results

Item	No. 15 Chlangali	No. 16 Daniel Mbedza	No. 17 Kamwendo	No. 18 Peter Billia	No. 19 Ndemanje	No. 20 Simon Mpombe	No. 21 Kateya	No. 22 Maluwa	No. 23 Kumponda	No. 24 K. Chigumula	Total
Sample Number	1	1	3	3	3	3	3	1	3	2	71 (23 village)
1 Which parts and how are you interested in the nursery?											
a Structure	1	1	3	2	2	3	3	1		2	56
1 Fence					2						8
2 Floor				1	2						4
3 Others											1
b Management	1		3	1	1	3	3		2	2	52
1 Pot filling					1						3
2 Seed selection											1
3 Watering					1						3
4 Hardening				2	1						3
5 Others											0
c Working	1		3		2	3	3		1	2	49
1 Working activities											0
2 Management											0
3 Making plan											2
d Committee activities	1	1	3	2	1	3	3	1		2	51
1 Committee activities											0
2 Related IGAs committee											0
3 Related VNRC committee											0
4 Related DVC committee					1						1
2 Which are the most impressed parts for you?											
1 Laid plastic sheet											4
2 Pot filling											11
3 Care nursery		1		1						1	5
4 Care trees			1								4
5 Watering nursery				1							2
6 Working rotation/working well										1	4
7 Not sown tube						1					1
8 Village develop											1
9 Fence construction		1								1	10
10 Unite committee, villagers	1										4
11 Weeding											1
12 Terrace nursery											2
13 Harden seedlings			2								1
3 What will be helpful to your village?											
1 Planting giiricidia/trees			1			1		1			16
2 Village head closely with committee						1					7
3 Planting a lot of trees										1	18
4 Filling tubes	1			1			1			1	8
5 Unite committee, villagers		1				1	1			1	14

**Questionnaire on Inter-Location Monitoring
Tour (December, 2003)
Results**

Item	No. 15 Chlangali	No. 16 Daniel Mbedza	No. 17 Kamwendo	No. 18 Peter Billia	No. 19 Ndemanje	No. 20 Simon Mpombe	No. 21 Kateya	No. 22 Maluwa	No. 23 Kumponda	No. 24 K. Chigumula	Total
Sample Number	1	1	3	3	3	3	3	1	3	2	71
6 Root pruning											4
7 Plastic sheet											1
8 Shading											1
9 Working rotation						1					2
10 Forest woodlot/communal woodlot			2					1	3		9
11 Care trees									1		1
12 Make manure								2			5
13 Encourage working								1			1
14 Awareness of soil fertility			2				1		2		15
15 Care nursery		1				1				2	8
16 Terrace nursery						1					1
17 Good planning						1					1
18 Establish rules/constitutions							1				1
19 Fence construction		1					1			1	3
20 Different species											4
21 Seed sowing/seed selection	1										5
22 Watering	1										5
23 Others											4
4 What and how do you intend to make use out of those you have learned?											
1 Lay plastic tube											10
2 Care of fence/good fence						1		1	2		15
3 Harden seedlings										1	11
4 Different species								1			6
5 Awareness of environment											2
6 Fast pot filling/many pot filling						1	1	1	1	1	11
7 Terrace nursery						1					6
8 Root pruning											6
9 Awareness of soil fertility					1						6
10 Water nursery/Care nursery				3	2	3		1	1		14
11 Seed sowing					3		1	1	1		10
12 Work hard							1				4
13 Communal woodlot								1			2
14 Unite community	1	1	2		3	1	1			2	14
15 Rotation watering							1				2
16 Pot filling							1			1	2
17 Making manure											2
18 Extension worker's instruction											1
19 Establish rules/constitutions			1								1
20 Making plans											1
21 Selection of land											1
22 Others											6

**ANNEX G. Third Country Training
for Counterparts**

Third Country Training for Counterparts

TRAINING MALAWI PROJECT OFFICIALS IN KENYA

1. Introduction

Training refers to a relatively short-term teaching-learning process related to the beneficiary's present and projected activities. It is by and large, purposefully required and conducted to enable the beneficiary to acquire and develop the desired knowledge of understanding and practice as well as enhanced attitude to facilitate positive development change.

The Kenya Forestry Research Institute (KEFRI) has in collaboration with the Japan International Cooperation Agency (JICA), developed and continue to improve its capacity to develop, organize and implement training courses, workshops and seminars for a broad spectrum of stakeholders at local, national, regional and international levels since 1987. KEFRI is endowed with a multidisciplinary team of research scientists, modern research and training facilities, strategically located field centres, easy communication and accessibility as well as enjoying cordial relations with national and international institutions in related fields. It is this endowment that gives KEFRI a comparative advantage and leadership role to undertake this training.

2. Purpose

The purpose of the training is to enhance performance and service delivery capacity.

3. Number of Persons

Three (3) persons with a good background in forestry, agriculture or related fields.

4. Course Duration

Four (4) weeks, from 13th January 2003 to 10th February 2003; total 30 days including moving days.

5. Course Objectives

1. Enhance understanding and operational skills in Social forestry (SF), Agroforestry (AF) and related fields.
2. Share experiences in SF and AF technology development, verification and extension.
3. Facilitate further collaboration in this field.

6. Course Structure

In-house and field visit sessions comprising presentations, inter-personal discussions, demonstrations and attachment for practice. The resource persons would be drawn from Kenya Forestry Research Institute (KEFRI), the World Agroforestry Centre (ICRAF), Kenya Agricultural Research Institute (KARI), related collaborative institutions and farmers.

7. Course Content

Includes eight (8) modules comprising 28 topics/activities as per programme.

1. Social forestry/agroforestry (SF/AF) concepts, principles and practices.
2. Woody plants for SF/AF interventions.

3. Agroforestry technologies.
4. Socio-economic/cultural aspects of SF/AF.
5. Participatory SF/AF interventions.
6. SF/AF training, extension and dissemination.
7. Advances in AF research and development.
8. Field visit to selected areas/regions/collaborative project activities.

8. Course Venue

Kenya Forestry research Institute (KEFRI) Headquarters, in Muguga Kenya.

9. Course Certificate

A participant who will have diligently and successfully completed the training will be awarded a Certificate of Participation.

Detailed Course Programme Schedule (2003)

REGIONAL SOCIAL FORESTRY COURSE PROGRAMME
13th JANUARY – 7th FEBRUARY 2003
(FOR MALAWI PARTICIPANTS)

	Morning 8.30 - 10.30 am		Mid-morning 11.00 - 1.00 pm		Afternoon 2.00 - 5.00 pm	
WEEK 1						
MON 13/1/03	Travel to Nairobi	Courtesy call to JICA Kenya Office (M. Mukolwe/T. Kudu)	- Introd./prog. overview - Introd. To SF & related concepts (M. Mukolwe) SFTC		Introd. to AF, classification. system & interventions (Dr. D. Nyamai) KEFRI	Visit demo plots (Dr. D. Nyamai) KEFRI
TUE 14/1/03	Integrating high value trees & shrubs in farming systems (Dr. D. Nyamai) KEFRI		Tree germplasm production, collection and handling (W. Omondi) KEFRI		Cont'd - Visit Tree Seed Centre - Demo & practice (B. Owuor) KEFRI	
WED 15/1/03	Appropriate tree propagation methods (M. Mukolwe) SFTC		Adaptive On- farm Agroforestry R & D (Dr. D. Nyamai) KEFRI		Travel to Kitui TOs/SFTC	Introd. to SOFEM activities & achievements (J. Kimondo) (KEFRI)
THUR 16/1/03	SOFEM's Extension Model (M. Mukolwe) SFTC	SOFEM's Extension strategy: farmer to farmer (J. Kimiti) KEFRI	Appropriate tree establishment & mgt techniques (J. Amwatta) KEFRI		Visit SOFEM's activities - On - station activities (J. Amwatta) KEFRI	
FRI 17/1/03	Visit SOFEM : On- farm farmers (J. Amwatta/E. Kyalo) KEFRI		Cont'd		Cont'd	Travel to Muguga
SAT 18/1/03	Consultations, review and compiling field report) (Participants/Consultant/TOs)			N	Visit Nairobi and its Environs	
SUN 19/1/03	Free				Visit ABRI at Karen TOs/SFTC	
WEEK 2						
MON 20/1/03	Silvicultural regimes (Dr. E. Chagala) KEFRI		Advances in forestry R&D (Dr. P. Konuche) KEFRI		Integrated soil & water conservation systems & practices (J. Kimani) SWCB	
TUE 21/1/03	SF / AF extension trends, strategies & practices (Dr. A. Kaudia) KEFRI		Participatory eco- resource management (J. Kagombe) KEFRI		Gender issues, constraints & opportunities for SF/AF devpt. (J. Njuguna) KEFRI	Travel to Egerton Univ.

WED 22/1/03	Extension surveys and appraisal methods (Egerton Univ.) (Dr. F. Lelo) Egerton Univ.	PRA – Discussions (Egerton Univ.)	Visit Baraka Agricultural College, Molo (Br. J. Dolan) BAC	Travel to Kisumu TOs/SFTC
THUR 23/1/03	Travel to Rakwaro	Visit Ruth Okoth's farm (R.Okoth)	Travel to Maseno	Visit Maseno RRC - Introd. (C. Obonyo) KEFRI
FRI 24/1/03	AF Component Interactions & assessment (Dr. J. Nduffa) KEFRI	Field visit to selected On- farm tree planting activities (Dr. J. Nduffa) KEFRI	Visit Ugunja Community Resource Centre (P. Omondi) UCRC	Travel to Busia
SAT 25/1/03	Visit Peter Makokha's farm in Nangoma (P. Makokha)	Free (Compiling field report) (Participants)		
SUN 26/1/03	Free	Travel to Muguga		
WEEK 3				
MON 27/1/03	Policy issues, constraints & opportunities in SF/AF (E. Obonyo) KEFRI	Effective communication and facilitation skills (Dr. A. Kaudia) KEFRI		Sustainable harvesting, processing and utilization of woody plant products (R. Okumu/K. Mukonyi) KEFRI
TUE 28/1/03	Socio- cultural & economic issues in SF/AF (E. Kiptot) KEFRI	Leadership skills for community empowerment & mobilisation in SF (J. Gisemba) KEFRI		Integrated on-farm diseases & pest management practices (L. Mwangi/E. Mutitu) KEFRI
WED 29/1/03	Promoting income generating opportunities in SF/AF (P. Kariuki) FD	Woodfuel production, utilization & conservation strategies (Dr. R. Kapiyo) Maseno Univ.	N	Travel Embu TOs/SFTC
THUR 30/1/03	Visit KARI - Embu - Introd. - AF Component Interactions & assessment (Centre Director) KARI/Embu	- Livestock & fodder production in AF - Fruit tree production (Centre Director) KARI/Embu		Field visit to selected On- farm tree planting and livestock production activities (Centre Director) KARI/Embu
FRI 31/1/03	Travel to Nairobi	Visit ICRAF and RELMA TO/SFTC	C	Review & compile field report(s) Participants
SAT 1/2/03	Review & compile field report(s) / Free			
SUN 2/2/03	Free	Travel to Kibwezi TOs/SFTC		

WEEK 4					
MON 3/2/03	Visit ARIDSAK Project activities – Kibwezi & Kiboko - Introd. (Dr. J. Mulatya) KEFRI	Field visit to on-station and on-farm project sites (Dr. J. Mulatya) KEFRI		Cont'd	Travel to Mombasa
TUE 4/2/03	Travel to Gede	Visit Coastal forest joint management activities at Arabuko Sokoke and NMK-Kipepeo project (E. Mbuvi) KEFRI			Travel to Mombasa
WED 5/2/03	Visit Baobab farm TOs/SFTC	Travel to Muguga			
THUR 6/2/03	Advances in AF R&D - Scaling-up the impact of AF research (Dr. D. Nyamai) KEFRI	Compile field report(s) (Participants)		Group discussion	
FRI 7/2/03	Presentation/Panel discussion (Dr. B. Kigomo/M. Mukolwe/J. Wanjiku)	Course evaluation (D. Ochieng/J. Wambui)	Closing	Consultations	
SAT 8/2/03	Submission of report(s)				
SUN 9/2/03					
MON 10/2/03	DEPARTURE				

ARIDSAK	Agroforestry Research and Development in Arid and Semi-arid Areas of Kenya
BAC	Baraka Agricultural College
FD	Forest Department
ICRAF	World Agroforestry Centre (International Centre for Research in Agroforestry)
KARI	Kenya Agricultural Research Institute
KEFRI	Kenya Forestry Research Institute
NMK	National Museums of Kenya
RELMA	Regional Land management Unit
SFTC	Social Forestry Training Centre
SOFEM	Social Forestry Extension Model Development Project
SWCB	Soil and Water Conservation Branch
UCRC	Ugunja Community Resource Centre

Outline of the Training Programme(2004)

1. Introduction

Training refers to a relatively short-term teaching-learning process related to the beneficiary's present and projected activities. It is by and large, purposefully required and conducted to enable the beneficiary to acquire and develop the desired knowledge of understanding and practice as well as enhanced attitude to facilitate positive development change.

The Kenya Forestry Research Institute (KEFRI) has in collaboration with the Japan International Cooperation Agency (JICA), developed and continue to improve its capacity to develop, organize and implement training courses, workshops and seminars for a broad spectrum of stakeholders at local, national, regional and international levels since 1987. KEFRI is endowed with a multidisciplinary team of research scientists, modern research and training facilities, strategically located field centers, easy communication and accessibility as well as enjoying cordial relations with national and international institutions in related fields. It is this endowment that gives KEFRI a comparative advantage and leadership role to undertake this training.

2. Purpose

The purpose of the training is to enhance performance and service delivery capacity.

3. Number of Persons

Five (5) persons with a good background in forestry, agriculture or related fields.

4. Course Duration

Four (4) weeks, from 11th January 2004 to 9th February 2004; total 30 days including moving days.

5. Course Objectives

- (1) Enhance understanding and operational skills in Social Forestry (SF), Agroforestry (AF) and related fields,
- (2) Share experiences in SF and AF technology development, verification and extension, and
- (3) Facilitate further collaboration in this field.

6. Course Structure

In-house and field visit sessions comprising presentations, inter-personal discussions, demonstrations and attachment for practice. The resource persons would be drawn from KEFRI, International Centre of Research on Agroforestry, Kenya Agricultural Research Institute (KARI), related collaborative institutions and farmers.

7. Course Contents

Includes eight (8) modules comprising 28 topics/activities as per detailed programme.

- (1) Social forestry/agroforestry (SF/AF) concepts, principles and practices,
- (2) Woody plants for SF/AF interventions,
- (3) Agroforestry technologies,
- (4) Socio-economic/cultural aspects of SF/AF,
- (5) Participatory SF/AF interventions,
- (6) SF/AF training, extension and dissemination,
- (7) Advances in AF research and development, and
- (8) Field visit to selected areas/regions/collaborative project activities.

8. Course Venue

Kenya Forestry Research Institute (KEFRI) Headquarters, in Muguga, Kenya.

9. Course Certificate

A participant who will have diligently and successfully completed the training will be awarded a Certificate of Participation by the Director of KEFRI.

SPECIAL REGIONAL SOCIAL FORESTRY COURSE PROGRAMME
12th JANUARY – 9th FEBRUARY 2004
(Tentative)

(2ND MALAWI TRAINING PROGRAMME)

	Morning 8.30 - 10.30 am	Mid-morning 11.00 - 1.00 pm		Afternoon 2.00 - 5.00 pm
WEEK 1				
MON 12.01.04	Introd./ Prog. overview M. Mukolwe (SFTC)	Official opening Director KEFRI	Introd. to Social forestry & related concepts M. Mukolwe (SFTC)	Adoptive on- farm agroforestry R&D J. Wanjiku (SFTC)
TUE 13.01.04	Integrating high value trees & shrubs in farming systems	Tree germplasm production, collection and handling W. Omondi (KEFRI)		Cont'd - Visit Tree Seed Centre - Demo & practice J. Maua (KEFRI)
WED 14.01.04	Advances in forestry R&D Dr. P.K. Konuche (KEFRI)	Appropriate tree propagation methods M. Mukolwe (SFTC)		Travel to Kitui
THUR 15.01.04	SOFEM's Extension strategy: farmer to farmer	Appropriate tree establishment & mgt techniques J. Amwatta (KEFRI)		Introd. to SOFEM activities & achievements J. Kimondo (KEFRI)
FRI 16.01.04	Visit SOFEM : On- farm farmers			Visit SOFEM's activities - On – station activities J. Amwatta (KEFRI)
SAT 17.01.04	Consultations, review and compiling field report TOs/Participants		N	Cont'd Travel to Muguga
SUN 18.01.04	F r e e			Visit Nairobi and its Environs TOs
				Visit ABRI at Karen TOs

WEEK 2				
MON 19.01.04	SOFEM's Extension Model M. Mukolwe (SFTC)	Introduction to gender issues in SF development P. Ongugo (KEFRI)		Gender assessment and analysis in SF development P. Ongugo (KEFRI)
TUE 20.01.04	SF / AF extension trends, strategies & practices	Integrated soil & water conservation systems & practices Z. Mugonyi (SWCB)		Socio - cultural & economic issues in SF/AF P. Ongugo (KEFRI) Travel to Nakuru
WED 21.01.04	Extension surveys and appraisal methods Prof. F. Lelo (Egerton Univ.)	PRA – Discussions Prof. F. Lelo (Egerton Univ.)	Visit Baraka Agric. College, Molo Br. T. Dolan (BAC)	Travel to Kisumu
THUR 22.01.04	Scaling-up the impact of on-farm innovations Z. Mugara (Min. of Agric.)	Woodfuel production, utilization & conservation strategies Dr. R. Kapiyo (Maseno Univ.)		Empowering communities to adopt poverty alleviating innovations SPC
FRI 23.01.04	Visit Maseno RRC - Introd. - Agroforestry and soil fertility Dr. M. Gichora /Dr. J. Ndufa (KEFRI)	Field visit to selected On-farm activities Dr. J. Ndufa (KEFRI)	Visit Ugunja Community Resource Centre P. Omondi (UCRC)	Travel to Busia
SAT 24.01.04	Visit: DFO Busia - Peter Makokha's farm - On-farm palm oil cultivation J.Were (FD)/P. Makokha		Free (Compiling field report) TOs/participants	
SUN 25.01.04	Free	Travel to Kisumu		

WEEK 3					
MON 26.01.04	Travel to Rakwaro	Visit Ruth Okoth's farm Mawego women group activities R. Okoth (GOT)		Cont'd	Travel to Kisumu
TUE 27.01.04	Travel to Muguga			Compile field report(s)	
WED 28.01.04	Sustainable harvesting, processing and utilization of non-woody plant products K. Mukonyi (KEFRI)	Effective communication and facilitation skills		Managing on-farm tree diseases L. Mwangi (KEFRI)	Managing on-farm tree pests E. Mutitu (KEFRI)
THUR 29.01.04	Participatory eco-resource management J. Kagombe (KEFRI)	Managing natural resource conflicts P. Ongugo (KEFRI)		Promoting income generating opportunities in SF/AF P. Kariuki (FD)	Travel to Embu
FRI 30.01.04	Visit KARI - Embu - Introd. - On-farm livestock & fodder production practices	Visit selected On-farm tree planting and livestock production activities		Cont'd	Travel to Muguga
SAT 31.01.04	Review & compile field report(s) / Free				
SUN 1.02.04	Free				

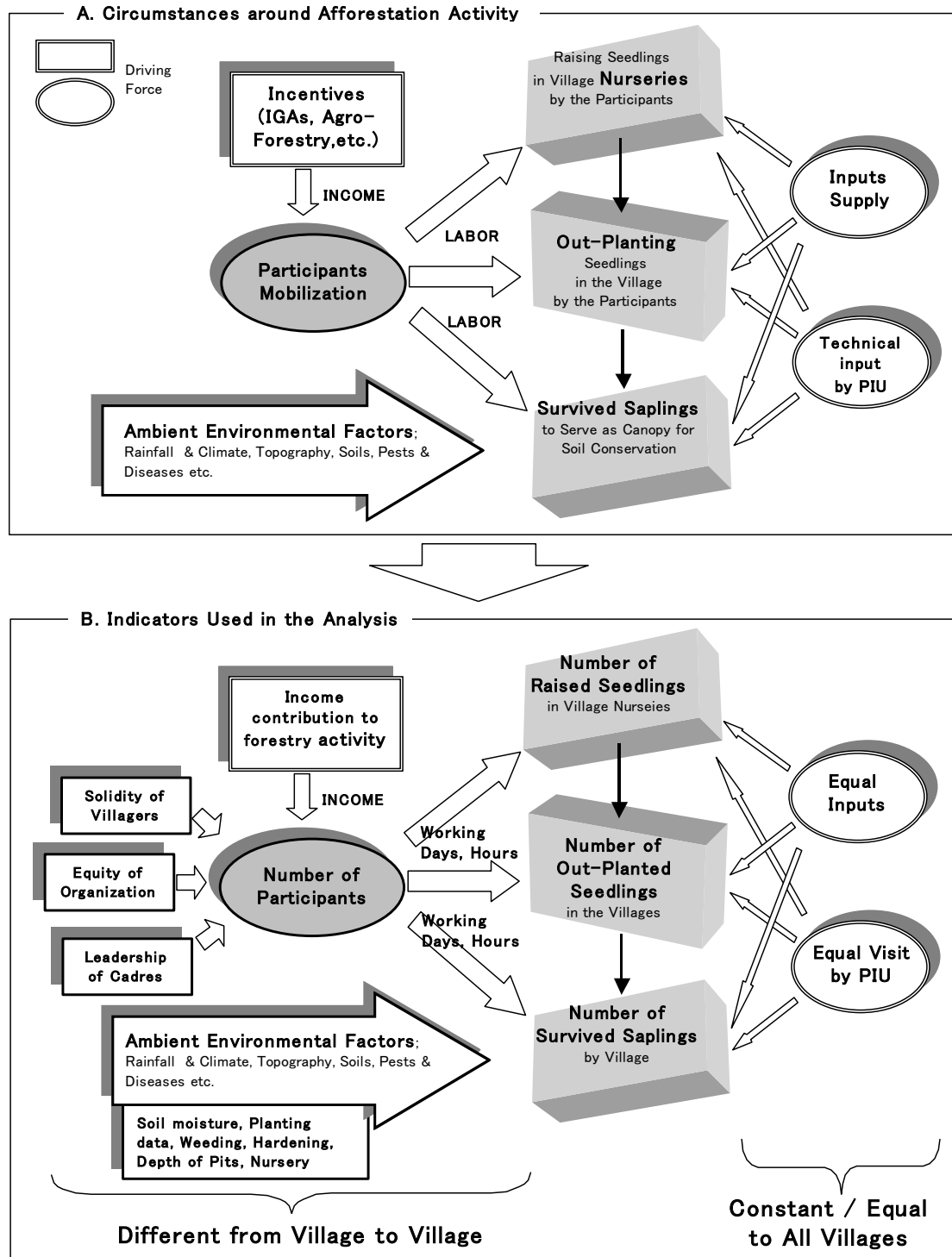
ANNEX H. Analysis by SPSS

Annex H1 Statistical Analysis of the Results for Elucidation of Intra-factor Relations

1 The key point of Analysis:

Since the Model under examination during the period 2002~2004 aims at afforestation, the following interactions among the related indicators should be analyzed:

Fig.H-1 Indicators Used in the Analysis



Determinant Indicators relating to Factor Analysis

In the above shown figure, a host of indicators have relation with the performances of what the Model aims at. All these indicators do not necessarily give values at the stabilized phase/stage, because it takes no less than a few years until income to be brought from employed IGAs can reach matured stage to help forestry participants gain substantial benefit, but actual IGA activities started from the end of 2002. In other words, participants have satisfied with equitable distribution of inputs and aftermath of IGAs rather than actually benefiting from these. Taking this into account, the following indicators have been selected to analyze the obtained results to see the functional mechanism of the Model.

Table H-1 Indicators and conditions employed for the analysis of the Model rationale

Indicator	1	2	3
Forestry / Agro-forestry	A1- nursery seedlings	A2-planted seedlings	A3-survived seedlings
IGAs	B1- pooled assets	B2- management status	B3- local resources
Participatory dimensions	C1- village nursery	C2- out-planting	C3- IGA components
Governance dimensions	D1- administrative equity	D2- cadre's leadership	D3- villager's solidarity
Organizational dimensions	E1- organization viability	E2- labor intensiveness	E3- PIU's intervention
Technical indicators	F1- technical skills	F2- practical expertise	F3- scientific awareness
Environmental indicators	G1- topographic effects	G2- quality of resources	G3- climatic effects
Condition			
Input distribution	Equal inputs for IGA-1	Equal inputs for IGA-2	Equal input distribution
Extension services	Equal village orientation	Equal technical transfer	Timely advice/monitoring
Treatment principles	No award, no penalty	No pay for participation	No Differential treatment

The following definitions have been applied to the analysis;

Cadre's Leadership: This is defined as an administrative attitude of the village chiefs / cadres that guides their villagers to voluntarily participation in the proposed activities and that helps to create solidarity among them that facilitates implementation/ achievement of the activities. Status of leadership is shown as the followings:

- i. Capability of making up solidarity to do democratic activities,
- ii. Capacity to plan and formulate a series of work in proper order, and
- iii. Capacity to communicate, disseminate timely information among villagers.

Administrative Equity: This is defined as an administrative state or social environment in which all the villagers can equally be dealt with for burden or benefit sharing, and equitable treatment has been applied to all of them for the decisions on social order. It is shown in governance of equitability, capability of administration order and transparency.

As to designed function of the Model, whether nursery - out-planting participants can benefit from IGAs or not should be identified. Regarding the determinant indicator of participation on forestry activities, the key factor is calculated as the product of participants, number of mobilized days and working hours per day. Number of participants in forestry works, administrative equity, cadre's leadership, villager's solidarity and organizational indicators are adopted as the indicators to find interrelation, where the ranking has been decided based on reported data and the discussed conclusion of all PIU staff in order to avoid biased decision. PIU staff has objectively evaluated these from villager's attitude in participation, punctuality of participation, record holding in village registry notes and the contents of records.

Since constant and homogenous inputs and extension services have been supplied to all the target villages and natural conditions are not much different among them, conditions of forestry

and IGA activities have been deemed equal for all target villages, while participation, organizations and their function, governance and administrative situations are different that affect the results of the Pilot activities in the Model. Under the given ambient conditions of the Model, statistical treatments are considered applicable to the independent indicators that have been measured and recorded during the Study period to seek for the interrelation among them.

In so far as the Model aims at sustainable forestry practices through a participatory approach, participant's motivation that can give enough impetus to make them drive into forestry practices. The Baseline Survey had revealed that villagers have long been suffering from chronic hunger, exacerbating firewood deficit and lack of income sources. The Model consisting of forestry activities coupled with IGAs and agro-forestry provides them with full incentives including mitigation of food and firewood shortages with income generating chances, agro-forestry and reforestation activities. In order for the Model to efficiently function, the participants must be involved in both forestry/ agro-forestry activities and IGAs so that they can receive benefits from both activities, in turn they have to share burden of exhaustive forestry practices. Generally, IGAs provide fastest gain, followed by agro-forestry and forestry activities bring only sluggish benefit for participants. As concern benefit distribution within traditional administrative regime, only fair governance enables villagers to receive equitable benefits from what they are involved in, and this motivates them long-lasting efforts to promote practices for environmental conservation.

Another motivation stems from scientific understanding / recognition of environmental crisis villagers have been facing. Starting from introductory workshops for launching the Pilot Model, PIU staff has kept close contact with target villagers guiding, teaching, advising, training and demonstrating causes of environmental degradation, countermeasures to control or to alleviate it, skills and techniques to practice it including resource conservation. Three year's relevant and timely sensitization, capacity building, enlightenment and education by PIU members have increasingly eradicated ignorant or indifferent villagers, rectifying them into trainees who really understand envisaged goal of Pilot activities.

Frequent visits of PIU staff to target villages have allowed them to objectively evaluate equity and leadership (elsewhere defined in detail) of village chiefs and committee cadres, finally succeeded in controlling them to behave fair. These cannot be assessed quantitatively, however, villager's solidarity can be judged from percentages of installation of improved stoves because a solid team system is prerequisite to install and diffuse them. As concern number of out-planted and survived seedlings, environmental and technical indicators by far directly affect the results rather than social factors. With regard to the treatment of the target villages, equal input and extension service were adopted according to the decision through PIU meetings in spite of initial proposal from the Study Team to make differential treatment for applying a carrot and stick policy.

2 Result of Analysis

The differentiation of target villages, as mentioned in the following 4.6, implies interdependency among concerned factorial indicators. The table 4-29 gives the results of statistical treatments applied to the major indicators influencing functions of the verified Model. As for the selection of indicators, survival of planted seedlings (S) is considered most important from the standpoint of wood-lot establishment and environmental conservation. Likewise, number of out-planted (Sp) and nursery-raised (Sn) seedlings should be chosen as production indicators representing line of process of forestry works. As environment-related ones, rainfall, month (and date) of out-planting seedlings (D), water supply to nurseries (W) and soil moisture

retention in planted lots (M) are selected as key indicators. As forestry practices, hardening of nursery seedlings (H), size and depth of planting pits (P) and weeding and tending after planting are examined. Among social factors, number of participants in nursery works (P), cumulative labor hours in nurseries (C), administrative equity (E), cadre's leadership (L), villager's solidarity (S), villager's past experiences on tree planting (X) and distance to village nurseries are chosen. With regard to IGAs, number of participants, management level and income level are used for the numerical analysis.

Table H-2 Major results of analysis on Pilot activities during 2002 - 2004

Year	Independent variables	Dependent variable	Derived Regression Formulae	Correlation coefficients	Significance levels	Statistical significance
2002-04	monthly rainfall	survival %	$S = 0.19 R + 22.7$	$r = 0.839$	0.01	all species
2002/03	practice v.	survived s.	$Ss = 1,768H + 999P + 379T - 4,108$	$rH = 0.662, rP = 0.293, rT = 0.128$		hardening
2003/04	practice v.	survived s.	$Ss = 266H + 967P + 1,347T - 3,960$	$rH = 0.097, rP = 0.324, rT = 0.608$		weeding
2002/03	ambient v.	survived s.	$Ss = 2,222D + 364W + 1,34M - 2,830$	$rD = 0.766, rW = 0.122, rM = -0.048$		Planted date
2003/04	ambient v.	survived s.	$Ss = 88D + 1,696W + 75M - 1,345$	$rD = 0.023, rW = 0.766, rM = -0.037$		nursery water
2002/03	distance to nursery*	planted s.	$Sp = 12,675 - 1,281D$	$r = -0.283$	0.01	$Rs_{q.} = 0.08$
2002-04	IGA management	planted s.	$Sp = 1,078 M + 548$	$r = 0.327$	0.05	$Rs_{q.} = 0.11$
2002/03	past experience* ²	survived s.	$Ss = 1,272 X + 3,374$	$r = 0.399$	0.05	$Rs_{q.} = 0.16$
2002/03	firewood scarcity	n.participants	$P = 1.96 F + 2.78$	$r = 0.444$	0.05	$Rs_{q.} = 0.20$
2003/04	IGA management	IGA income	$I = 5,750 - 917 M$ (in MK)	$r = -0.794$	0.01	$Rs_{q.} = 0.63$
2002/03	nursery participants	nursery s.	$Sn = 112 P + 5,120$	$r = 0.449$	0.05	$Rs_{q.} = 0.20$
2003/04	nursery participants	nursery s.	$Sn = 71 P + 3,822$	$r = 0.395$	0.05	$Rs_{q.} = 0.29$
2004/05	nursery participants	nursery s.#	$Sn = 148 P + 1,589$	$r = 0.610$	0.01	$Rs_{q.} = 0.37$
2002/03	cumulative labor h.	planted s.	$Sp = 252 C + 5,711$	$r = 0.753$	0.01	$Rs_{q.} = 0.57$
2003/04	cumulative labor h.	planted s.	$Sp = 468 C + 2,011$	$r = 0.662$	0.05	$Rs_{q.} = 0.44$
2002/03	administrative equity	n.participants	$P = 8.2 E + 18$	$r = 0.554$	0.01	$Rs_{q.} = 0.31$
2003/04	administrative equity	n.participants	$P = 5.1 E + 15.9$	$r = 0.476$	0.05	$Rs_{q.} = 0.23$
2003/04	villager's solidarity	n.participants	$P = 5.1 S + 16.1$	$r = 0.515$	0.01	$Rs_{q.} = 0.29$
2002/03	cadre's leadership	nursery s.	$Sn = 1,113 L + 2,708$	$r = 0.628$	0.01	$Rs_{q.} = 0.39$
2003/04	cadre's leadership	n.participants	$P = 4.5 X + 17.4$	$r = 0.512$	0.01	$Rs_{q.} = 0.26$
2002/03	IGA participants	n.participants	overlapping percentage: 100%	coverage:	77% of nursery participants	
2003/04	IGA participants	n.participants	overlapping percentage: 100%	coverage:	149% of nursery participants	

Note: m.: monthly rainfall in mm. v.: variables; s; seedlings, n; nursery H; hardening degree, P; Pit depth in cm, T; post-planting weeding. Ss; survived seedlings, D; number of months between Apr.1 to planting date. *; kilometer between village center and nursery sites, *2 ; past out-planting experience in planted ha, evaluation on IGA management does not mean income itself, # ; only at the stage of tube-pot filled, Rsq; square sum of variance indicating linear fitness of measured values.

3 Interrelationship among adopted indicators

A number of facts have been found during a short period of Pilot activities as the fruit of PIU and concerned villagers' interactions. However, climatic vagaries have by far dominant influence over the results of human activities just because forestry and agriculture (including livestock husbandry) are highly dependent thereon, and actually serious drought threatened the Study Area during 2002/03 and 2003/04 consecutive cropping seasons, that have masked many other phenomena arising from climate-related indicators as observed above. Another nerve-racking constraint is availability of tree seed in rural villages. In the second year, nursery seedling production was halved as compared to the previous year's result mainly because of lack of viable seed, and villagers had to use old seed distributed in the previous year that affected the germination rate, leading to marked decrease of raised and planted seedlings. Similarly, growth and survival of seedlings were affected by water shortage in nursery water sources during 2003 raising season.

The above-tabulated relationships explain a series of requirements for achieving goal of the Model set at increased canopy cover that allows villagers to retrieve self-sufficiency of firewood. First of all, technical transfer from extension staff to the villagers is prerequisite for the application thereof. PIU staff has performed their missionary for three years and now villagers concerned can manage to raise seedlings in their nurseries, as observed recently in their nursery works. Enough quantities of inputs needed for participatory works have been distributed to the target villages to continue current activities for the time being. Performances expected in 2004 and later depend on the villagers' efforts from now onward, where the mechanism of function expected in the Model can be forecast from these relationships.

Table H-3 Analyzed performances of Pilot activities applicable to future development

Item	Independent	Dependent	Relationship among indicators on past development that can be used for looking future prospect
1	Influence of rainfall	for survival	Only a quarter of planted seedlings can survive in an extreme drought
2	Advised practice 1	for survival	Hardening in nurseries is essential factor to make the outplanted survive
3	Advised practice 2	for survival	Post-planting tending (weeding, catering) is also important for survival*
4	Planting condition 1	for survival	Planting in early ~ mid January will give best survival of the outplanted
5	Planting condition 2	for survival	In severe drought supply of nursery water affects growth of seedlings**
6	Site situation of nurseries	tree production	It is the best policy to establish nurseries as near to viillages as possible
7	IGA management	tree production	Desirable management of IGAs gives real incentive to nursery workers
8	Villager's experience	for survival	Past experiences of outplanting will result in better survival of seedlings
9	Firewood scarcity	participation	Current firewood scarcity drives villagers into participation in nurseries
10	IGA management	IGA income	Quality of management for IGAs reflects in disposable income thereof
11	Participation in nursery	tree production	Scale of participation is one of the determinants in tree production 2002
12	Participation in nursery	tree production	Scale of participation is one of the determinants in tree production 2003
13	Participation in nursery	tree production	Scale of participation is one of the determinants in tree production 2004
14	Total labor in nurseries	tree production	Cumulative labor (villagers efforts) determines tree production in 2002
15	Total labor in nurseries	tree production	Cumulative labor (villagers efforts) determines tree production in 2003
16	administrative equity	participation	Administrative equity could procure sustainable participation in 2002
17	administrative equity	participation	Administrative equity could procure sustainable participation in 2003
18	Villager's solidarity	participation	Villager's solidarity can sustain constant participation in planting in 2003
19	cadre's leadership	tree production	Desirable leadership gives positive effect on seedling production in 2004
20	cadre's leadership	participation	Desirable leadership gives positive effect on nursery participation in 2004
21	IGA participants	participation	77% of participants in forestry shared all IGA inputs for the first year
22	IGA participants	participation	All the participants in forestry can be engaged in 1.5 IGA components

Note: *In the second year, participants mostly mastered hardening practice, then weeding or termite control was attached importance.

** In the second year, amidst serious drought, many water sources depleted and this affected viability of seedlings for survival.

In conclusion, three dimensions of the verified Model were found satisfactory as:

- 1) coupling of forestry activities with IGAs has completely been achieved,
- 2) participation in forestry activities has been kept through incentives from IGAs, and
- 3) actual tree planting has been performed according to the efforts of the participants.

In detailed analysis, the following has been found from the analysis by means of SPSS. ¹

¹ A computer soft named "SPSS" is used for statistical analysis of the results obtained from a planned treatment, Here, multiple regressions have been calculated among the independent variables and the dependent variable. Test for the attribution of independency among the selected independent variables are also carried out using SPSS prior to delivering the multiple regression equations in Table 4-29.

ANNEX H2 Summary of Forestry Results

TableH-4 Forestry Results and Related Social Factors in 2002/03

Name of Village	Forestry Activities			Organizational and Administrative Factors							
	Nursery raised seedlings	Planted seedlings in the village	Survived stand in the lots	administrative character in the village	Com- mittee member	Meeting activity meeting frequency /month	Participan ts in nursery works	Participan ts in out-planting works	Planting experi- ence of villagers	mobi-lized days / year	nursery works hr/wk
01. Makonokaya	8,550	8,400	49.4	monopoly = 2	7	1	30	30	0.5	84	3
02. Siyamudima	9,035	4,200	20.2	chief too old = 3	10	1	40	85	0.3	60	1
03. Kaumbata	8,050	7,040	53.5	monopoly = 2	8	2	73	73	1.5	75	5
04. Mdala	4,800	3,900	54.5	monopoly = 2	10	2	30	55	0.3	82	3
05. Nanjiwa	7,087	6,466	60.5	transparency = 4	5	1	25	95	5.5	76	9
0. Chikoja	20,534	8,251	71.8	equitable = 5	20	1	83	83	2.5	105	3
07. Manjelo	8,319	8,288	83.5	transparency = 4	10	1	45	26	2	88	3
08. Teula	3,260	3,187	62.9	absence = 5	10	2	38	20	1	73	4
09. Chakana	6,900	3,000	0.5	monopoly = 2	4	2	25	15	0	55	4
10. Lemu	4,795	4,300	60	ordinary = 3	6	2	35	40	1.5	69	4
11. M. Ngondo	8,770	4,023	41.5	transparency = 4	9	2	36	56	0.5	73	3
12. Kammata	16,496	11,608	74.9	equitable = 1	10	1	40	90	3.8	92	4
13. Kumanda	11,842	4,739	75.6	ordinary = 3	10	1	33	33	1	80	4
14. T. Kenji	9,782	8,755	48.4	transparency = 4	10	1	35	50	2.5	77	4
15. Chilangali	8,634	8,201	58.4	absence = 1	10	1	23	37	1.5	84	3
16. D. Mbeza	11,999	7,556	57.8	ordinary = 3	10	0.8	35	41	1	68	3
17. Kamwendo	14,310	4,985	43.2	transparency = 4	10	0.5	31	92	1.8	70	4
18. Peter Bilila	5,720	4,976	74.9	ordinary = 3	10	0.5	33	72	2.5	81	5
19. Ndemanje	7,400	1,227	61.9	transparency = 4	10	1	25	79	1.8	74	18
20. S. Mpombe	6,334	5,830	74	equitable = 5	10	0.5	20	65	1.2	64	6
21. Kateya	9,628	9,250	25.9	monopoly = 2	8	1	30	33	2.2	90	8
22. Maluwa	5,200	4,900	53.6	absence = 1	10	2	17	62	0	57	8
23. Kumponda	6,125	5,800	68.1	transparency = 4	10	2	35	43	1.5	60	4
24. K.Chigumura	5,900	3,000	73.6	monopoly = 2	6	1	30	65	0.5	83	4

Note: absence; absence of chief in the village, ordinary; under ordinary administrative state, equitable; under equitable governance, experience is evaluated at existing tree-planted area in villages, method of numerical conversion is given in Appendix.

Table H-5 Correlation among Results and Factors in the Figures 2002 / 03

indicators checked	Administr- ative equity	Committee.me mber	Meeting Frequency	Nursery Participant	Planting Participant	Planted day	Nursery hrs.
Number Seedling							
corr.Coefficient	0.455	0.61	0.587	0.186	0.378	0.532	0.075
significance x%	5% signif.	1% signif.	5% signif.			5% signif.	
Kendoll's rank Coefficient	0.1	0.25	-0.1	0.1	0.15	0.3	0
Number Planted							
corr. Coefficient	0.22	-0.288	0.376	0.075	0	0.538	0.213
significance x%						1% signif.	
Kendoll's rank Coefficient	0.2	0.35	-0.35	0.2	-0.05	0.2	-0.05
Number Survived							
corr. Coefficient	0.24	-0.326	0.265	0.3	0.052	0.433	-0.011
significance x%						5% signif.	
Kendoll's rank Coefficient	0.25	0.5	0.05	0.3	0.1	0.45	0.05

Interrelations between administrative equity and dependent indicators in the above table

2002 /03 results Related indicators :	Meeting Frequency	Nursery participation	Planting participation	Nursery work hours	Post-planting Tending
Administrative Equity					
correlation Coefficient	-0.224	0.465	0.489	0.032	0.346
significance 5%	1% signif.	5% signif.	1% signif.	-	5% signif.
Kendoll's rank Coefficient	-0.45	0.45	0.5	-0.05	-0.05

Table H-6 Forestry Results and Technical / Practical Factors 2002/03

Village	Planting* experience	Woodlot dryness	Nursery damages	Post-plant tending	Termite Damages	Pit digging size	Availability nursery water
01. Makonokaya	0.5	coarse sd.	no damage	goat brouse	nesting	shallow	perennial flow
02. Siyamudima	0.3	granite rks	insect dmg	weeds	drought	standard	normal supply
03. Kaumbata	1.5	coarse sd.	termite	scorched	heavy attack	shallow	very scarce
04. Mdala	0.3	sandy clay	termite	goat brouse	heavy attack	shallow	very scarce
05. Nanjiwa	5.5	sandy loam	scorched	goat brouse	heavy attack	standard	normal supply
0. Chikoja	2.5	sandy loam	burned	basined	drought	standard	ample all season
07. Manjelo	2	loam	no damage	basined	no damage	wider	ample all season
08. Teula	1	loam	no damage	goat brouse	slight dmg	standard	ample all season
09. Chakana	0	granite rks	hardening	weeds	slight dmg	narrow	barely meeting
10. Lemu	1.5	sandy loam	scorched	scorched	nesting	shallow	normal supply
11. M. Ngondo	0.5	coarse sd.	hardening	goat brouse	nesting	narrow	barely meeting
12. Kammata	3.8	sandy loam	insect dmg	basined	no damage	deep pit	normal supply
13. Kumanda	1	loam	hardening	goat brouse	nesting	standard	very scarce
14. T. Kenji	2.5	coarse sd.	termite	scorched	slight dmg	standard	normal supply
15. Chilangali	1.5	sandy clay	no damage	goat brouse	slight dmg	standard	perennial flow
16. D. Mbeza	1	coarse sd.	hardening	weeded	nesting	deep pit	very scarce
17. Kamwendo	1.8	granite rks	hardening	scorched	drought	shallow	barely meeting
18. Peter Bilila	2.5	sandy loam	termite	weeded	heavy attack	wider	normal supply
19. Ndemanje	1.8	sandy clay	hardening	goat brouse	drought	standard	barely meeting
20. S. Mpombe	1.2	sandy loam	scorched	goat brouse	slight dmg	deep pit	ample all season
21. Kateya	2.2	granite rks	scorched	weeded	slight dmg	standard	perennial flow
22. Maluwa	0	sandy clay	no damage	weeds	slight dmg	wider	perennial flow
23. Kumponda	1.5	sandy clay	no damage	goat brouse	heavy atk	standard	perennial flow
24. K. Chigumura	0.5	sandy loam	termite	weeded	no damage	standard	barely meeting

Note: * villager's planting experience was judged from the existing planted area (hectare).

Table H-7 Correlation among Forestry Results and Technical Factors 2002/03

Factors checked	Experience	Soil Moist.	Nurs.damage	P.P.Tending	Termite	Pit size	Water avail.
Seedlings Raised							
corr. Coefficient	-0.31	-0.196	-0.574	0.267	-0.31	0.228	0.013
significance x%			1% signif.				
Kendoll's rank coef.	0.45	-0.25	-0.45	0.3	-0.25	0.15	-0.1
Seedlings Planted							
corr. Coefficient	-0.425	-0.047	0.298	0.401	0.205	0.399	0.401
significance x%				5% signif.		5%3ignif	5% signif.
Kendoll's rank coef.	0.45	0.05	0.25	0.4	0.35	0.3	0.5
Number Survived							
corr. Coefficient	-0.255	0.842	0.093	0.594	0.224	0.535	0.109
significance x%		1% signif.		1% signif.		1% signif	
Kendoll's rank coef.	0.35	0.9	0.1	0.65	0.25	0.6	0.15
Related factors		Related factors	Soil Dryness	P.P.Tending	Termite	Pit size	water avail.
Administrat.Equity		Planting Experience					
corr. Coefficient		corr.Coefficient	0.368	0.589	0.062	0.408	0.212
significance 5%		significance 5%		5% signif.		5% signif	
Kendoll's rank coef.		Kendoll's rank coef.	0.4	0.45	0.25	0.4	0.35

Table H-8 Forestry Results and Social Factors 2003/04

Name of Village	Nursery seedlings	Planted seedlings	Survival rate	Participation work	Leadership	Experience of planting	Firewood scarcity	Food Security	Committee activeness
01. Makonokaya	1,710	1,158	67.7	3	weak	only 1 exp.	1.1	1.4	2
02. Siyamudima	5,960	4,470	75	1	weak	only 1 exp.	3.2	0.3	3
03. Kaumbata	1,100	560	50.9	5	good	past nursery	2.4	1.6	1
04. Mdala	5,050	1,480	29.3	3	not appointed	no past exp.	2.1	0.6	2
05. Nanjiwa	1,780	1,444	81.1	9	ordinary	private lots	3.3	0.8	2
06. Chikoja	10,799	7,797	72.2	5	excellent	well planted	1.1	0.7	2
07. Manjelo	7,900	6,582	83.3	3	ordinary	few experi.	1.1	0.3	4
08. Teula	2,147	1,751	81.6	4	problem	only 1 exp.	1.2	0.4	3
09. Chakana	3,126	1,969	63	4	problem	no past exp.	1.1	0.3	3
10. Lemu	3,150	2,385	75.7	4	ordinary	few experi.	2	0.3	4
11. M. Ngondo	1,350	1,040	77	3	good	well planted	1	0.6	3
12. Kammata	12,043	11,598	96.3	6	excellent	village lots	0.4	0.1	5
13. Kumanda	5,174	4,248	82.1	4	good	well planted	1.6	0.8	2
14. T. Kenji	6,598	4,698	71.2	4	good	village lots	1.1	0.1	5
15. Chilangali	6,496	5,759	88.7	3	theft habit	only 1 exp.	1.3	0.5	3
16. D. Mbeza	4,611	3,232	70.1	3	ordinary	only 1 exp.	2	0.7	2
17. Kamwendo	6,679	5,445	81.5	4	excellent	well planted	2.3	2.6	3
18. Peter Bilila	1,226	983	80.2	5	ordinary	well planted	1	0.2	3
19. Ndemanje	7,000	7,000	100	18	good	few experi.	2.7	2.3	1
20. S. Mpombe	5,981	5,061	84.6	6	good	few experi.	1.7	0.3	4
21. Kateya	2,204	1,683	76.4	8	good, renewe d	only 1 exp.	1.1	0.2	4
22. Maluwa	1,136	902	79.4	8	drunken	only 1 exp.	1.1	1.1	1
23. Kumponda	1,621	1,208	74.5	4	weak	few experi.	2.5	0.1	5
24. K. Chigumura	8,289	8,132	98.1	4	ordinary	only 1 exp.	1	0.1	5

Table H-9 Correlation among Forestry Results and Social Factors 2003/04

Seedling Number	Participation	Leadership	Administrative Equity	Village past Experience	Nursery Water scarcity	Food security	Committee function
Number of Seedling							
corr. Coefficient	0.051	0.868	0.516	0.28	-0.231	0.173	0.126
significance x%		1% signif.	1% signif.				
Kendoll's rank coef.	0.2	0.25	0.35	0.2	0	0.1	0.15
Number Planted							
corr. Coefficient	0.063	0.424	0.394	0.171	-0.236	-0.071	0.27
significance 5%		5% signif.					
Kendoll's rank coef.	0.2	0.35	-0.1	-0.1	-0.2	0.15	0.35
Number Survived							
corr. Coefficient	0.487	0.375	0.292	0.362	-0.215	0.229	0.426
significance 5%	5% signif.	5% signif.		5% signif.			5% signif.
Kendoll's rank coef.	0.4	0.3	0.15	0.15	-0.1	0.15	0.25

Table H-10 Forestry Results and Technical Factors Related to the Results (2003/04)

Village Name	Soil water-tention character	Planting period of out-planting	Hardening practice	Weeding / Clearing of planting lot	Pit digging depth of pits	Water supply nursery water source
01. Makonokaya	granitic	February	partly done	not at all	18cm	7.5
02. Siyamudima	granitic	February	partly done	once only	18cm	7.78
03. Kaumbata	coarse sand	February	done. but short	half weeded	12cm	11.67
04. Mdala	granitic	April	failure of Hardening	half weeded	9cm	13
05. Nanjiwa	sandy loam	February	done. but short	half weeded	11cm	7.5
0. Chikoja	sandy clay	February	enough done	well done	12cm	3.33
07. Manjelo	sandy loam	February	done. but short	half weeded	14cm	2
08. Teula	loam	January	done. but short	half weeded	15cm	7.78
09. Chakana	sandy clay	February	failure of Hardening	half weeded	16cm	7.27
10. Lemu	sandy clay	January	medium done	once only	11cm	7.14
11. M. Ngondo	sandy loam	February	done. but short	once only	17cm	12.5
12. Kammata	sandy loam	January	enough done	well done	30cm	3.85
13. Kumanda	sandy clay	February	done. but short	half weeded	19cm	8.33
14. T. Kenji	sandy loam	January	partly done	half weeded	16cm	7.5
15. Chilangali	sandy clay	March	medium done	mostly done	18cm	6.67
16. D. Mbeza	sandy clay	March	partly done	half weeded	30cm	8.57
17. Kamwendo	sandy clay	January	medium done	mostly done	24cm	8.89
18. Peter Bilila	sandy loam	February	medium done	half weeded	19cm	12
19. Ndemanje	sandy clay	March	done. but short	mostly done	16cm	2.67
20. S. Mpombe	sandy clay	February	medium done	half weeded	16cm	2.67
21. Kateya	sandy clay	January	done. but short	mostly done	18cm	9
22. Maluwa	sandy clay	March	partly done	once only	11cm	7.5
23. Kumponda	coarse sand	February	done. but short	once only	17cm	7.14
24. K.Chigumura	sandy clay	February	done. but short	once only	18cm	5

Table H-11 Correlation among the Results /Related Technical Indicators 2003/04

Forestry Performances	Soil.moisture	Planting date	Hardening	Weeding	Pit depth	Nursery water
Number Seedling						
corr. Coefficient	0.083	0	0.44	0.609	0.408	0.645
significance x%			5% signif.	1% signif.	5% signif.	1% signif.
Kendoll's rank coef.	-	-	-	-	-	0.25
Number Planted						
corr. Coefficient	0.179	0.167	0.392	0.533	0.438	0.692
significance 5%			5% signif.	1% signif.	5% signif.	1% signif.
Kendoll's rank coef.	0.2	0.1	0.35	0.45	0.3	0.5
Number Survived						
corr. Coefficient	0.53	0.26	0.541	0.277	0.446	0.462
significance 5%	1% signif.		1% signif.		1% signif.	1% signif.
Kendoll's rank coef.	0.45	0.2	0.5	0.15	0.45	0.3

Table H-12 Numerical conversion of Table 4-38

Village	Pot filled	Pot sown	participation in	leadership of cadres*	nursery water	Village Land Area	IGA income	Distance to nursery
01. Makonokaya	3	3	3	5	3	3	3	5
02. Siyamudima	2	1	1	2	3	3	3	4
03. Kaumbata	3	2	4	3	5	1	2	2
04. Mdala	4	3	4	3	5	1	3	2
05. Nanjiwa	2	4	2	3	3	1	4	4
06. Chikoja	1	1	2	1	1	1	2	1
07. Manjelo	3	3	2	3	1	4	2	3
08. Teula	2	3	4	3	3	3	3	2
09. Chakana	5	5	5	5	3	5	4	2
10. Lemu	4	3	4	3	3	1	4	3
11. M. Ngondo	5	5	5	4	5	3	4	3
12. Kammata	1	1	2	1	1	3	1	1
13. Kumanda	3	2	3	2	4	3	4	1
14. T. Kenji	2	3	3	2	3	5	3	2
15. Chilangali	2	3	2	3	3	5	2	2
16. D. Mbeza	3	3	2	3	4	4	4	3
17. Kamwendo	1	1	1	1	3	1	2	2
18. Peter Bilila	4	3	2	3	5	3	2	4
19. Ndemanje	2	3	3	2	1	3	2	2
20. S. Mpombe	5	5	3	4	1	4	3	2
21. Kateya	5	4	3	2	4	5	3	4
22. Maluwa	3	5	5	5	3	3	3	3
23. Kumponda	3	3	3	2	3	5	1	2
24. K.Chigumura	4	3	4	3	2	2	3	4

Note: by judgment of PIU staff from equitable attitude, good governance and capacity of dealing with daily issue

Table H-13 Correlation among the Results and Related Indicators 2004

correlation by ordinary way	Pot filled	Pot sown	participation to	leadership of cadres	nursery water	Land Area	IGA income	Distance to nursery
pot filled	-	0.73	0.602	0.609	0.385	0.258	0.472	0.34
pot sown		-	0.648	0.385	0.158	0.385	0.485	0.285
participation			-	0.632	0.158	0.026	0.396	-0.034
leadership				-	0.226	0.18	0.487	0.425
nursery water					-	-0.091	0.354	0.241
Land Area						-	-0.065	0
IGA income							-	0
Distance to N.								-
Kendoll's C.								
pot filled	-	0.46	0.5	0.5	0.38	0.25	0.33	0.33
pot sown		-	0.33	0.46	0.25	0.33	0.5	0.29
participation			-	0.29	0.29	0	0.41	-0.08
leadership				-	0.21	0.13	0.38	0.29
nursery water					-	0.17	0.5	0.17
Land Area						-	0.17	0
IGA income							-	0.02

Table H-14 Performances of IGA introduced 2002/03 (IGA-1) and 2003/04 (IGA-2)

Village Name	Number of participants in the activities						difference Nursery -	Evaluation IGA-1	Evaluation IGA-2	Mean IGA Evaluation
	Nur-sery	Planting	IGA - 1	mem-ber	IGQ - 2	mem-ber				
01. Makonokaya	30	30	Goat	20	T.pump	45	10	3	4	3.5
02. Siyamudima	40	85	G.fowl	52	Goat	50	-12	4	3	3.5
03. Kaumbata	73	73	T.pump	43	Goat	20	10	3	5	4
04. Mdala	30	55	Apiary	25	T.pump	27	5	5	5	5
05. Nanjiwa	25	95	Apiary	20	Goat	20	5	4	3	3.5
06. Chikoja	83	83	T.pump	55	Goat	55	28	2	3	2.5
07. Manjelo	45	26	T.pump	45	GoatHB	45	0	2	3	2.5
08. Teula	38	20	T.pump	38	Goat	38	0	3	3	3
09. Chakana	25	15	Apiary	20	Goat	20	5	5	3	4
10. Lemu	35	40	T.pump	42	Goat	28	-7	3	4	3.5
11. M. Ngondo	36	56	G.fowl	22	T.pump	36	0	4	3	3.5
12. Kammata	40	90	Goat	40	T.pump	40	0	3	1	2
13. Kumanda	33	33	T.pump	10	G.fowl	33	0	3	3	3
14. T. Kenji	40	50	Apiary	40	T.pump	40	0	1	3	2
15. Chilangali	23	37	T.pump	23	Goat	23	0	3	2	2.5
16. D. Mbeza	35	41	G.fowl	35	Goat	35	0	4	3	3.5
17. Kamwendo	92	92	Apiary	30	Goat	30	32	2	3	2.5
18. Peter Bilila	72	72	Apiary	10	Goat	10	52	3	4	3.5
19. Ndemanje	79	79	Apiary	26	Goat	79	0	4	3	3.5
20. S. Mpombe	65	65	Goat	65	Goat	11	0	2	1	1.5
21. Kateya	30	33	T.pump	30	Goat	9	0	4	2	3
22. Maluwa	62	62	Goat	62	Goat	62	0	1	2	1.5
23. Kumponda	38	43	T.pump	38	Goat	11	0	1	2	1.5
24. K.Chigumura	30	65	T.pump	45	Goat	11	-15	3	4	3.5
24 villages	1,089	1,358		838		787	113	72	72	3

Table H-15 Criteria to evaluate IGA performances into 5 ranks

Rank	Basis of Judgment
1	economic benefit from IGAs can now improve villager's livelihood and sustain forestry
2	though benefits have not been materialized, promising trend is observed ahead
3	villagers make efforts to improve livelihood with introduced IGAs, with positive prospect
4	expected result have not been realized, but villagers do not give up
5	no substantial result has been brought and villagers are disappointed

	goat rearing	treadle pump	bee keeping	Guinea fowl	Other IGA
Average achievement 2002/3	2.3	2.5	3.6	4	-
Average achievement 2003/4	2.9	3.2	3	3.5	3

Table H-16 Correlation with Social factors and IGA Achievements

Evaluation	Equity in A.	Leadership	Planting – 02/03	Planting – 03/04
IGA – 02/03	0.303	0.257	0.385	0.251
IGA – 03/04	0.369	0.383	0.331	0.408
IGA – 02/04	0.409	0.387	Planting 02 / 04	0.542

Inter-relations among selected indicators

Indicator	Number of Planted trees	Mean IGA performance	Equity in administration	Leadership
Participation in IGAs	-0.282	-0.358	-0.266	-0.241
No.of planted trees	-	0.44	0.22	0.177
Mean IGA performance	-	-	0.409	0.387
Equity in administration	-	-	-	0.989

Relation between IGA and Resource

performance of IGAs	Resource for IGA-1	Resource for IGA-2
IGA – 02/03	0.645	0.082
IGA – 03/04	0.289	0.502

Table H-17 Factor influencing the IGA performances (1)

	1st year I G A	2003 IGA-1	2004 IGA-1	Influenced Factors	d.o. during 2003 ~ 2004	2nd year I G A	2003 IGA-2	Influenced Factors
01. Makonokaya	Goat	3	2		accostomed	T.pump	4	mechanical problem
02. Siyamudima	G.fowl	4	3	hatching issue	favorable growth	Goat	3	
03. Kaumbata	T.pump	3	3			Goat	5	skin disease
04. Mdala	Apiary	5	2	tech. Poorness	good colonizing	T.pump	5	water shortage
05. Nanjiwa	Apiary	4	4	tech. Poorness		Goat	3	
06. Chikoja	T.pump	2	1	water shortage	dyke created	Goat	3	
07. Manjelo	T.pump	2	2	management		Goat, HB	3	
08. Teula	T.pump	3	4		mechanical problem	Goat	3	
09. Chakana	Apiary	5	5	tech. Poorness		Goat	3	
10. Lemu	T.pump	3	3			Goat	4	diarhoea, theft
11. M. Ngondo	G.fowl	4	4	damage by dogs		T.pump	3	
12. Kammata	Goat	3	3			T.pump	1	management
13. Kumanda	T.pump	3	3			G.fowl	3	
14. T. Kenji	Apiary	1	2	tech. Mastered		T.pump	3	
15. Chilangali	T.pump	3	4		mechanical problem	Goat	2	proliferation
16. D. Mbeza	G.fowl	4	4	damage by dogs		Goat	3	
17. Kamwendo	Apiary	2	3	good colonizing	poor filtering	Goat	3	
18. Peter Bilila	Apiary	3	2		good colonizing	Goat	4	diarhoea, theft
19. Ndemanje	Apiary	4	4	predator preval.		Goat	3	predator preval.
20. S. Mpombe	Goat	2	3	management	theft	Goat	1	management
21. Kateya	T.pump	4	3	land dispute		Goat	2	land dispute
22. Maluwa	Goat	1	2	management	theft	Goat	2	theft
23. Kumponda	T.pump	1	2	management	crop diseases	Goat	2	management
24. K.Chigumura	T.pump	3	4	theft	escalated theft	Goat	4	theft

Note: figures of evaluation indicate: 5. stable management established, 4. inputs are thoroughly utilized, 3. technically established, 2. management remuneratively running, 1. favorable management results have been realized.

Table H-18 Relation between participatory attendants and evaluated performances

Village Name	Participants in Pilot Activities						member * difference	Evaluation		
	Nursery	Planting	IGA - 1		IGQ - 2			IGA-1	IGA-2	mean IGA
01. Makonokaya	30	30	Goat	20	T.pump	45	10	4	3.5	3.5
02. Siyamudima	40	85	G.fowl	52	Goat	50	-12	3	3.5	3.5
03. Kaumbata	73	73	T.pump	43	Goat	20	10	5	4	4
04. Mdala	30	55	Apiary	25	T.pump	27	5	5	5	5
05. Nanjiwa	25	95	Apiary	20	Goat	20	5	3	3.5	3.5
06. Chikoja	83	83	T.pump	55	Goat	55	28	3	2.5	2.5
07. Manjelo	45	26	T.pump	45	GoatHB	45	0	3	2.5	2.5
08. Teula	38	20	T.pump	38	Goat	38	0	3	3	3
09. Chakana	25	15	Apiary	20	Goat	20	5	3	4	4
10. Lemu	35	40	T.pump	42	Goat	28	-7	4	3.5	3.5
11. M. Ngondo	36	56	G.fowl	22	T.pump	36	0	3	3.5	3.5
12. Kammata	40	90	Goat	40	T.pump	40	0	1	2	2
13. Kumanda	33	33	T.pump	10	G.fowl	33	0	3	3	3
14. T. Kenji	40	50	Apiary	40	T.pump	40	0	3	2	2
15. Chilangali	23	37	T.pump	23	Goat	23	0	2	2.5	2.5
16. D. Mbeza	35	41	G.fowl	35	Goat	35	0	3	3.5	3.5
17. Kamwendo	92	92	Apiary	30	Goat	30	32	3	2.5	2.5
18. Peter Bilila	72	72	Apiary	10	Goat	10	52	4	3.5	3.5
19. Ndemanje	79	79	Apiary	26	Goat	79	0	3	3.5	3.5
20. S. Mpombe	65	65	Goat	65	Goat	11	0	1	1.5	1.5
21. Kateya	30	33	T.pump	30	Goat	9	0	2	3	3
22. Maluwa	62	62	Goat	62	Goat	62	0	2	1.5	1.5
23. Kumponda	38	43	T.pump	38	Goat	11	0	2	1.5	1.5
24. K.Chigumura	30	65	T.pump	45	Goat	11	-15	4	3.5	3.5
24 villages	1,089	1,358		838		787	113	72	3	3

Table H-19 Achievement of Pilot Activities as of September 2004

Items	Out-Planting Participants		Survived Forestry Species		Survived Forestry Seedlings per participants		Survived Agro-forestry Species		Survived Agro-Forestry Seedlings per participants		Forest sp. / person	AF specie / person
	02/03	03/04	02/03	03/04	02/03	03/04	02/03	03/04	02/03	03/04	02/04	02/04
01. Makonokaya	30	31	10,937	990	365	32	2,160	168	72	5	397	77
02. Siyamudima	85	53	7,785	4,470	92	84	1,440	0	17	0	176	17
03. Kaumbata	73	21	8,613	560	118	27	400	0	5	0	145	5
04. Mdala	30	55	5,140	1,480	171	27	2,160	0	72	0	198	72
05. Nanjiwa	25	30	3,778	1,444	151	48	1,900	0	76	0	199	76
0. Chikoja	49	83	9,130	5,917	186	71	541	1,880	11	23	258	34
07. Manjelo	38	49	8,556	3,985	225	81	540	2,597	14	53	306	67
08. Teula	32	21	8,702	1,471	272	70	0	280	0	13	342	13
09. Chakana	25	17	6,564	1,969	263	116	36	0	1	0	378	1
10. Lemu	35	20	8,759	2,385	250	119	441	0	13	0	370	13
11. M. Ngondo	36	19	5,906	1,040	164	55	1,500	0	42	0	219	42
12. Kammata	90	40	14,577	7,598	162	190	13,666	4,000	152	100	352	252
13. Kumanda	20	30	6,957	2,548	348	85	4,538	1,700	227	57	433	284
14. T. Kenji	50	23	13,506	3,501	270	152	1,569	1,197	31	52	422	83
15. Chilangali	36	25	8,957	5,759	249	230	1,164	0	32	0	479	32
16. D. Mbeza	41	37	7,556	1,701	184	46	0	1,531	0	41	230	41
17. Kamwendo	92	86	6,391	2,130	69	25	2,079	3,315	23	39	94	61
18. Peter Bilila	72	24	5,605	983	78	41	339	0	5	0	119	5
19. Ndemanje	79	31	1,257	0	16	0	80	7,000	1	226	16	227
20. S. Mpombe	89	40	7,806	1,741	88	44	2,576	3,320	29	83	131	112
21. Kateya	33	50	11,862	1,444	359	29	138	239	4	5	388	9
22. Maluwa	21	36	5,982	783	285	22	1,546	119	74	3	307	77
23. Kumponda	38	29	5,892	1,208	155	42	540	0	14	0	197	14
24. K.Chigumura	30	29	3,209	1,132	107	39	800	7,000	27	241	146	268
Total villages	1,150	880	183,427	56,239	160	64	40,153	34,346	35	39	223	74
	Forest sp. / person	AF specie / person	Forest performance % of target	AF performance % of target	afforestation planned (ha)	currently available lot (ha)	survived equivalent forestry area(ha)	contribution to current lot (%)	survived equivalent AF area(ha)	contribution to planned plot (%)	% equivalent to planned forestry	% of participants to total hh.
Village / Year	02/04	02/04										
01. Makonokaya	397	77	198	39	18	4	2.7	67%	0.5	3.30%	14.90%	54%
02. Siyamudima	176	17	88	8	20	3	2.8	92%	0.3	0.70%	13.80%	41%
03. Kaumbata	145	5	72	3	26	22	2.1	9%	0.1	0.30%	7.90%	42%
04. Mdala	198	72	99	36	40	16	1.5	9%	0.4	0.60%	3.70%	14%
05. Nanjiwa	199	76	100	38	18	17	1.2	7%	0.4	1.30%	6.50%	23%
0. Chikoja	258	34	129	17	29	7	3.4	48%	0.5	1.10%	11.70%	39%
07. Manjelo	306	67	153	34	15	3	2.8	94%	0.6	3.70%	18.80%	65%
08. Teula	342	13	171	7	14	4	2.3	57%	0.1	0.20%	16.40%	19%
09. Chakana	378	1	189	1	12	2	1.9	96%	0	0.10%	16.00%	42%
10. Lemu	370	13	185	6	36	23	2.5	11%	0.1	0.10%	7.00%	6%
11. M. Ngondo	219	42	109	21	13	3	1.6	52%	0.3	1.50%	12.00%	34%
12. Kammata	352	252	176	126	12	3	5	166%	3.5	5.80%	41.60%	27%
13. Kumanda	433	284	216	142	16	2	2.1	107%	1.2	10.80%	13.40%	54%
14. T. Kenji	422	83	211	42	2	2	3.8	191%	0.6	4.00%	191%	65%
15. Chilangali	479	32	240	16	5	3	3.3	110%	0.2	2.30%	66.20%	76%
16. D. Mbeza	230	41	115	21	4	3	2.1	69%	0.3	3.00%	52.10%	95%
17. Kamwendo	94	61	47	31	33	7	1.9	27%	1.1	7.30%	5.80%	100%
18. Peter Bilila	119	5	59	2	9	2	1.5	74%	0.1	0.40%	16.50%	66%
19. Ndemanje	16	227	8	113	34	3	0.3	9%	1.4	14.90%	0.80%	100%
20. S. Mpombe	131	112	66	56	4	4	2.1	54%	1.2	7.30%	53.70%	99%
21. Kateya	388	9	194	4	2	1	3	299%	0.1	2.00%	149.70%	100%
22. Maluwa	307	77	153	38	8	1	1.5	152%	0.3	2.10%	19.00%	46%
23. Kumponda	197	14	98	7	6	2	1.6	80%	0.1	0.20%	26.60%	13%
24. K.Chigumura	146	268	73	134	8	1	1	98%	1.6	3.90%	12.20%	18%
Total villages	223	74	112	37	384	138	2.2	39%	0.6	1.00%	14.00%	35%

Table H-20 Village Differentiation in Nursery Seedling Production

Village / Year	Rank of nursery seedling raising					Raised nursery seedling (1,000)				state of propelling force	
	02/03	03/04	04/05	mean	trend	02/03	03/04	04/05	trend	state	aiming at
Kam'mata	1	1	3	1.7	constant	28.2	12	10.9	constant	solidarity	wood
Chikoja	10	2	1	4.3	ascend	9.7	10.8	11.9	ascend	2 nurseries	wood
Tamvekenji	2	11	6	6.3	recover	15.1	6.6	8.8	recover	willingness	wood
Kumanda	5	13	4	7.3	recover	11.5	6.2	9.5	recover	willingness	A.F.
Makonokaya	3	7	12	7.3	descend	13.4	7	6.1	descend	willingness	wood
Siyamdima	11	6	7	8	constant	9.2	7.5	8.2	constant	willingness	firewood
Chilangali	8	12	5	8.3	recover	10.1	6.4	8.8	recover	willingness	wood
Kamwendo	15	9	2	8.7	ascend	8.5	6.7	11.1	ascend	2 nurseries	firewood
Manjero	13	5	11	9.7	constant	9.1	7.9	7	constant	willingness	firewood
S. Mpombe	6	2	22	10	big fall	10.4	9.2	2.1	big fall	exhausted	wood
Nanjiwa	7	17	10	11.3	recover	10.3	5	7.2	recover	willingness	wood
Ndemanje	24	8	8	13.3	ascend	1.3	7	7.7	ascend	willingness	A.F.
Kaumbata	9	19	13	13.7	recover	9.9	4.1	6.1	recover	exhausted	unknown
D. Mbedza	17	10	14	13.7	constant	7.6	6.6	6	constant	unstable	unknown
Lemu	12	14	17	14.3	constant	9.2	5.5	4.1	slump	inert	A.F.
K.Chigumula	24	4	16	14.7	big fall	4	8.3	4.6	slump	unstable	unknown
Kateya	4	23	19	15.3	recover	12	2.2	3.3	falling	unstable	unknown
Teula	14	24	9	15.7	recover	8.7	2.1	7.3	slump	inert	unknown
Kumponda	22	15	15	17.3	constant	6.4	5.5	5.1	slump	inert	unknown
M. Ngondo	16	18	21	18.3	constant	8.5	5.4	2.5	falling	exhausted	unknown
Peter Bilila	20	18	18	18.7	constant	7.1	4.4	3.6	falling	inert	no target
Mdala	20	21	20	20.3	constant	7.3	3.1	3.2	falling	unstable	no target
Maluwa	18	22	23	21	constant	7.5	2.5	1.7	falling	laziness	no target
Chakana	21	20	24	21.7	constant	6.6	3.1	1.3	falling	laziness	no target

Note: AF: agro-forestry, fw: firewood, unstable governance is derived from death/ change of chiefs etc.

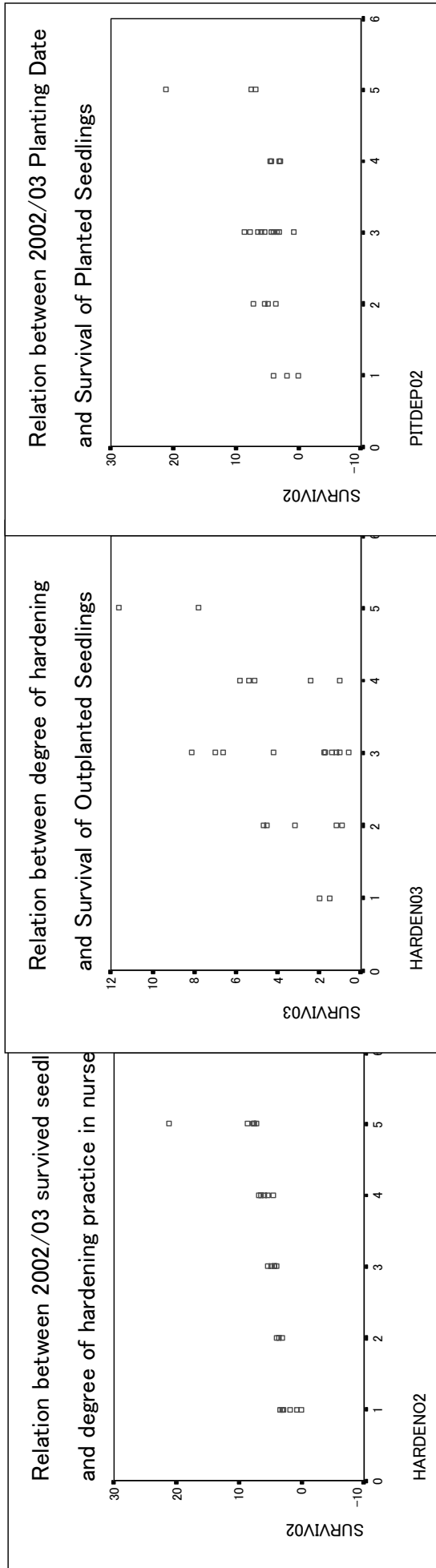
village group	forest-based earnings	other income earnings	nursery *	working hours in nursery **	working days in nursery ***	equity / leadership	% of villagers mobilizable*4
Upper ranked 8 villages	5	3	42	69	4	3.5 / 3.8	31.7
Middle ranked 8 villages	3	5	33	62	4.6	3.1 / 3.1	22.1
Lower ranked 8 villages	0	8	28	53	3.6	2.4 / 2.1	27.9

Note: * 3years average / village, ** annual average / village,*** in-season weekdays for nursery labor, *4: % of stove installed

village group	Survived seedlings #	Created woodlot (ha)	Plantable area (ha)#2	Remaining woodlot(ha)	Agroforestry practice (ha)	% of A.F crop field
Upper ranked 8 villages	6,699	2.6 /village	8.4 /village	3.9 /village	1.0 /village	6.10%
Middle ranked 8 villages	4,474	1.3 /village	9.1 /village	9.5 /village	0.7 /village	4.60%
Lower ranked 8 villages	2,473	0.7 /village	6.5 /village	3.9 /village	0.2 /village	1.10%

Note: #: out-planted per village in 2002/03 ~ 2003/04, #2: both communal and individual area for creating woodlots,

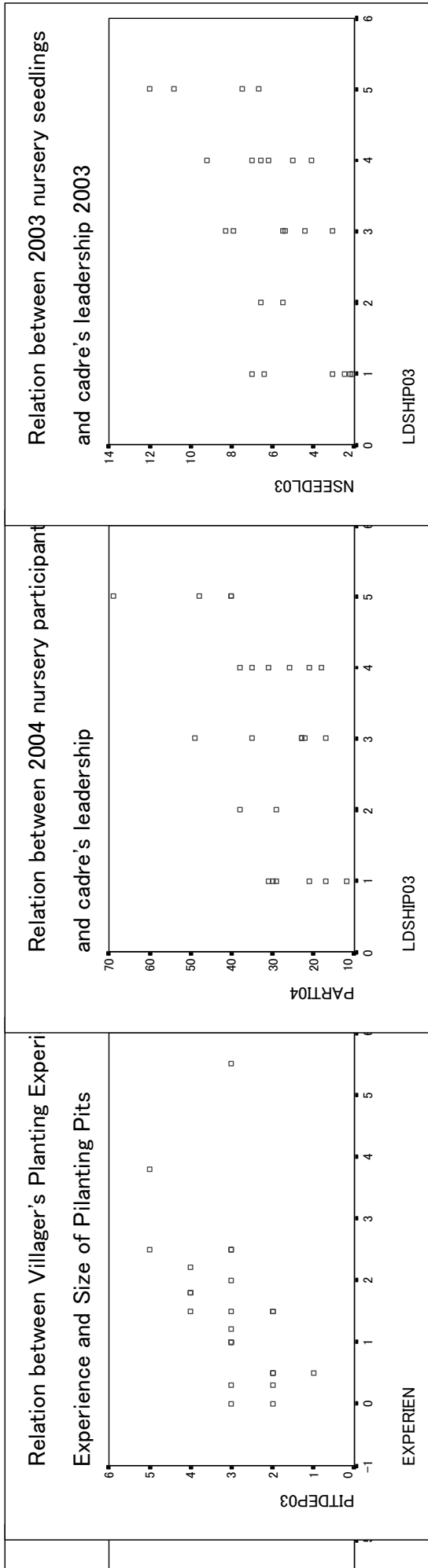
ANNEX H3 Base Date on Regression with Related Factors

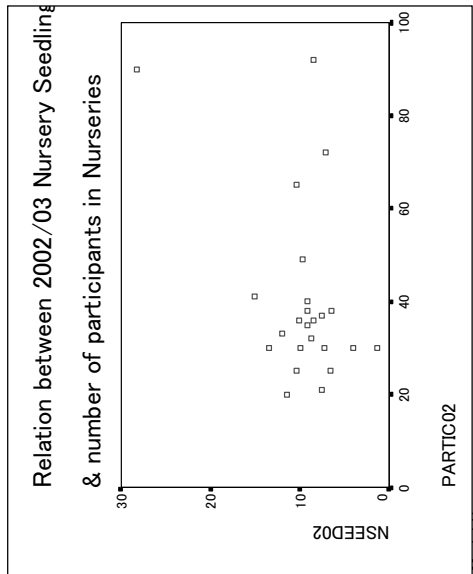


Model	R Square	Adjusted F Std. Error of the Estimate	Mean Squar F	Sig.
HARDENO2				
1	0.768561	0.590686	73.00276	9.620734
Predictors: (Constant), PITDEP02, PPTEND02, HARDENO2				
ANOVA(b)				
Model	Sum of Sq	df	Mean Squar F	Sig.
1	219.0083	3	73.00276	9.620734
	Residual	151.7613	20	7.588065
	Total	370.7696	23	
Predictors: (Constant), PITDEP02, PPTEND02, HARDENO2				
Variables Entered/Removed(b)				
Model	Variables Entered	Variables Removed		
1	PITDEP02			
a. All requested variables entered.				
b. Dependent Variable: SURVIV02				
Model Summary				
Model	R	R Square	Adjusted F Std. Error of the Estimate	
1	0.768561	0.590686	0.529289	2.754644
Predictors: (Constant), PITDEP02, PPTEND02, HARDENO2				
ANOVA(b)				
Model	Sum of Sq	df	Mean Squar F	Sig.
1	219.0083	3	73.00276	9.620734
	Residual	151.7613	20	7.588065
	Total	370.7696	23	
Predictors: (Constant), PITDEP02, PPTEND02, HARDENO2				
Coefficients(a)				
Model	Unstandardized Coef	Standardiz t	Sig.	
1	(Constant)	-4.1076	2.650675	-1.54964
	HARDENC	1.768048	0.430915	0.662131
	PPTEND0	0.378877	0.464572	0.127518
	PITDEP02	0.998863	0.522934	0.293388
Dependent Variable: SURVIV02				
S = 1,768H + 999P + 379T -4,108				
Rh = 0.662, Rp = 0.293, Rt = 0.128				
Relation between degree of hardening and Survival of Outplanted Seedlings				
HARDENO3				
Variables Entered/Removed(b)				
Model	Variables Entered	Variables Removed		
1	PPTEND0			
a. All requested variables entered.				
b. Dependent Variable: SURVIV03				
Model Summary				
Model	R	R Square	Adjusted F Std. Error of the Estimate	
1	0.836149	0.699145	0.654017	1.716994
Predictors: (Constant), PPTEND03, PITDEP03, HARDENO3				
ANOVA(b)				
Model	Sum of Sq	df	Mean Squar F	Sig.
1	137.0182	3	45.67274	15.49243
	Residual	58.96136	20	2.948068
	Total	195.9796	23	
Predictors: (Constant), PPTEND03, PITDEP03, HARDENO3				
Coefficients(a)				
Model	Unstandardized Coef	Standardiz t	Sig.	
1	(Constant)	-3.96048	1.301082	-3.04399
	HARDENO	0.266272	0.417662	0.096986
	PITDEP03	0.966864	0.441354	0.323945
	PPTEND0	1.346746	0.300214	0.608429
Dependent Variable: SURVIV03				
S = 266H + 967P + 1,347T -3,960				
Rh = 0.097, Rp = 0.324, Rt = 0.608				
Relation between 2002/03 survived seedling and degree of hardening practice in nurse				
HARDENO2				
Variables Entered/Removed(b)				
Model	Variables Entered	Variables Removed		
1	PITDEP02			
a. All requested variables entered.				
b. Dependent Variable: SURVIV02				
Model Summary				
Model	R	R Square	Adjusted F Std. Error of the Estimate	
1	0.768561	0.590686	0.529289	2.754644
Predictors: (Constant), PITDEP02, PPTEND02, HARDENO2				
ANOVA(b)				
Model	Sum of Sq	df	Mean Squar F	Sig.
1	219.0083	3	73.00276	9.620734
	Residual	151.7613	20	7.588065
	Total	370.7696	23	
Predictors: (Constant), PITDEP02, PPTEND02, HARDENO2				
Coefficients(a)				
Model	Unstandardized Coef	Standardiz t	Sig.	
1	(Constant)	-4.1076	2.650675	-1.54964
	HARDENC	1.768048	0.430915	0.662131
	PPTEND0	0.378877	0.464572	0.127518
	PITDEP02	0.998863	0.522934	0.293388
Dependent Variable: SURVIV02				
S = 1,768H + 999P + 379T -4,108				
Rh = 0.662, Rp = 0.293, Rt = 0.128				
Relation between 2002/03 Planting Date and Survival of Planted Seedlings				
PITDEP02				
Variables Entered/Removed(b)				
Model	Variables Entered	Variables Removed		
1	PLDATE0			
a. All requested variables entered.				
b. Dependent Variable: SURVIV02				
Model Summary				
Model	R	R Square	Adjusted F Std. Error of the Estimate	
1	0.750288	0.562932	0.497371	2.846504
Predictors: (Constant), PLDATE02, NWTATER02, MOISTU02				
ANOVA(b)				
Model	Sum of Sq	df	Mean Squar F	Sig.
1	208.7179	3	69.57263	8.586474
	Residual	162.0517	20	8.102585
	Total	370.7696	23	
Predictors: (Constant), PLDATE02, NWTATER02, MOISTU02				
Coefficients(a)				
Model	Unstandardized Coef	Standardiz t	Sig.	
1	(Constant)	-2.8303	2.713155	-1.04318
	MOISTU02	0.133686	0.497329	0.048101
	NWTATER0	0.36391	0.493646	0.12248
	PLDATE0	2.22227	0.518108	0.765531
Dependent Variable: SURVIV02				
S = 2,222D + 364W + 134M - 2,830				
Rd = 0.766, Rw = 0.122, Rm = 0.048				

te	Relation between 2003/04 Water Supply in Nurseries and Survival of Seedlings	Relation between 2002/03 Planted Seedlings and Distance from Village to Nursery	Relation between 2002/04 IGA evaluation and Survival of Out-planted Seedlings
	<p style="text-align: center;">NWATER03</p>	<p style="text-align: center;">DISTAN02</p>	<p style="text-align: center;">IGA0204</p>
	<p>Variables Entered/Removed(b)</p> <p>Model 1 PLDATE03. Enter All requested variables entered. Dependent Variable: SURVIV03</p> <p>Model Summary</p> <p>Model 1 R Square Adjusted F Std. Error of the Estimate 1 0.757749 0.574184 0.510312 2.042684</p> <p>a Predictors: (Constant), PLDATE03, MOISTU03, NWATER03</p> <p>ANOVA(b)</p> <p>Model 1 Sum of Sq df Mean Squar F Sig. 1 Regressor 112.5284 3 37.50946 8.989556 0.000567 Residual 83.4512 20 4.17256 Total 195.9796 23 Predictors: (Constant), PLDATE03, MOISTU03, NWATER03 Dependent Variable: SURVIV03</p> <p>Coefficients(a)</p> <p>Model 1 Unstandardized Coeff Standardiz t Std. Error Beta Sig. 1 (Constant) -1.34548 1.877979 -0.71645 0.481997 MOISTU03 -0.07471 0.318329 -0.03698 -0.23471 0.816822 NWATER0 1.696214 0.349566 0.766311 4.852343 9.66E-05 PLDATE03 0.086714 0.556742 0.023177 0.155753 0.877789 Dependent Variable: SURVIV03</p> <p>S = 88D + 1.696W - 75M - 1.345</p> <p>Rd = 0.023, Rw = 0.766, Rm = -0.037</p>	<p>Model Summary</p> <p>Model 1 R Square Adjusted F Std. Error of the Estimate 1 0.282846 0.080002 0.038184 4.867774</p> <p>a Predictors: (Constant), DISTAN02</p> <p>ANOVA(b)</p> <p>Model 1 Sum of Sq df Mean Squar F Sig. 1 Regressor 45.33123 1 45.33123 1.913095 0.180497 Residual 521.295 22 23.69523 Total 566.6263 23 Predictors: (Constant), DISTAN02 Dependent Variable: PLANTD02</p> <p>Coefficients(a)</p> <p>Model 1 Unstandardized Coeff Standardiz t Std. Error Beta Sig. 1 (Constant) 12.67511 2.626348 4.826135 8.03E-05 DISTAN02 -1.281 0.926146 -0.28285 -1.38315 0.180497 Dependent Variable: PLANTD02</p> <p>Y = 12.675 - 1.281 X</p> <p>R = - 0.283</p>	<p>Model Summary</p> <p>Model 1 R Square Adjusted F Std. Error of the Estimate 1 0.326633 0.106689 0.066084 2.82095</p> <p>a Predictors: (Constant), IGA0204</p> <p>ANOVA(b)</p> <p>Model 1 Sum of Sq df Mean Squar F Sig. 1 Regressor 20.90889 1 20.90889 2.627485 0.119274 Residual 175.0707 22 7.957759 Total 195.9796 23 Predictors: (Constant), IGA0204 Dependent Variable: SURVIV03</p> <p>Coefficients(a)</p> <p>Model 1 Unstandardized Coeff Standardiz t Std. Error Beta Sig. 1 (Constant) 0.545833 2.076163 0.262905 0.79507 IGA0204 1.077778 0.664904 0.326633 1.620952 0.119274 Dependent Variable: SURVIV03</p> <p>Y = 1.078X + 546</p> <p>R = 0.327</p>

on	Relation between Villager's Past Planting Experience & 2002/03 Survival of Seedling	Relation between 2002/03 Firewood Scarcity & Nursery Participants	Relation between 2003/04 IGA income and Evaluation of IGA management
	<p>Model Summary Model 1 R 0.398513 R Square 0.158812 Adjusted F Std. Error of the Estimate 0.120576 3.765192 a Predictors: (Constant), EXPERIEN</p> <p>ANOVA(b) Model 1 Regressor Sum of Sq df 58.88275 1 Mean Squar F 58.88275 4.153495 Sig. 0.053749 Residual 311.8868 22 14.17667 Total 370.7696 23 a Predictors: (Constant), EXPERIEN b Dependent Variable: SURVIV02</p> <p>Coefficients(a) Model 1 (Constant) 3.373563 1.229414 2.744042 0.011845 EXPERIEN 1.271937 0.624107 0.398513 2.038013 0.053749 a Dependent Variable: SURVIV02</p> <p>Y = 1.272X + 3.374 R = 0.399</p>	<p>Model Summary Model 1 R 0.443742 R Square 0.196907 Adjusted F Std. Error of the Estimate 0.160403 4.459049 a Predictors: (Constant), SCARCITY</p> <p>ANOVA(b) Model 1 Regressor Sum of Sq df 107.2514 1 Mean Squar F 107.2514 5.394095 Sig. 0.02885 Residual 437.4286 22 19.88312 Total 544.68 23 a Predictors: (Constant), SCARCITY b Dependent Variable: NSEED02</p> <p>Coefficients(a) Model 1 (Constant) 3.778571 2.686906 1.406291 0.173606 SCARCIT 1.957143 0.842681 0.443742 2.322519 0.02885 a Dependent Variable: NSEED02</p> <p>Y = 1.957X + 3.779 R = 0.444</p>	<p>Model Summary Model 1 R 0.793857 R Square 0.630208 Adjusted F Std. Error of the Estimate 0.6134 0.635145 a Predictors: (Constant), IGAVA24</p> <p>ANOVA(b) Model 1 Regressor Sum of Sq df 15.125 1 Mean Squar F 15.125 37.49296 Sig. 3.66E-06 Residual 8.875 22 0.403409 Total 24 23 a Predictors: (Constant), IGAVA24 b Dependent Variable: IGAINCO4</p> <p>Coefficients(a) Model 1 (Constant) 5.75 0.467454 12.30068 2.47E-11 IGAVA24 -0.91667 0.149705 -0.79386 -6.12315 3.66E-06 a Dependent Variable: IGAINCO4</p> <p>Y = 917X - 5.750 R = -0.794</p>





Model Summary

Model	R	R Square	Adjusted R Square	F	Std. Error of the Estimate
1	0.448872	0.201486	0.16519	4.446318	

a Predictors: (Constant), PARTIC02

ANOVA(b)

Model	Sum of Sq	df	Mean Square	F	Sig.
1	109.7456	1	109.7456	5.551192	0.02779103
	Residual	434.9344	22	19.76974	
	Total	544.68	23		

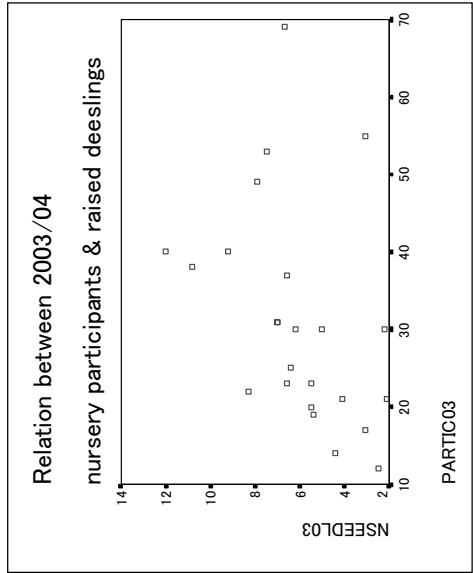
a Predictors: (Constant), PARTIC02
b Dependent Variable: NSEED02

Coefficients(a)

Model	Unstandardized Coeff	Standardized Coeff	t	Sig.	
1	(Constant)	5.119319	2.126386	2.407521	0.02489001
	PARTIC02	0.111524	0.047334	0.448872	2.356097

a Dependent Variable: NSEED02

Y = 112x + 5,120, r = 0,449



ANOVA(b)

Model	Sum of Sq	df	Mean Square	F	Sig.
1	23.45443	1	23.45443	4.060249	0.056284983
	Residual	127.0852	22	5.776598	
	Total	150.5396	23		

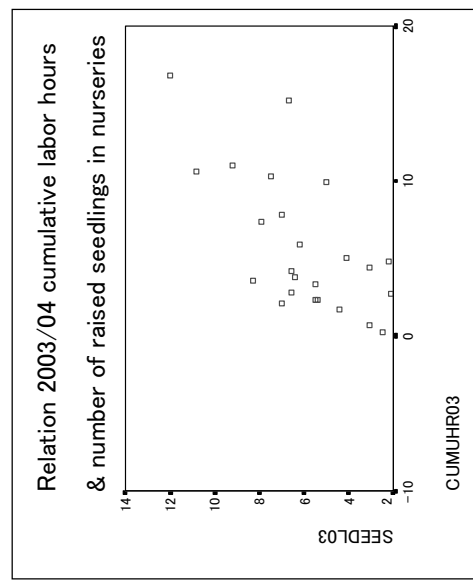
a Predictors: (Constant), PARTIC03
b Dependent Variable: NSEEDL03

Coefficients(a)

Model	Unstandardized Coeff	Standardized Coeff	t	Sig.	
1	(Constant)	3.822243	1.207658	3.165005	0.004486706
	PARTIC03	0.071155	0.035312	0.394718	2.015006

a Dependent Variable: NSEEDL03

Y = 71x + 3,822, r = 0,395



Model Summary

Model	R	R Square	Adjusted R Square	F	Std. Error of the Estimate
1	0.661828	0.438017	0.412472	2.410865	

a Predictors: (Constant), CUMUHR03

ANOVA(b)

Model	Sum of Sq	df	Mean Square	F	Sig.
1	99.66344	1	99.66344	17.14708	0.00042768
	Residual	127.8699	22	5.812268	
	Total	227.5333	23		

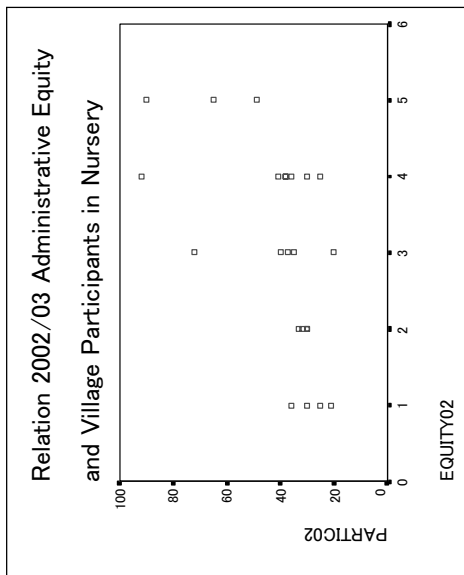
a Predictors: (Constant), CUMUHR03
b Dependent Variable: PLANTD03

Coefficients(a)

Model	Unstandardized Coeff	Standardized Coeff	t	Sig.	
1	(Constant)	2.010837	0.818023	2.458167	0.022309064
	CUMUHR0	0.467867	0.112987	0.661828	4.140904

a Dependent Variable: PLANTD03

Y = 468 X + 2,011 r = 0,682

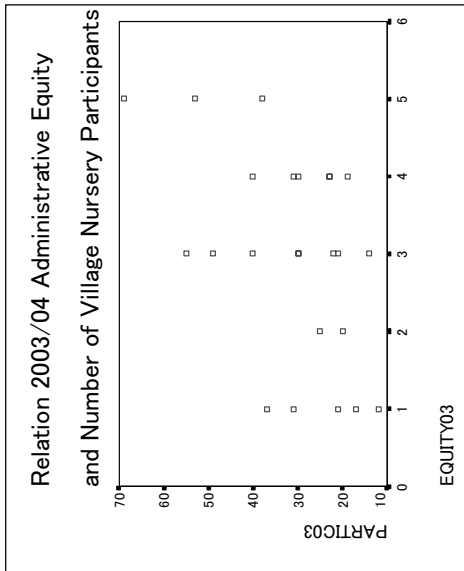


Model Summary
 Model 1 R Square Adjusted F Std. Error of the Estimate
 1 0.553787 0.30668 0.275165 16.67551
 a Predictors: (Constant), EQUITY02

ANOVA(b)
 Model 1 Sum of Sq df Mean Squar F Sig. 0.004991951
 1 Regressor 2706.025 1 2706.025 9.731357
 Residual 6117.6 22 278.0727
 Total 8823.625 23
 a Predictors: (Constant), EQUITY02
 b Dependent Variable: PARTIC02

Coefficients(a)
 Model 1 Unstandardized Coeff Standardiz t Sig.
 B Std. Error Beta
 1 (Constant) 15.95 8.611198 1.852239 0.077457572
 EQUITY02 8.225 2.63663 0.553787 3.119512 0.004991951
 a Dependent Variable: PARTIC02

Y = 8.2x + 16, r = 0.554

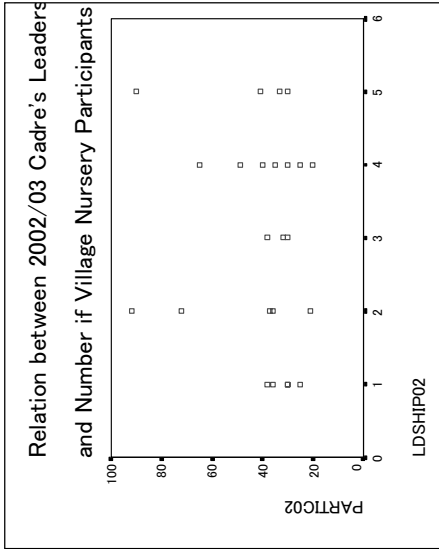


Model Summary
 Model 1 R Square Adjusted F Std. Error of the Estimate
 1 0.476229 0.226794 0.191649 12.7598
 a Predictors: (Constant), EQUITY03

ANOVA(b)
 Model 1 Sum of Sq df Mean Squar F Sig. 0.018647597
 1 Regressor 1050.625 1 1050.625 6.452975
 Residual 3581.875 22 162.8125
 Total 4632.5 23
 a Predictors: (Constant), EQUITY03
 b Dependent Variable: PARTIC03

Coefficients(a)
 Model 1 Unstandardized Coeff Standardiz t Sig.
 B Std. Error Beta
 1 (Constant) 15.875 6.589132 2.40927 0.024796457
 EQUITY03 5.125 2.017502 0.476229 2.540271 0.018647597
 a Dependent Variable: PARTIC03

Y = 5.1x + 15.9, r = 0.476

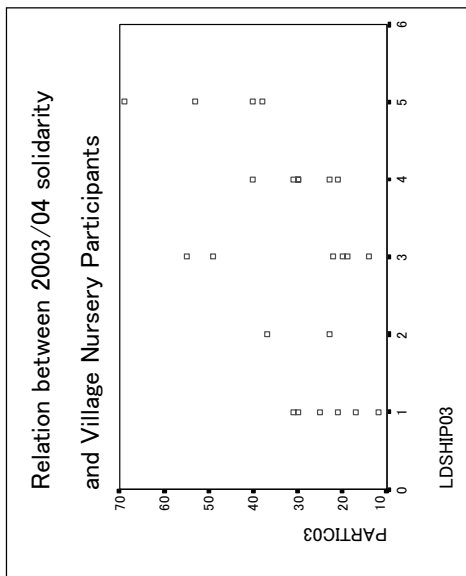


Model Summary
 Model 1 R Square Adjusted F Std. Error of the Estimate
 1 0.11678 0.013638 -0.0312 19.8898
 a Predictors: (Constant), LDSHIP02

ANOVA(b)
 Model 1 Sum of Sq df Mean Squar F Sig. 0.586835
 1 Regressor 120.3333 1 120.3333 0.304176
 Residual 8703.292 22 395.6042
 Total 8823.625 23
 a Predictors: (Constant), LDSHIP02
 b Dependent Variable: PARTIC02

Coefficients(a)
 Model 1 Unstandardized Coeff Standardiz t Sig.
 B Std. Error Beta
 1 (Constant) 35.875 9.521517 3.767782 0.001061
 LDSHIP02 1.583333 2.870845 0.11678 0.551522 0.586835
 a Dependent Variable: PARTIC02

Y = 1.58x + 35.8, r = 0.117



Model Summary

Model	R	R Square	Adjusted R Square	F	Std. Error of the Estimate
1	0.515321	0.265556	0.232172	12.43586	

a Predictors: (Constant), LDSHIP03

ANOVA(b)

Model	Sum of Sq	df	Mean Square	F	Sig.
1	1230.188	1	1230.188	7.954626	0.009962778
	Residual	3402.313	22	154.6506	
	Total	4632.5	23		

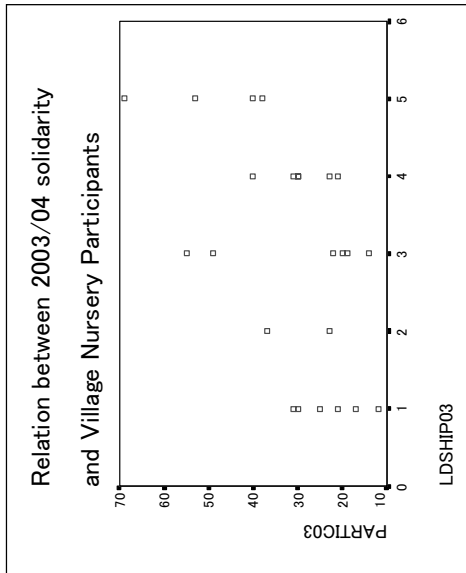
a Predictors: (Constant), LDSHIP03
b Dependent Variable: PARTIC03

Coefficients(a)

Model	Unstandardized Coeff	Standardized Coeff	t	Sig.
1	(Constant)	16.0625	5.953214	2.698122
	LDSHIP03	5.0625	1.794962	0.515321

a Dependent Variable: PARTIC03

Y = 5.06x + 16.1, r = 0.515



Model Summary

Model	R	R Square	Adjusted R Square	F	Std. Error of the Estimate
1	0.515321	0.265556	0.232172	12.43586	

a Predictors: (Constant), LDSHIP03

ANOVA(b)

Model	Sum of Sq	df	Mean Square	F	Sig.
1	1230.188	1	1230.188	7.954626	0.009962778
	Residual	3402.313	22	154.6506	
	Total	4632.5	23		

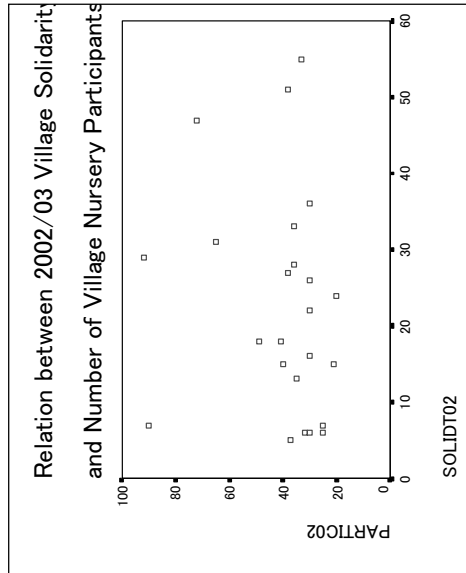
a Predictors: (Constant), LDSHIP03
b Dependent Variable: PARTIC03

Coefficients(a)

Model	Unstandardized Coeff	Standardized Coeff	t	Sig.
1	(Constant)	16.0625	5.953214	2.698122
	LDSHIP03	5.0625	1.794962	0.515321

a Dependent Variable: PARTIC03

Y = 5.06x + 16.1, r = 0.515



Model Summary

Model	R	R Square	Adjusted R Square	F	Std. Error of the Estimate
1	0.684099	0.467991	0.443809	10.80737	

a Predictors: (Constant), PARTPT02

ANOVA(b)

Model	Sum of Sq	df	Mean Square	F	Sig.
1	2260.377	1	2260.377	19.35268	0.000228
	Residual	2569.581	22	116.7992	
	Total	4829.958	23		

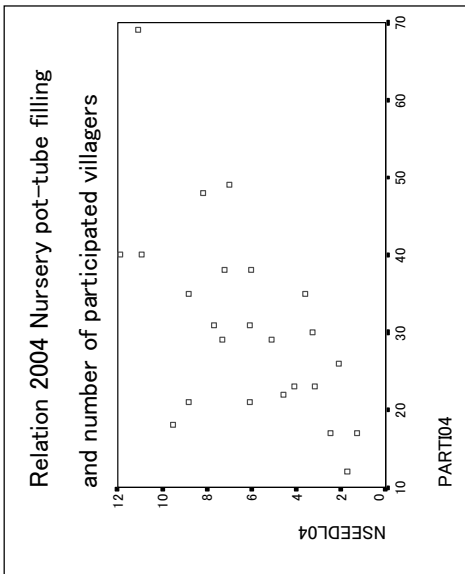
a Predictors: (Constant), PARTPT02
b Dependent Variable: SOLIDT02

Coefficients(a)

Model	Unstandardized Coeff	Standardized Coeff	t	Sig.
1	(Constant)	6.279216	4.304916	1.458615
	PARTPT02	0.311144	0.070728	0.684099

a Dependent Variable: SOLIDT02

Y = 0.31x + 6.28, r = 0.684



Model Summary(b)

Model	R	R Square	Adjusted F Std. Error of the Estimate	Sig.
1	0.60989	0.371966	0.343419	2.501782

Predictors: (Constant), PARTI04
Dependent Variable: NSEEDL04

ANOVA(b)

Model	Sum of Sq	df	Mean Square	F	Sig.
1	81.55346	1	81.55346	13.02997	0.00155468
	Residual	137.6961	22	6.258915	
	Total	219.2496	23		

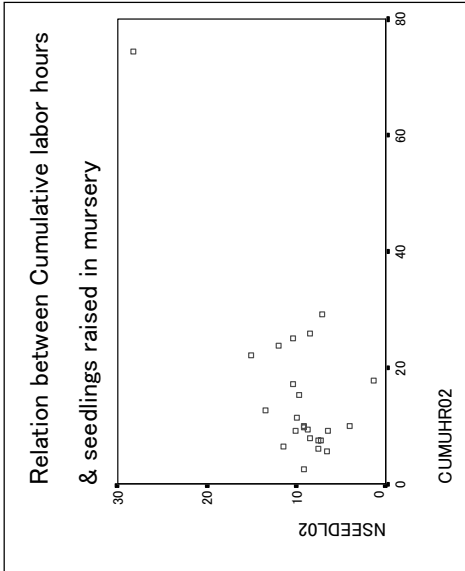
Predictors: (Constant), PARTI04
Dependent Variable: NSEEDL04

Coefficients(a)

Model	Unstandardized Coeff	Standardized Coeff	Std. Error	Beta	Sig.
1	(Constant)		1.589387	1.368088	1.161758
	PARTI04	0.148187	0.041052	0.60989	3.609705

Dependent Variable: NSEEDL04

Y = 1.48x + 1.589, r = 0.610



Model Summary

Model	R	R Square	Adjusted F Std. Error of the Estimate	Sig.
1	0.753016	0.567033	0.547352	3.274063

Predictors: (Constant), CUMUHR02

ANOVA(b)

Model	Sum of Sq	df	Mean Square	F	Sig.
1	308.8513	1	308.8513	28.81214	
	Residual	235.8287	22	10.71949	
	Total	544.68	23		

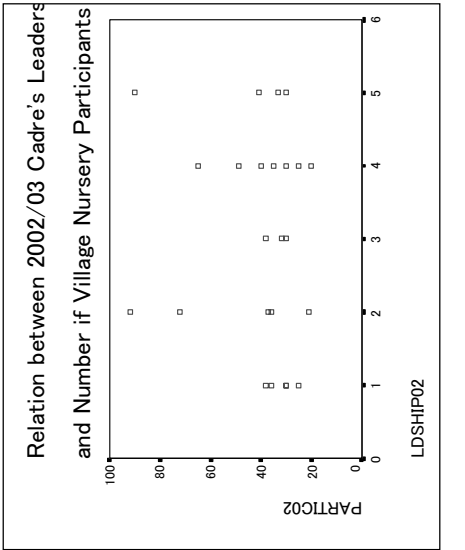
Predictors: (Constant), CUMUHR02
Dependent Variable: NSEEDL02

Coefficients(a)

Model	Unstandardized Coeff	Standardized Coeff	Std. Error	Beta	Sig.
1	(Constant)		5.711154	0.9253	5.754136
	CUMUHR02	0.252153	0.046976	0.753016	5.367694

Dependent Variable: NSEEDL02

Y = .252x + 5.711, r = 0.753



Model Summary

Model	R	R Square	Adjusted F Std. Error of the Estimate	Sig.
1	0.11678	0.013638	-0.0312	19.8898

Predictors: (Constant), LDSHIP02

ANOVA(b)

Model	Sum of Sq	df	Mean Square	F	Sig.
1	120.3333	1	120.3333	0.304176	0.586834933
	Residual	8703.292	22	395.6042	
	Total	8823.625	23		

Predictors: (Constant), LDSHIP02
Dependent Variable: PARTIC02

Coefficients(a)

Model	Unstandardized Coeff	Standardized Coeff	Std. Error	Beta	Sig.
1	(Constant)		35.875	9.521517	3.767782
	LDSHIP02	1.583333	2.870845	0.11678	0.551522

Dependent Variable: PARTIC02

Y = 1.58x + 35.8, r = 0.117

Model Summary

Model	R	R Square	Adjusted F Std. Error of the Estimate	Sig.
1	0.418597	0.175224	0.137734	2.375648

Predictors: (Constant), NSEEDL02

ANOVA(b)

Model	Sum of Sq	df	Mean Square	F	Sig.
1	26.37809	1	26.37809	4.673897	8.67351E-06
	Residual	124.1615	22	5.643704	
	Total	150.5396	23		

Predictors: (Constant), NSEEDL02
Dependent Variable: SEEDL03

Coefficients(a)

Model	Unstandardized Coeff	Standardized Coeff	Std. Error	Beta	Sig.
1	(Constant)		3.922206	1.095465	3.580403
	NSEEDL02	0.220065	0.101791	0.418597	2.16192

Dependent Variable: SEEDL03

Y = .220x + 3.922, r = 0.419

Correlation among factors

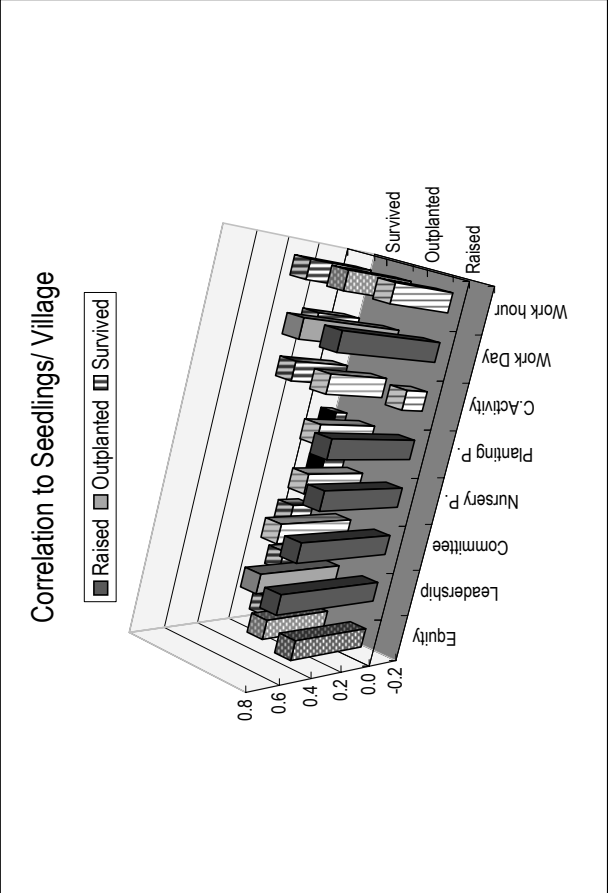
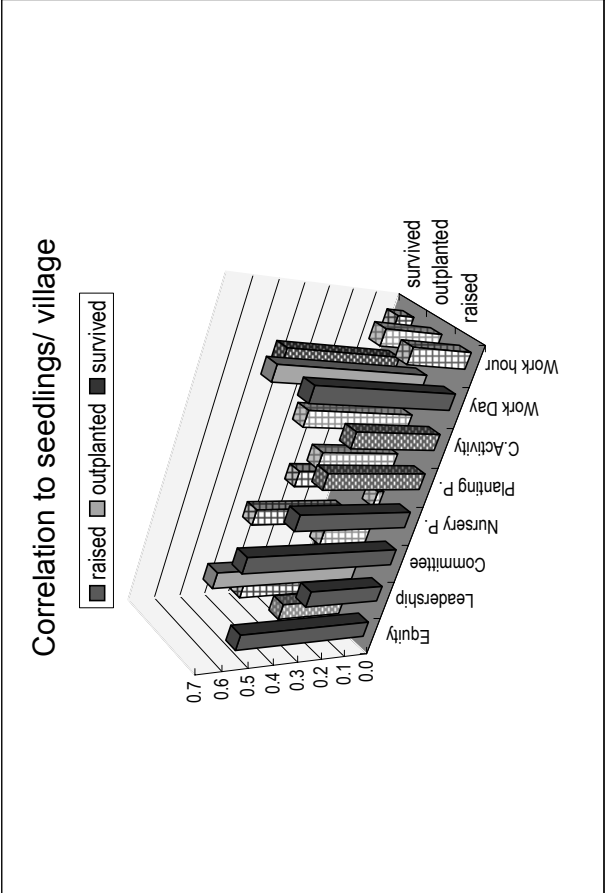
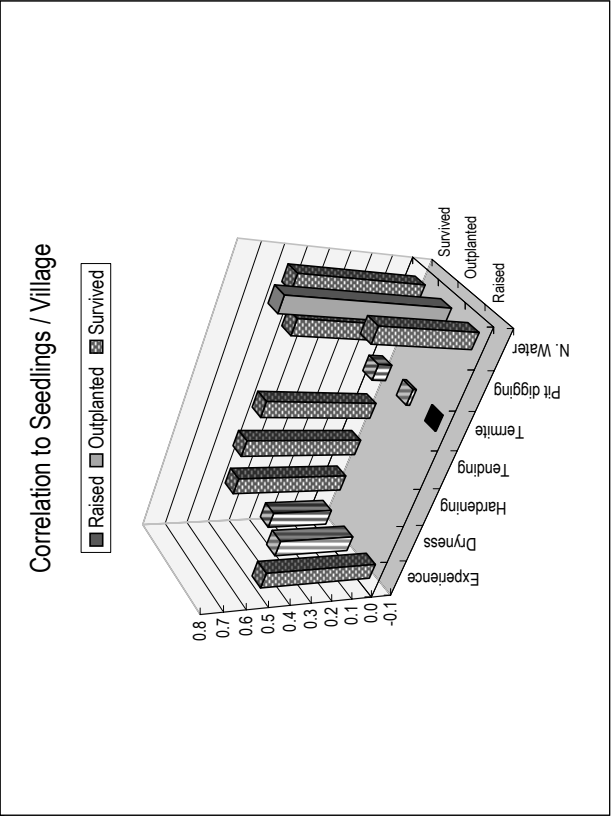
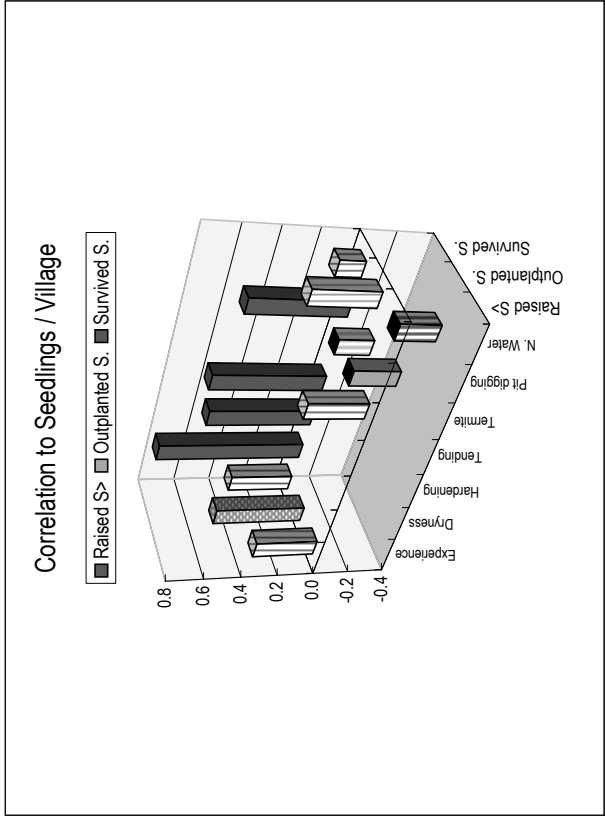
2002 / 03 results															
Correlation among factors															
Factors checked	Equity of administrat. ship	Leadership	Committee Members	Participants in nurseries	Participants in outplanting	Meeting freq /month	mobilized days /year	nursery works hr/wk	Planting experiences	Woodlot dryness	Hardening Practice	Post-plant tending	Termite Damages	Pit digging size	Availability nursery water
C: Number Seedling															
corr. Coefficient	0.536	0.307	0.610	0.463	0.409	0.355	0.574	0.251	0.334	-0.153	0.167	0.465	0.315	0.240	-0.212
significance x%	0.01	0.01	0.01	0.05	0.05	0.05	0.01					0.05			
Kendall's rank coef.	0.1	0.5	0.25	0.1	0.15	-0.1	0.3	0	0.45	-0.25	-0.45	0.3	-0.25	0.15	-0.1
D: Number Planted						-0.33									
corr. Coefficient	0.266	0.581	0.200	0.026	0.323	0.436	0.610	0.242	0.490	0.047	0.585	0.575	-0.256	0.307	0.355
significance x%		0.01					0.01		0.05		0.01	0.01			
Kendall's rank coef.	0.2	0.08	0.35	0.2	0.13	0.35	0.2	0.08	0.45	0.05	0.25	0.4	0.35	0.3	0.5
E: Number Survived															
corr. Coefficient	0.332	0.026	0.382	0.258	0.010	0.224	0.471	0.071	0.345	0.792	0.574	0.612	-0.196	0.538	0.138
significance x%							0.05		0.01	0.01	0.01	0.01		0.01	
Kendall's rank coef.	0.25	-0.04	0.5	0.3	0.1	0.05	0.45	0.05	0.35	0.9	0.1	0.65	0.25	0.6	0.15
2003 / 04 results															
Correlation among factors															
Factors checked	Equity of administrat. ship	Leadership	Committee Members	Participants in nurseries	Participants in outplanting	Meeting freq /month	mobilized days /year	nursery works hr/wk	Planting experiences	Woodlot dryness	Hardening practice	Post-plant tending	Termite Damages	Pit digging size	Availability nursery water
C: Number Seedling															
corr. Coefficient	0.478	0.644	0.598	0.534	0.568	0.150	0.670	0.413	0.527	0.084	0.443	0.465	-0.005	0.480	0.469
significance x%	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.05		0.05	0.05
Kendall's rank coef.	0.33	0.28	-0.22	0.45	0.28	0.13	0.17	0.25	0.42	0.13	0.28	0.5	-0.13	0.33	0.33
D: Number Planted															
corr. Coefficient	0.409	0.522	0.469	0.372	0.373	0.388	0.640	0.439	0.361	0.202	0.518	0.688	0.017	0.505	0.755
significance x%	0.05	0.01	0.05	0.05	0.01	0.01	0.01	0.05	0.01		0.01	0.01		0.05	0.01
Kendall's rank coef.	0.33	0.38	-0.33	0.5	0.33	0.17	0.33	0.22	0.25	0.08	0.25	0.42	-0.08	0.25	0.38
E: Number Survived															
corr. Coefficient	0.156	0.126	0.138	-0.146	-0.079	0.355	0.284	0.416	0.294	0.526	0.552	0.529	0.068	0.528	0.596
significance x%								0.05	0.01	0.01	0.01	0.01		0.01	0.01
Kendall's rank coef.	0.25	0.28	-0.25	0.17	0.04	0.28	0.17	0.33	0.28	0.38	0.5	0.5	-0.08	0.38	0.21

2003						
Equity	Leadership	Committee	Nursery P.	Planting P.	C-Activity	Work hour
0.536	0.307	0.610	0.463	0.409	0.355	0.574
0.266	0.581	0.200	0.026	0.323	0.436	0.610
0.332	0.026	0.382	0.258	0.010	0.224	0.471

2004						
Equity	Leadership	Committee	Nursery P.	Planting P.	C-Activity	Work hour
0.478	0.644	0.598	0.534	0.568	0.150	0.670
0.409	0.522	0.469	0.372	0.373	0.388	0.640
0.156	0.126	0.138	-0.146	-0.079	0.355	0.284

2003						
Raised SdI	Planted SdI	Survived SdI	Experience Dryness	Hardening	Tending	Termite
0.334	0.334	0.334	0.334	0.334	0.334	0.334
0.490	0.490	0.490	0.490	0.490	0.490	0.490
0.345	0.345	0.345	0.345	0.345	0.345	0.345

2004						
Raised SdI	Planted SdI	Survived SdI	Experience Dryness	Hardening	Tending	Termite
0.527	0.527	0.527	0.527	0.527	0.527	0.527
0.361	0.361	0.361	0.361	0.361	0.361	0.361
0.294	0.294	0.294	0.294	0.294	0.294	0.294



ANNEX H5 Evaluated Significance Level Evaluated Level, Correlation and Significance Level

(1/5)

Evaluated Level	Evaluation IGA-1'03	Evaluation IGA-1,04	Evaluation IGA-2'04	Mean Eval IGA-02'04	Total Value of IGAs		N.resource avail.IGA-1	N.resource avail.IGA-2	raised seedlings			outplanted seedlings			survived seedlings	
					2002/03	2003/04			02/03	03/04	02/03	03/04	02/03	03/04	2002/2003	2003/2004
					IGA-02'04	IGA-02'04			02/03	03/04	02/03	03/04	02/03	03/04	02/03	03/04
01. Makonokaya	4	3	2	2.5	15,200	18,800	3	2	13,447	7,000	8,400	1,710	6,476	1,158	4,470	
02. Siyamudima	3	2	3	2.5	11,000	10,450	2	1	9,225	7,500	4,200	5,960	1,865	4,820	560	
03. Kaumbala	3	3	1	2	30,900	24,800	3	2	9,883	4,100	7,040	4,100	4,820	3,980	1,480	
04. Mdala	4	1	1	1	12,700	21,250	2	1	7,300	3,050	3,900	5,050	3,438	1,444	7,797	
05. Narijwa	2	2	3	2.5	2,500	22,500	1	4	10,292	5,000	6,466	4,080	6,941	6,582	1,969	
06. Chikojia	5	4	3	3.5	35,600	17,350	4	3	9,671	10,799	8,251	10,799	6,941	6,582	1,751	
07. Manjelo	4	4	3	3.5	39,300	42,400	3	3	9,671	7,900	8,288	6,582	6,941	6,582	1,969	
08. Teula	2	3	3	3	46,400	52,300	4	5	8,702	2,147	3,187	2,147	5,476	1,751	2,385	
09. Chakana	1	1	3	2	7,500	12,500	2	2	6,600	3,126	3,000	3,126	36	3,072	1,040	
10. Lemu	3	3	2	2.5	27,000	36,000	3	4	9,200	5,500	4,300	3,150	5,516	2,385	1,040	
11. M. Ngondo	2	2	3	2.5	42,100	27,500	5	3	8,454	5,350	4,023	1,350	3,072	1,040	1,969	
12. Kam'mata	3	3	5	4	28,000	41,000	3	4	28,243	12,043	11,608	12,043	21,160	11,598	4,248	
13. Kumanda	3	3	3	3	19,200	30,500	3	3	11,495	6,174	4,739	6,174	8,689	4,248	4,698	
14. T. Kenji	4	5	3	4	35,000	27,600	2	2	15,075	6,598	8,755	5,598	7,302	4,698	5,759	
15. Chilangali	2	3	4	3.5	58,400	59,600	5	5	10,121	6,413	8,201	4,496	5,915	3,232	3,232	
16. D. Mbeza	2	2	3	2.5	19,000	17,500	3	2	7,556	6,611	7,556	6,611	4,371	3,232	3,232	
17. Kamwendo	2	4	3	3.5	6,500	20,000	2	2	8,470	6,679	4,985	6,679	3,661	5,445	983	
18. Peter Bilija	4	3	2	2.5	4,000	15,000	1	2	7,073	4,420	4,976	3,226	4,454	828	7,000	
19. Ndemanje	2	2	3	2.5	9,500	22,500	3	4	1,337	7,000	1,227	4,000	828	7,000	5,061	
20. S.Mpombe	3	4	5	4.5	67,500	50,000	5	4	10,382	9,200	5,830	3,981	7,678	5,061	1,683	
21. Kateya	3	2	4	3	40,600	39,200	2	3	12,002	2,204	9,250	2,204	3,111	1,683	902	
22. Maluwa	4	5	4	4.5	60,000	2,500	4	2	7,528	2,524	4,900	1,835	4,034	902	1,208	
23. Kumponda	4	5	4	4.5	27,600	95,000	3	4	6,432	5,450	5,800	3,621	4,382	1,208	8,132	
24. K.Chigumula	2	3	2	2.5	53,200	82,300	4	4	4,009	8,289	3,000	3,289	2,950	8,132	90,585	
Total 24 villages	72	72	72	72	29,113	32,856	72	72	232,168	145,077	223,580	113,129	127,746	90,585	90,585	

NOTE: Evaluated Level: 5 ranks (5=highest, 1=lowest)

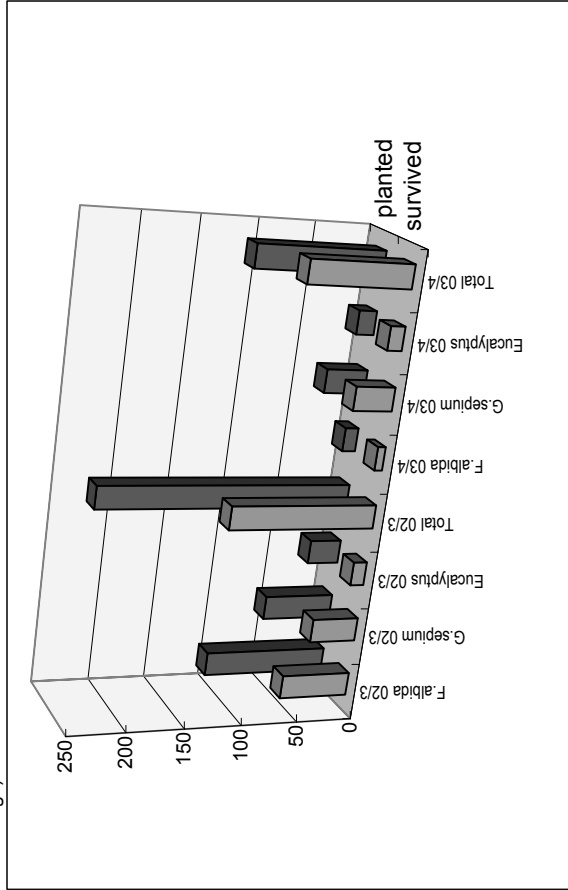
Correlation	eval IGA1		eval IGA12		IGA value		n-seedling		n-seedling		o-seedling		o-seedling		s-seedling		s-seedling	
	02 / 03	03 / 04	02 / 04	03 / 04	02 / 03	03 / 04	02 / 03	03 / 04	02 / 03	03 / 04	02 / 03	03 / 04	02 / 03	03 / 04	02 / 03	03 / 04	02 / 03	03 / 04
evalIGA-1	0.203																	
IGA-1 02/03																		
IGA-1 03/04																		
IGA-2 03/04																		
Mean IGA02/04																		
IGAValue02/03	0.044																	
IGAValue03/04																		
IGAResource03	(0.117)																	
IGAResource04																		
eval IGA1	0.200																	
eval IGA12																		
IGA value																		
n-seedling																		
o-seedling																		
s-seedling																		
evalIGA-1																		
IGA-1 02/03																		
IGA-1 03/04																		
IGA-2 03/04																		
Mean IGA02/04																		
IGAValue02/03																		
IGAValue03/04																		
IGAResource03																		
IGAResource04																		

Significance level

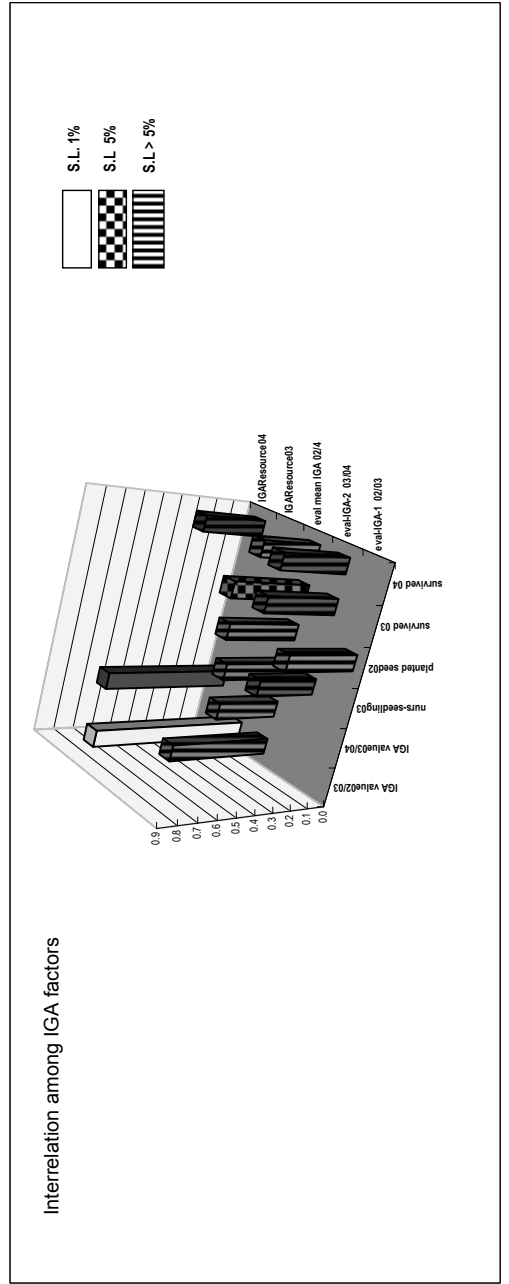
Table 4.5.1 Survival Rates by Tree Species

species	survived	planted
F.albida 02/3	61	109
G.seplum 02/3	41	62
Eucalyptus 02/3	12	28
Total 02/3	128	224
F.albida 03/4	7	12
G.seplum 03/4	35	37
Eucalyptus 03/4	13	16
Total 03/4	91	114

(1,000 seedlings)



	IGA value02/03	IGA value03/04	nurs-seedling03	planted seed02	survived 03	survived 04
eval-IGA-1 02/03			0.391			55.7
eval-IGA-2 03/04			0.325		0.406	64.6
eval mean IGA 02/4	0.542	0.339	0.358	0.398	0.431	42.9
IGAResource03	0.809					-
IGAResource04		0.669				57.9
						52.6
						66
						89.6
						91.4
						70.2
						57.1



S = 1,768H + 999P + 379T - 4,108
Rh = 0.662, Rp = 0.293, Rt = 0.128
S = 2,222D + 384W + 134M - 2,850
Rd = 0.766, Rw = 0.122, Rm = 0.048

S = 266H + 967P + 1,347T - 3,960
Rh = 0.097, Rp = 0.324, Rt = 0.608
S = 88D + 1,696W - 76M - 1,345
Rd = 0.023, Rw = 0.766, Rm = -0.037

Y = 5.06x + 16.1
Y = 1,957X + 3,779
Y = 4.5X + 17.4

Y = 252x + 5,711
Y = 1,113X + 2,708
Y = 148x + 1,589

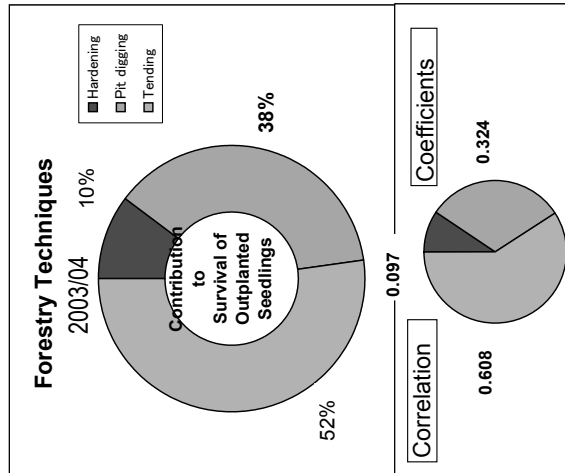
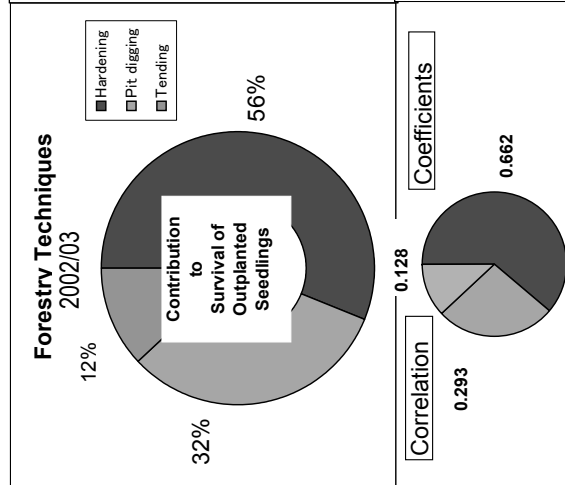
Y = 0.31x + 6.28
Y = 5.06x + 16.1
Y = 0.610

R = 0.753
R = 0.628
R = 0.610

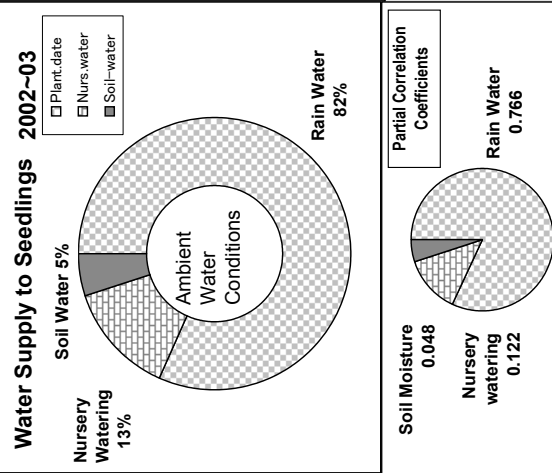
R = 0.684
R = 0.515
R = 0.610

Factor	Hardening	Pit digging	Tending
#	56.2%	31.8%	12.0%
	0.662	0.293	0.128

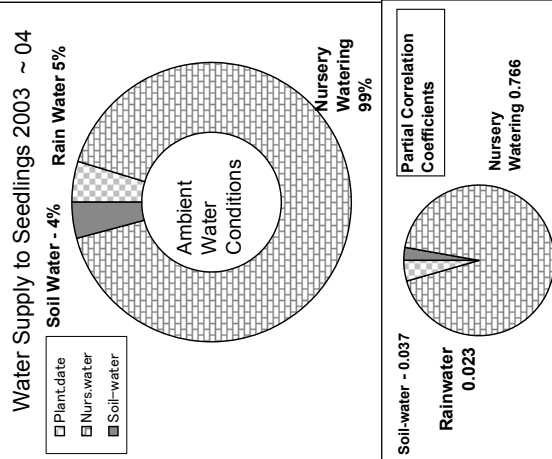
Factor	Hardening	Pit digging	Tending
#	10.3%	37.5%	52.2%
	0.097	0.324	0.608



Plant.date	Nurs.water	Soil-water
2222	81.7%	4.9%
364	13.4%	4.9%
134	0.122	0.048



Plant.date	Nurs.water	Soil-water
88	5.1%	4.4%
1696	99.2%	4.4%
75	0.766	-0.037



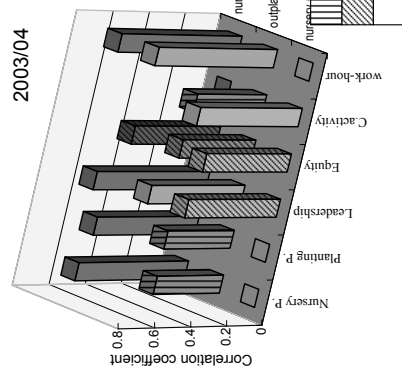
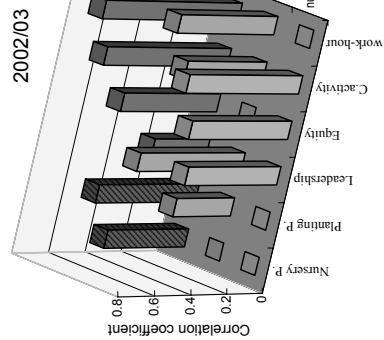
0203solid vipatrate%
0304solid vipatrate%

1.24
1.33

22.89
18.13

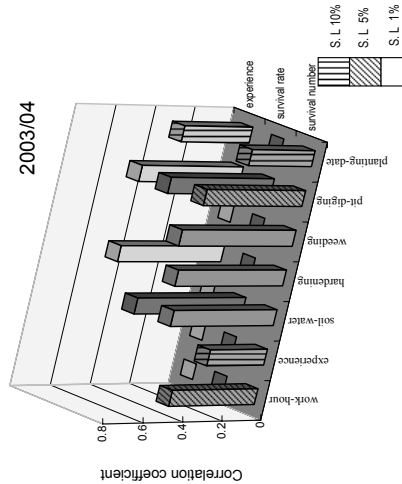
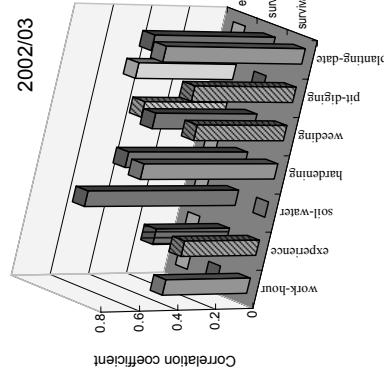
Social indicators

	Nursery P.	Planting P.	Leadership	Equity	C.activity	work-hour
nursery participants	0	0.515	0.554	0.629	0	0
outplanted seedlings	0	0.323	0.581	0	0.441	0.538
nursery seedlings	0.449	0.555	0.307	0.536	0.688	0.753
	Nursery P.	Planting P.	Leadership	Equity	C.activity	work-hour
nursery participants	0	0.515	0.476	0.570	0	0
outplanted seedlings	0.372	0.373	0.522	0.409	0.388	0.662
nursery seedlings	0.610	0.568	0.628	0.478	0	0.670



techno-environmental indicators

	work-hour	experience	soil-water	hardening	weeding	pit-digging	planting-date
2002 ~ 03 survival number	0.449	0.399	0	0.707	0.478	0.538	0.735
survival rate	0	0.39	0.792	0.63	0.537	0	0.637
experience	0	0	0	0	0.437	0.516	0
	work-hour	experience	soil-water	hardening	weeding	pit-digging	planting-date
2003 ~ 04 survival number	0.439	0.294	0.526	0.552	0.581	0.505	0.324
survival rate	0	0	0.552	0	0	0.527	0
experience	0	0	0	0.527	0	0.516	0.349



注) Correlation coefficient = 0.1 or lower: least relation, 0.1 - 0.3: less relation, 0.4 - 0.7: some relation, 0.7 or more: quite highly relation
S.L. = Significance level : 1%; very high level, 5%; high relation, 10%; proper relation

注) Correlation coefficient = 0.1 or lower: least relation, 0.1 - 0.3: less relation, 0.4 - 0.7: some relation, 0.7 or more: quite highly relation
S.L. = Significance level : 1%; very high level, 5%; high relation, 10%; proper relation

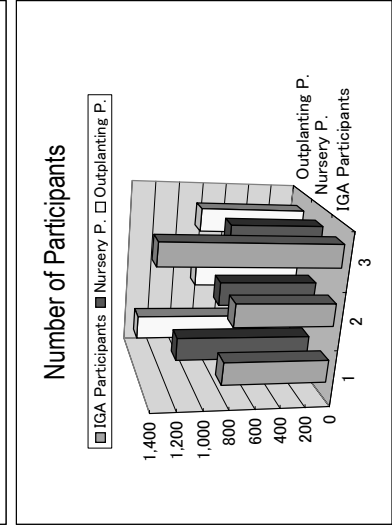
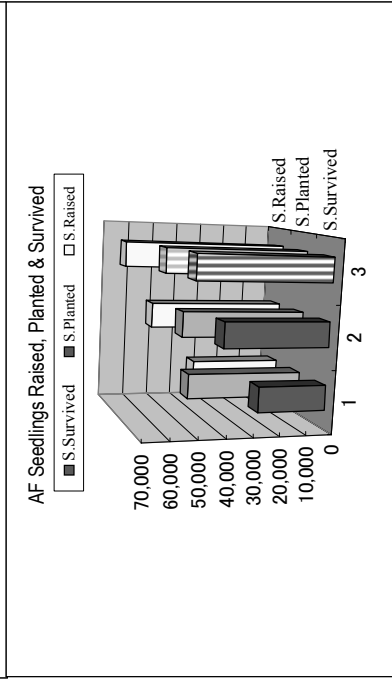
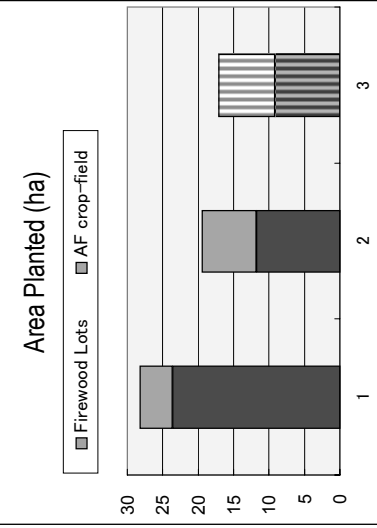
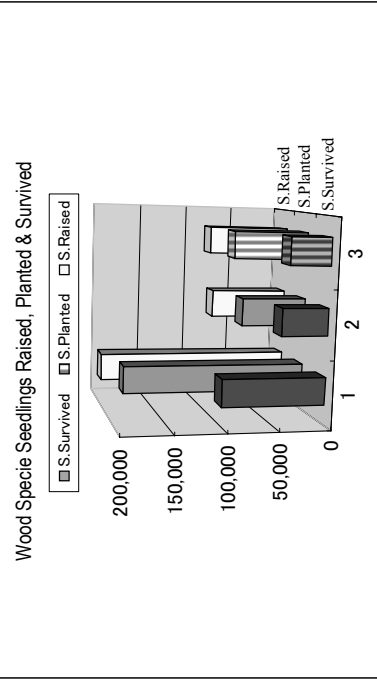
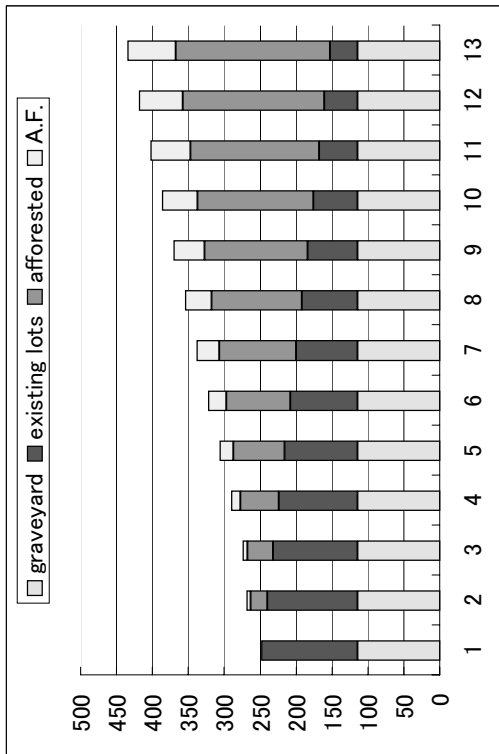
ANNEX H6

Proposed Forestry Development Plan Achieved Tree Planted During Pilot Study

Forestry Development Plan

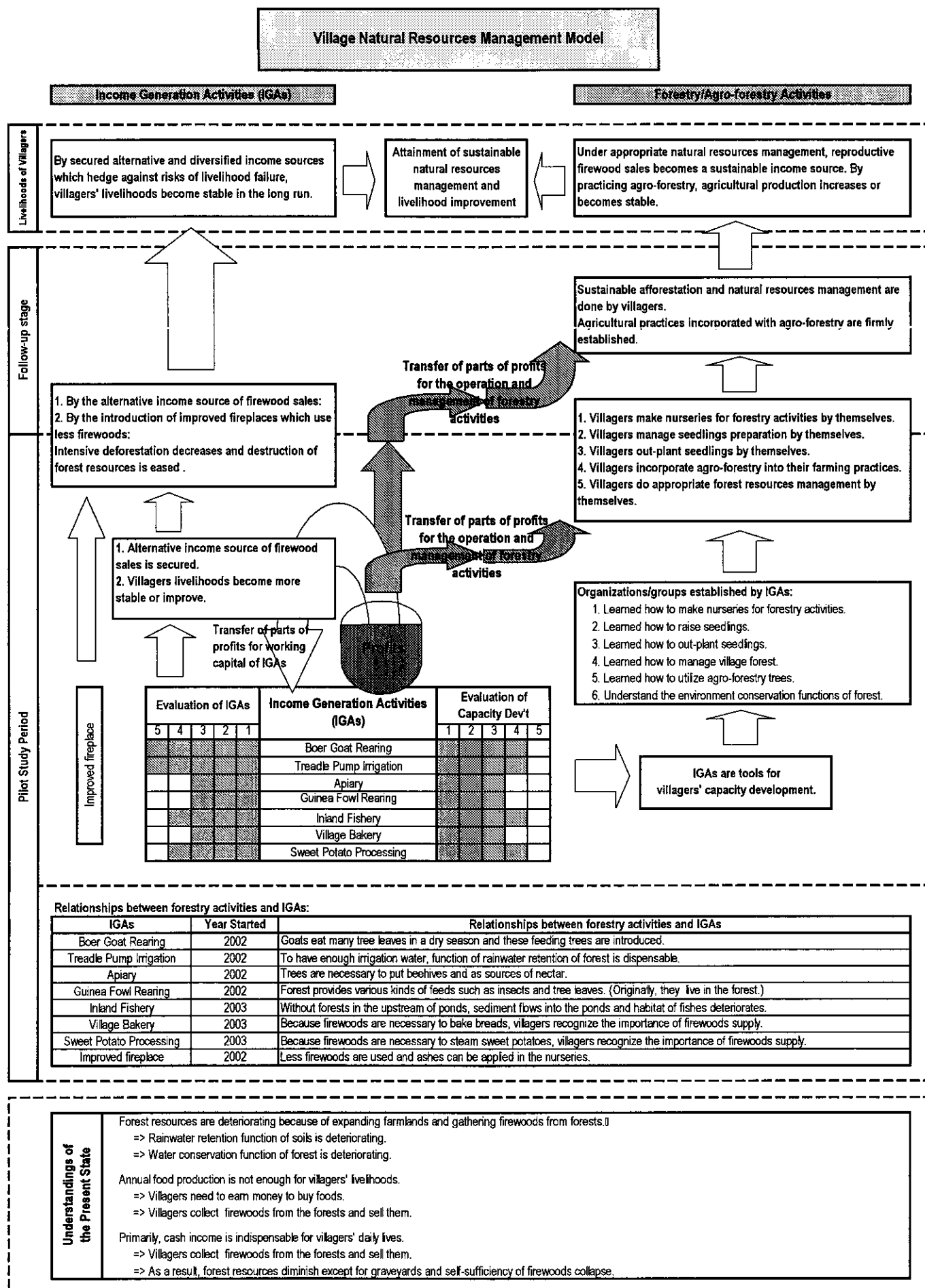
year	graveyard	existing lot	reforested	wood of AF
2003	114	134	0	0
2004	114	126	23	5
2005	114	118	35	7
2006	114	110	53	13
2007	114	102	71	19
2008	114	94	89	25
2009	114	86	107	31
2010	114	78	125	37
2011	114	70	143	43
2012	114	62	161	49
2013	114	54	179	55
2014	114	46	197	61
2015	114	38	215	67
2016	114	30	233	73

wood species only		02 / 03		03 / 04		04 / 05	
0203 svvd	104,737	196,003	79,122	83,455	196,003	79,122	83,455
0304 svvd	156,896	183,427	65,118	75,392	183,427	65,118	75,392
ttl	35.3	101,725	45,678	40,393	101,725	45,678	40,393
equiv.area							
AF species		02 / 03		03 / 04		04 / 05	
0203 svvd	22,927	51,248	55,292	64,500	22,927	51,248	55,292
0304 svvd	38,457	40,153	48,011	53,375	38,457	40,153	48,011
ttl	61,384	25,939	44,938	35,508	61,384	25,939	44,938
equiv.area	12.3				12.3		
AGROFORESTRY		02 / 03		03 / 04		04 / 05	
0203 svvd	44,938	101,725	45,678	40,393	44,938	101,725	45,678
0304 svvd	48,011	53,375	183,427	75,392	48,011	53,375	75,392
ttl	51,248	196,003	79,122	83,455	51,248	196,003	79,122
equiv.area							
REFORESTATION		02 / 03		03 / 04		04 / 05	
0203 svvd	52,160	196,003	79,122	83,455	52,160	196,003	79,122
0304 svvd	156,896	183,427	65,118	75,392	156,896	183,427	65,118
ttl	35.3	101,725	45,678	40,393	35.3	101,725	45,678
equiv.area							
AREA		02 / 03		03 / 04		04 / 05	
Reforested	23.6	838	787	1,389	23.6	838	787
Crop-Field	4.6	1,099	787	742	4.6	1,099	787
Total	28.2	1,340	880	873	28.2	1,340	880
Participants							
IGA							
Raised							
Planted							



**ANNEX I. VNRM Model, Summary of Components
and Roles of Counterpart Agencies**

ANNEX II Village Natural Resources Management Model



ANNEX I2

Summary of Components

Components	Nursery/Out-Planting (1st, 2nd phase: 24 villages)	IGAs			
		Small Scale Irrigation (1st phase: 10 villages, 2nd phase: 5 villages)	Goat Rearing (1st phase: 4 villages, 2nd phase: 18 villages)	Bee-Keeping (1st phase: 7 villages, 2nd phase: none)	Guinea Fowl Rearing (1st phase: 3 villages, 2nd phase: 1 village)
I. Purpose					
1 Direct Purpose	Increase the supply of fuelwood.	Creating income by selling irrigated products.	Creating income by selling reared goats.	Increase income by selling the harvested honey.	Increase income by selling eggs and grazed fowls.
2 Indirect Purpose	1. Reduce soil erosion and runoff, 2. Increase soil fertility for crops, 3. Secure environmental protection.	1. Strengthen community activities, 2. Acquire substitute of firewoods (incentives) for forestry activities. 3. Secure sustainability of activities	1. Strengthen community activities, 2. Acquire substitute of firewoods (incentives) for forestry activities. 3. Secure sustainability of activities	1. Strengthen community activities, 2. Acquire substitute of firewoods (incentives) for forestry activities. 3. Secure sustainability of activities	1. Strengthen community activities, 2. Acquire substitute of firewoods (incentives) for forestry activities. 3. Secure sustainability of activities
II. Contents of Component					
1 Features	1. Environment protection, soil erosion protection by tree planting. Planting sites: include arable land, homestead, plot border, roadsides, river banks, cemetery, private woodlot, public woodlot. 2. Agro-forestry (AF) combined with forestry because it's effective to soil fertility. 3. AF also supplying fodder to livestock, residue for firewood.	1. Able to earn cash by selling products and food by sharing products as incentives. 2. Get products within three months. 3. Able to harvest products 2-3 times a year. 4. Easy to maintain both nurseries for forestry and agriculture. 5. Able to appropriate a part of profits for buying inputs of coming season	1. Serve as visible incentives, as a live reserve. 2. Easy to graze them on harvested field in the daytime. 3. No needs high technology for grazing. 4. Easy to maintain only require the periodical inspection. 5. First offspring belongs to the committee, the second allotted to the rearer.	1. Initial cost is relatively lower (KW1,800/hive). 2. No input is needed for maintenance. Easy maintenance. 3. Nothing given, product(honey) taken. 4. Product can be sold at high price.	1. Initial cost is relatively lower (KW350/bird). 2. Products of egg and chicks can be sold and earn cash for incentives. 3. Obtain many eggs during rainy season. 4. Able to graze in field, no need to feed. 5. Resist against new cassle disease. 6. Adult fowl is expensive for selling.
2 Present Conditions, Constraints	1. Require hard labor force for nursery activities (good soil collection, manure making, mixed soil making, pot filling, sowing, watering in the morning and afternoon, weeding) 2. Also required labor force for out-planting (seedling transportaiton, pit making, returning soil at reverse, out-planting, watering, applying of fertilizer) 3. Tender works (weeding, water catchment making) 4. Land is allocated, few public woodlot. 5. Poor knowledge of tree-planing. 6. Time-consuming until harvesting 7. Few experienced persons or extension staff. 8. Limited water source. 9. Nursery and out-planting places are far from water source. 10. Land are rocky. Soils are not fertile. 11. Tools for nursery and out-planting are	1. Initial cost is high (pump: KW10,500/unit) 2. Area of irrigable land is quite limited, almost all land has individually been allocated. 3. Most land area is undulating, located in higher from stream water levels. 4. Available water sources are limited. 5. Some vegetables are susceptible to disease/ pests spoiling them for sale. 6. Few experienced persons available within the target villages.	1. Initial cost is relatively high (KW2,800/head). 2. Some goats have been affected by disease. 3. Theft occurrence.	1. Limited nector source, because of lack of forest and flower. 2. Limited clean water source such as river and creek. 3. Periodical inspection on colonization state is necessary.	1. Constrution of fowl cage is required. 2. Management is not always necessary by group. 3. Egg hatching is needed chicken, however chicken number is less because of prevailing disease. Incubator needs fuel.
3 Activities	1. Committee establishing, 2. Activities of committee: nursery establishment, seedling making, out-planting. 3. PIU activities: training of committee management and training & demonstration for nursery activities. 4. Expert activities: enlightenent, instructions, educations	1. Committee establishing. 2. Activites of committee: a series of agricultural works. 3. PIU activities: training of committee management and training & demonstarion for agricultural activities. 4. Expert activities: instructions, educations.	1. Committee establishing. 2. Activities of committee: grazing the herds on field in the daytime, keeping them at home at night. 3. PIU activities: training of committee management and medical treatment.	1. Committee establishing. 2. Activities of committee: inspection and management of beehives. 3. PIU activities: training of committee management and beehives inspection 4. Expert activities: training of inspection and harvest of beehives.	1. Committee establishing. 2. Activities of committee: graining in field and keeping in cage at night. 3. PIU activities: training of committee management and hatching methods.
4 Inputs supplied for Pilot Study	1. Supply of hoes, sickles, wheel burrows, etc. (10 sets in 1st phase, 10 sets in 2nd phase, additional 3rd phase) for management of nursery as well as out-planing. 2. Participants: nursery establishment (10m x 10m), selection and out-planting of public and private woodlots	1. 3 units of Treadle pump, agricultural tools, seeds of maize and vegetables, cements for small dyke supplied per village. 2. Participants: construction of dyke or pools for water source, cultivation, planting, management, harvest and selling.	1. 11 heads of Boer goat stock and initial supplementary feed (maize bran) per village. 2. Participants: constructed a casual fenced passage for health inspection, keeping them at home at knight.	1. 3 units of beehives, tool set for honey harvesting, bee suits 2 pairs. 2. Participants: acquire of inspection places	1. Inputs supplied by Pilot Study including 20 young birds, initial feed, materials of cage. 2. Participants: construction of cage, graining and keeping.

Summery of Components

Components	Nursery/Out-Planting (1st, 2nd phase: 24 villages)	IGAs			
		Small Scale Irrigation (1st phase: 10 villages, 2nd phase: 5 villages)	Goat Rearing (1st phase: 4 villages, 2nd phase: 18 villages)	Bee-Keeping (st phase: 7 villages, 2nd phase: none)	Guinea Fowl Rearing (1st phase: 3 villages, 2nd phase: 1 village)
5 Scheme of Pilot Study	1. Supply of free of charge inputs to village committees for tree planting by participants 2. Selection of sites for community woodlots, works for nursery and out-planting for community and private woodlots, field, etc.	1. Supply inuts free of charge to committee for agricultural works. Participants should participate in both farming and out-planting works. 2. Duty of committees: land acquisition, arrangement of group works for irrigated farming.	1. Supply inputs free of charge to committee for goat rearing. Participants should participate goat rearing and tree planting works. 2. Committee: construction of temporaty fence for health inspection.	1. Supply inputs free of charge to committee for bee-keeping. Participants should participate bee-keeping and tree planting works. 2. Committee: installation beehives, inspection, harvest, honey process.	1. Supply inputs free of charge to committee. Participants hould participate fowl rearing and tree planting works. 2. Committee: Land acquisition of cage, selection of grazing field, construction of cage, grazing.
III. Outputs					
1 Expected Outputs	1. Establishing grounding of participatry sustanable out-planting works. 2. Out-pnating number: 100 seedling/h.h. 3. Participant number: 40 households/village	1. Obtain products and earn cash income as incentives from approx. 0.2 ha vegetable field. 2. Strengthen the functions of committees. 3. Secure the number of tree planting participants. 4. Obtain products 2-3 times a year. 5. Benefit: KW20,000/village; half of remian: shared to participants	1. Obtain offspring one head per female goat per year. 2. Strengthen the functions of committees.. 3. Secure the number of tree planting participants. 4. Benefit: 6 head/village/year (KW12,000/village)	1. Harvest 2-3 times per year. 2. Strengthen the committee. 3. Secure the number of tree planting participants. 4. Benefit: 60 bottles/village/year (KW12,000/village)	1. Collection of egg: 50 eggs per female per year. 2. Strengthen the committee. 3. Secure the number of tree planting participants. 4. Benefit: sell: half of eggs (KW5,000/village), remain; share to hatch.
2 Actual Outputs	1. Semi-parmanent nursery established (with terrace, fence). 2. Two nurseries established in Chikoja and Kamwendo. 3. Out-planting: 224 thousand with survival rate 57.1% in 1st phase, 114 thousand with survival rate 80.1% in 2nd phase. 4. Participant: 39 h.h., 180 planted per year.	1. Approx. 0.08ha per village was planted, it was less than expected. 2. Committees are strengthened and sustanable working, for activites are recorded and planned. 3. Expected number of participants are secured, though the products and cash incomes have not yet been obtained in some villages. 4. Harvested 1-2 times a year. 5. Benefit: KW3,665 per village as group interest after sharing among participants.	1. Obtain 127 offspring by 188 female, it was less than expected. 2. Committees are strengthened. 3. Secure sustanable working, for increment of goat number can be seen. 4. Increment of goat number becomes incentive and participants are surely working for tree planting. 5. Benefit: 5.77 heads per village per one and a half year, not yet sold under proliferation.	1. Harvest 2-3 times per year, but little products for late harvests. 2. Committees are strengthened by inspection and harvest by group, participant number is approx. 10. 3. Incentives have not yet been obtained because of little products, but gradually being increased the product by better technology. 4. Benefit: Almost shared, sold 2 bottle/village (KW400)	1. Collected eggs: max 260 pcs, min 50 pcs. Those are less than expected. 2. Construction of case were conducted by participants and committee were strengthened. However, grazing in not required group activities. 3. Incentives have not yet been obtained, because of losses of adult fowls. 4. Benefit: 152 eggs/village, all shared.
3 Factors influencing the outputs	1. Causes of low survival rate in 1st phase: late out-planting in March, late technology transfer to participants, attacked by termite. 2. Causes of less out-planting in 2nd phase: usage of damaged seed, few rainfall in season. 3. Less PIU visit in planting seson and Study Team did not stay during the season. 4. Chiefs in three vilages are not interested in tree planting. 5. Chief were not selected for long time after former chief had passed away.	1. Land acquisition was delayed in Makonokaya, Kumanda, Kateya, but timely planting are expected in future. 2. Cultivation was delayed in Mdala and K. Chigumula, but timely planting are expected in future. 3. Short rainfall caused dried dams and ponds in Chikoja, Kam'mata, Tamvekenji. 4. Some irrigation areas should move because of hiring privated lands in Teula, Lemu, Kam'mata, Kumanda. 5. In rainy season, villagers become busy for own field, therefore, 2 times a year for community irrigation works would be maximum. 6. Proper technologies for seed selection or pest management have not yet been transferred. 7. Suitable tools management has not been applied in Makonokaya, Chakana, Kumponda).	1. Number of death reached 42 heads by disease, implying high toll.. Some had been infected by disease and parasites before they were supplied. 2. Number of heads lost by theft 16 and miscarriage rate was high. Individual keeping and proper grazing should be conducted. 3. Medical treatment was delayed in some villages.	1. Delayed supply of bee suit and technology transfer cause late harvest and poor production. 2. Poor installation places cause less colonization. 3. Management of beehives was poor during absence of Study Team.	1. Delayed construction of cage by committee causes delay of fowl supply. 2. Grazing in field and keeping in cage at night is not necessary for community activities. It is apt for private activities. 3. Profit is little because of losses of adult fowls 4. Chicken for hatching is very few because of disease. 5. Incubator was not fully operated for lack of fuel during absence of Study Team. 6. Some fowls were dead by disease. 7. Some fowls attached by thief. 8. More than ten fowls attacked by predators. 9. Some fowls escaped.
4 Reasons why direct aims are not smoothly attained	1. Trees are too slowly to grow, so planted trees are not yet usable for firewood. AF species have already been used for green manure/ firewoods.	1. Proper management has not yet been applied.	1. Heads of offspring has not yet reached the number of participants. Number of herds is gradually increasing.	1. Incentives (profit) is still low.	1. Incentives (profit) is still low.
5 Reasons why indirect aims are not smoothly attained	1. Effects have not yet appeared. It takes 6-7 years to harvest even fastest growing Eucalyptus species.	1. Participants expect the future profits from this, therefore, number of participants for tree planting is secured.	1. Increasing number of goat can be seen, therefore it can serve as an incentive and can keep the initial number of participants.	1. Profit is less than expected. But some profit were obtained and more profit are expected in future.	1. Profit is less than expected. But gradually increasing of egg collection. Hatching is still required the demonstration to participants.

Summery of Components

Components	Nursery/Out-Planting (1st, 2nd phase: 24 villages)	IGAs			
		Small Scale Irrigation (1st phase: 10 villages, 2nd phase: 5 villages)	Goat Rearing (1st phase: 4 villages, 2nd phase: 18 villages)	Bee-Keeping (st phase: 7 villages, 2nd phase: none)	Guinea Fowl Rearing (1st phase: 3 villages, 2nd phase: 1 village)
IV. Evaluation of IGA roles for afforestation (5 levels)					
1 Aspect of participatory community activities (Reasons why participatory activities are well organized)	1. Participatory committees have been established with the help of IGAs. 2. Workshops and committee meetings were timely held and committees are strengthened by them.	5 1. Easy to participate, short time profits are able to strengthen the community activities. 2. Easy maintenance for both nurseries of tree and vegetables would sustains the activities. 3. The more participants, the lesser burden the works. 4. Smooth technology transfer are obtained among the participants.	4 1. Individual rearing is applied for theft protection, leading to less group activities. 2. Regular health inspection and checking of grazing methods are conducted by group, implying solid cooperation among the members.	4 1. Group work is necessary for proper inspection and harvesting. It gives a sense of community. 2. Participants are increased by increasing the number of beehives by themselves in Kamwendo village.	4 1. Cage was constructed by participants. It gave a sense of community. 2. Grazing is not needed the group but private works.
2 Aspect of incentives (Reasons why incentives have led to positive outcomes)	1. Nursery and out-planting activities were smoothly conducted by the expectation of IGAs benefits. 2. Benefits from tree harvesting is expected in future.	5 1. It can serve as the better incentive because short-term profits can easily be seen. . 2. Irrigated crop can be harvested at least twice a year. 3. Unfortunately, irrigable areas are limited	5 1. It becomes visible incentives. 2. It is relatively expensive and alive deposits as well as gives sense of relief. 3. Increment of goat number secures increment of participants number.	3 1. Profit is less than expected. 2. Some village are apt to obtain enough profit, since technology have been tranferred.	3 1. Profit is less than expected. But gradually increasing of egg collection. Hatching is still required the demonstration to participants.
3 Aspect of sustainability (Reasons why sustainability is being brought about)	1. Expect sustainable tree planting by means of short time benefits from IGAs. 2. Tree planting is duty, IGAs gift.	4 1. Gain from profits can be reinvested.. Participants can continue planting and harvesting. 2. They can manage both nurseries of trees and vegetables. 3. They also established the sweet potato nurseries.	5 1. Increment of goat number has not levelled off. 2. Grazing and tethering of the herds are very easy. 3. Leaves of AF trees can be fed. 4. Dungs and floor litters collected from huts/kraals can be used as manure for nursery and crop field.	4 1. Nector sources are limited at present. 2. Increment of forest and flowers give sustainable activities. It is necessary to promote tree planting and more agricultural works.	3 1. Proper management is required. Participants have not yet obtained the management, need experience. 2. Incubator should be properly operated. 3. Provided the above, sustainability is obtained. 4. Also, grazing needs trees and bush.
V. Verification					
1 Verified items during Pilot Study	1. Established committee, Election of members, Introduced community activities. 2. Transferred technology of tree nursery and out-planting management to participants. 3. Transferred technology of AF, soil fertility and erotion protection. 4. Transferred advanced technology to PIU members. 5. Started supporting process based on TA system. stages at "committee---chief---group chief---TA chief".	1. Established committee, secure the number of participants, approx. 40 participants/village. 2. Irrigation field is approx. 0.1 ha per village. 3. Technical transfer to participants and members. 4. Technical transfer of manure making and application. 5. Technical transfer of preliminary seeds selection. 6. Technical transfer of preliminary management and accounting. 7. Management of committees for both irrigation and tree planting.	1. Established committee, secure the number of participants, approx. 20 rearing members/village. 2. Increment of herd size rates approx. one head per adult female. 3. Technolgy transfer to participants. 4. Establish how to cope with diseases (inspection, report to veterinary officer, request of treatments). 5. Countermeasure for preventing theft (individual keeping at night, patrol against theft). 6. Confirmation of profit sharing system. 7. Management of committees for both goat rearing and tree planting.	1. Established committee, secure the number of participants, approx. 20 participants/village. 2. Technology transfer to participants. 3. Preliminary profit sharing system. 4. Management of committees for both bee-keeping and tree planting.	1. Established committee, secure the number of participants, approx. 20 participants/village. 2. Preliminaty technology transfer to participants. 3. Preliminary profit sharing system. 4. Management of committees for both fowl rearing and tree planting.
2 Items not yet verified during Pilot Study	1. Some chiefs are not yet felt awarness in afforestation. (Makonokaya, Teula, Maluwa). 2. Two to three season are not enough for villagers to get into the habit of tree planting. 3. Not yet firmly established the cycle of "plan-do-see". 4. Not yet enough conducted technology transfer of green manure applying from AF and thinning of planted trees.	1. Proper seeds selection and pest control 2. Proper management and accounting.	1. Not yet obtained the profit, though number of goat is increasing. 2. 2-3 years is required for profits by selling. 3. Individual keeping may not strengthen the committee, though sometimes group activities are conducted such as disease inspection and mating.	1. Proper profit sharing system has not yet bee conducted. 2. Steady management of bee-keeping.	1. Hatching by chicken. 2. Demonstration of incubator.

Summery of Components

Components	Nursery/Out-Planting (1st, 2nd phase: 24 villages)	IGAs			
		Small Scale Irrigation (1st phase: 10 villages, 2nd phase: 5 villages)	Goat Rearing (1st phase: 4 villages, 2nd phase: 18 villages)	Bee-Keeping (st phase: 7 villages, 2nd phase: none)	Guinea Fowl Rearing (1st phase: 3 villages, 2nd phase: 1 village)
VI. Forward					
1 Required plans and actions	<p>1-1. Hold workshops and meetings for luring more participants.</p> <p>1-2. Increase number of nurseries within a village.</p> <p>1-3. Continuous instructions, suggestions by extension staff.</p> <p>1-4. Support extension staff by supplying transportation fees.</p> <p>2. Educate, train extension staff.</p> <p>3. Expert training to extension staff and committee members.</p>	<p>1. Regular instructions and suggestions by extension staff.</p> <p>2. Training of extension staff by experts and/or researchers.</p> <p>3. Expansion to Master Plan Area.</p> <p>4. Tie-up with loan scheme of treadle pump by Ministry of Agriculture, Irrigation & Food Security</p> <p>5. Tie-up with free supply of sweet potato vines and cassava seedlings and/or agro-forestry tree seeds.</p>	<p>1. Continuous instructions and suggestions by extension staff.</p> <p>2. Expansion to Master Plan Area.</p> <p>3. Establish a loan scheme for goat rearing.</p> <p>4. Tie-up with forestry and agro-forestry activities for grazing area and useful manure making by dung.</p>	<p>1. Continuous instructions and suggestions by extension staff.</p> <p>2. Expansion to Master Plant Area.</p> <p>3. Tie-up with forestry and agro-forestry activities for nector source.</p>	<p>1. Continous instructions and suggestions about hatching by extension staff and/or NGO.</p> <p>2. Tie-up with forestry and agro-forestry activities.</p>
2 Required supporting measures for the implementation if Pilot scheme	<p>1. Extension system is very weak, therefore:</p> <p>(1) Staffs should move their residences near to the target villages.</p> <p>(2) Increase number of forestry staff.</p> <p>(3) Train forestry guards to act as extension staff.</p> <p>(4) At least, supply bicycles to staff for extension.</p> <p>2. Request long-term experts from Japan.</p>	<p>1. Periodical visit and suggestions.</p> <p>(1) At least, supply bicycle to extension staffs.</p> <p>2. Coodination between agriculture and forestry staff.</p>	<p>1. Periodical visit and suggestions by veterinary extension staff.</p> <p>(1) Supply fuel for motorbike,</p> <p>2. Coodination between veterinary and forest staff.</p>	<p>1. Extension system is very weak, therefore:</p> <p>(1) Staff move to live near villages.</p> <p>(2) Increase number of forestry staff.</p> <p>(3) Train forestry guards to become extension staff.</p> <p>(4) At least, supply bicycles to staff for extension.</p>	<p>1. Periodical visit and suggestions.</p> <p>(1) At least, supply bicycle to extension staff.</p> <p>2. Coodination between veterinary and forestry staff.</p>
3 Effects by implementation of plans	<p>1. IGAs sustainability is necessary for that of tree planting.</p> <p>2. Able to increase number of nurseries and participants by support of forestry staff, because the original nursery is far from other villagers.</p> <p>3. Experts should train staff on a long-term basis and committee members to expand nursery and tree planting area. They should suggest effective works to them.</p> <p>4. Able to expand areas by long-term experts.</p>	<p>1. Technology improvement.</p> <p>2. Increment of production (2 times harvest a year)</p> <p>3. Sustainable increment of both agriculture and forestry activities.</p>	<p>1. Increment of goat number.</p> <p>2. Increment of participants.</p> <p>3. Sustainable increment of both animal grazing and forestry activities.</p>	<p>1. Increment of honey production, but nector source is limited at present. Expect more hoeny production as forest areas increase.</p> <p>2. Participant number increases as production increases.</p> <p>3. Sustainable increment of both bee-keeping and forestry activities.</p>	<p>1. Increment of egg collection and hatched chicks.</p> <p>2. Participant number increases as increment of eggs and chicks.</p> <p>3. Sustainable increment of both fowl rearing and forestry activities.</p>
4 Required inputs for implementation of plans	<p>1. Expansion of vertical level (within the Pilot Study Area)</p> <p>(1) A few local forestry staffs</p> <p>(2) Supply of inputs (tubes, indigenou tree seeds)</p> <p>2. Expansion of horizontal level (within Master Plan Area)</p> <p>(1) A few Japanese experts</p> <p>(2) Supply of both forestry and IGAs' inputs</p>	<p>1. Extension staff (some) for vertical and horizontal expansion.</p> <p>2. Short-term training by staffs of RDP and/or Bvumbwe Research Institute.</p>	<p>1. Veterinary extension staff and assistant</p> <p>2. Other veterinary extension staff and assistant for horizontal expansion to Master Plan Area.</p>	<p>1. Extension staff for vertical and horizontal expansion.</p> <p>2. Supply of beehives and bee suits for horizontal expansion.</p> <p>3. Tree seeds for forestry extension and nector source increment.</p>	<p>1. Extension staff for vertical expansion.</p> <p>2. Extension staff and NGO for horizontal expansion.</p> <p>3. Tree seed for forestry extension.</p>

Summary of Components

Components	IGAs			Improved Cooking Stove (24 villages)
	Inland Fishery (2nd phase: one place at Milala Dam)	Home Bakery (2nd phase: one place in Manjero)	Sweet Potato Processing (2nd phase: 10 villages, nurseries at 24)	
I. Purpose				
1 Direct Purpose	Increase income by selling natural grown fish caught in Milala Dam.	Increase income by selling baked buns made of locally-available-material.	Increase food and income by processing and selling the grown sweet potatoes.	Reduce the fuelwood consumption by using the improved cooking stoves.
2 Indirect Purpose	1. Strengthen community activities, 2. Acquire substitute of firewoods (incentives) for forestry activities. 3. Secure sustainability of activities	1. Strengthen community activities, 2. Acquire substitute of firewoods (incentives) for forestry activities. 3. Secure sustainability of activities	1. Strengthen community activities, 2. Acquire substitute of firewoods (incentives) for forestry activities. 3. Secure sustainability of activities	1. Reduce firewood consumption. 2. Reduce women's hard burden. Improve their status. 3. Increase working hour for tree planting activities.
II. Contents of Component				
1 Features	1. Periodic harvesting to get income. 2. No need to feed. 3. Maintenance of input is easy.	1. Initial cost is relatively lower (KW11,000 for furnace materials and baking tools and raw materials) 2. Periodical working, selling and yielding incomes. 3. Maintenance of facilities is easy.	1. Initial cost is low (Processing tools: KW13,650; base vines: KW2,250kg/10bags) 2. Planting of potato-vines is easy. 3. Able to substitute for maize. 4. Contains high nutrition. 5. Keep it long provided processing.	1. No special initial cost is needed. 2. Able to construct by means of local materials. 3. Able to cook three dishes a time. 4. Cook for short time. 5. Fewer fire wood consumption.
2 Present Conditions, Constraints	1. Relatively bullish initial investment (KW60,000). 2. Requirement: adequate use of dam-water, peripheral conservation, avoiding mixing of undesirable compounds, water conservation at the source). 3. Existing dams are limited. 4. Water nutrient of dam is required for fish grazing.	1. Consuming fairly big amount of firewood 2. Periodical repairing of surface wall is necessary to maintain improved fireplace. 3. Require area for furnace construction. 4. Need markets for selling (At present, inside and surrounding villages are for markets).	1. Planting period coincides with that of sowing maize. 2. It is difficult to process for drying by means of late wet season. 3. Some are not fond of processed sweet potatoes.	1. Necessary materials: sun-dried bricks and long and thin stone pieces. 2. Roofed hut is needed to cover the fireplace. 3. This is built-in fireplace, hence not portable. 4. This is not the stove to make body warm. 5. For single cooking, it's necessary to close open range holes to save firewood.
3 Activities	1. Establishment of the committee. 2. Duties thereof: management of the Dam 3. Instruction and training on how to manage the Dam by PIU staffs. 4. Training on proper use and repairing of fishing net.	1. Establishment of the committee 2. Duty of the committee: baking bread 3. Training of baking techniques by the extension staffs (community development) 4. Instruction of molding oven, on how to operate it.	1. Establishment of the committee 2. Duty of the committee: harvest of tuber and processing thereof. 3. Instruction by PIU on processing 4. Provision of vine nursery and its management by experts.	1. Organizing instruction group. 2. Group of villagers: joint installation of fireplaces one after another 3. Instructions for the installation by PIU staffs.
4 Inputs supplied for Pilot Study	1. Inputs supplied by Pilot Study including materials of fishing net made of mylon. 2. Committee supplied floats, sinkers and rope, assembled a raft.	1. Inputs supplied by Pilot Study including material of baking oven and utensil of bread-baking. 2. Duty of the committee: Installment of the oven and operation.	1. Inputs supplied by Pilot Study including : vines of potatoes, kitchenutensild for processing. 2. Participants: installation of potato-vine nurseries, sowing ans processing. ,	1. The Study Team instructed and demonstrated material collection and method of installation. 2. Villager's group: Installation of fireplace for each household.

Summary of Components

Components	IGAs			Improved Cooking Stove (24 villages)
	Inland Fishery (2nd phase: one place at Milala Dam)	Home Bakery (2nd phase: one place in Manjero)	Sweet Potato Processing (2nd phase: 10 villages, nurseries at 24)	
5 Scheme of Pilot Study	1. Supply free-of-charge inputs, i.e., material of fishing net, the fishery group members are liable to be engaged in planting trees 2. Committee responsible for managing fish resources and tree planting in the watershed.	1. Supply free-of-charge inputs, i.e., material of oven, where the members of the group are liable to plant trees. 2. Works of the committee: installment of the oven, management and maintenance thereof, baking bread and sale thereof.	1. Supply free-of-charge inputs, i.e., potato vines and kitchen utensils for processing, in turn the members are obliged to take part in planting trees. 2. Duty of the committee: installation of potato-vine nurseries, provision and distribution of vines for transplanting.	1. Demonstrative instructions were conducted by PIU staffs. 2. Villager's group: procurement of bricks and flat stone pieces, thereby installing fireplace
III. Outputs				
1 Expected Outputs	1. Landing of natural fish for a few times per year, harvesting 70-100kg per landing. 2. Close liaison with forestry committees to fortify solidarity. 3. Increased number of participants in forestry activities. 4. Benefit: selling inside villages (KW22,500/year)	1. Baking bread twice a week. 2. Baking cookies using locally-available material. 3. Benefit: KW7,606/year and labor cost (KW21,000/year)	1. Participants plant and process sweet potato, thereby augmenting available foods to utilize it as preserved food for half a year during famine season.	1. Improved fireplaces have been installed for each household. 2. Leading to saving of firewood approx. 20 percent.
2 Actual Outputs	1. 3 times of test landing have been tried with a catch of around 150kg. 2. Opened bank account. 3. The members of fishery committee take initiatives to participate in tree planting by consolidating the forestry committee. 4. Earning: KW27,300; Appropriated KW 9,220 to purchase foods for poorest, orphanage villagers. also expended KW 11,000 as fish-net reweaving and raft assembling. Though the catch has been sold to the member participants at discounted price, it does not necessarily lead to the increase in the participants in nurseries and planting	1. Already established regular baking twice a week, and it can be sold out to own or neighbor villagers within the day or the next. 2. Profit has been improved through baking cookies with locally available material, however, viability has yet completely secured.	1. All villages installed base vine bed (2mx5m). 2. Participants could plant sweetpotatoes leading to increased supply of foodstuff. 3. As the value of processed potato, the varieties used for processing were suitable more for boiled eating and the processed food can only be served as subsidiary food for hungry children. However, the processing has contributed to food diversification. 4. Almost participants sold immediately after harvested.	1. Constructed 561 improved fireplaces, or 23-24 per village has been installed. That is half number of participants for tree planting. 2. Reduced approx. 20 percent of firewood proved by demonstrations and tests. Most villagers used improved cooking stove seem that the consumption of firewood is half.
3 Factors influencing the outputs	1. Too frequent catch (3 times in a short period) has lead to declining harvest reaching only about 50 kg at the third landing. 2. Since the fishery committee has been organized by 3 villages facing to the Dam, communication among related villages and with outside stakeholders are not so close. 3. The increase of participants in forestry works has not been affirmed. However, the group member has taken advantage of buying the catch at cheaper rate.	1. Baking and sale management is still not perfect, by lack of business mind on management and profit making. 2. Supply of firewood for baking is a bottleneck. 3. Numbers of participants therein was reduced during rainy season for maize sowing, and baking postponed until sowing completed.	1. The trial failed to find suitable sweetpotato varieties to process into sun-dry potato chips. 2. Peak of harvesting falls on beginning of dry season, coincided with dormant period of PIU activities, resulting in less instructions for the proper planting. 3. The participants self-consumed and sold immediately to obtain cash. 4. Base vine bed was affected by insect because the bed located in dambo, Kam'mata. 5. Planted vines were dead for late planting and poor soil fertility. Makonokaya, Siyandima.	1. It's necessary to procure or produce bricks for installation. 2. In some cases, flat stone pieces used for installing them are not readily available around the villages. 3. Though explosive installation has taken place, later development has been slowed down. 4. During winter, villagers can make use of traditional three-stone stoves for warming themselves, but the improved fireplaces cannot be used for this purpose. 5. For single cooking conventional three stone stoves are convenient owing to portability regardless of site specificity.
4 Reasons why direct aims are not smoothly attained	1. The recognition of the interrelation between tree planting and conservation of the Dam still remains in a low level.	1. Benefit from the activity has not yet been fixed.	1. The participants consumed harvested tubers or sold them depending on their situations.	1. Conventional stoves are more convenient to cook single pot.
5 Reasons why indirect aims are not smoothly attained	1. The members of the fishery group have been participating in nursery and tree planting works.	1. The participants began realizing importance of planting trees because they acutely need firewood to bake bread.	1. Majority of the participants actually planted seed-vines to their plots, thereby diversifying their food uptake.	1. Villager could save firewood consumption and spend longer time for raising tree seedlings and out-planting them.

Summery of Components

Components	IGAs			Improved Cooking Stove (24 villages)
	Inland Fishery (2nd phase: one place at Milala Dam)	Home Bakery (2nd phase: one place in Manjero)	Sweet Potato Processing (2nd phase: 10 villages, nurseries at 24)	
IV. Evaluation of IGA roles for afforestation (5 levels)				
1 Aspect of participatory community activities (Reasons why participatory activities are well organized)	4 1. Profit viability is relatively high as compared to other IGAs, leading to tighter solidarity within the group. 2. Weak mutual communication has been offset by more frequent meetings of the committee established by 3 related villages.	4 1. The group members mainly consist of women, who have high solidarity with closer partnership. 2. Strengthening efforts for systematic reforestation has not yet much fortified, but consciousness on tree planting has been enhanced through the increased demand for baking fuel.	4 1. By opening potato-seed bank adjacent to existing tree nurseries, synergically effective management of both production of tree seedlings and potato vines has smoothly been performed. 2. Physical viability has been enhanced through diversified food intake, thereby securing active participation in tree planting works.	4 1. Saving of time for fetching firewood has enabled women to be more engaged in tree raising and planting.
2 Aspect of incentives (Reasons why incentives have led to positive outcomes)	4 1. At present secure catch has been kept serving as a real incentive towards participants. 2. Group members have gradually been recognizing the precondition that forestry management can conserve water for the	3 1. The group still has not keep substantial benefit from baking bread, though they feel less hungry than before.	4 1. Increased and diversified food availability can serve as an incentive to the participants.	4 1. Housewives have more relaxed time through shortening of cooking hours.
3 Aspect of sustainability (Reasons why sustainability is being brought about)	4 1. Aiming at strict conservation of habitats, the committee has made it a rule to harvest only twice a year. 2. The group member initiated to use the fund deposited in a bank account for village improvement.	3 1. The group desires to bake bread everyday, but they fail to procure firewood for heating oven. 2. The group can make baking sustainable by rational management with due regard to viability, as well by more use of locally available material, though they have not succeeded therein.	4 1. Simultaneous utilization of nursery site for raising tree seedlings and potato vine-seeds leads to more active utilization of nurseries. 2. Potato seed banks are sustainable because once established they can be continuously utilized for three years. 3. Though psrts of potato seed banks suffered from pest attck, the committees concerned took measures to control the pests in earlier stage of damages so that their function can be sustained.	4 1. Although firewood consumption and time for cooking labor can be saved, it does not necessarily lead to enhancement of tree planting. 2. Notwithstanding, recognition of absolute necessity for forestry activities has been increasing through the diffusion of improved firepace in order to save more firewood.
V. Verification				
1 Verified items during Pilot Study	1. Establishing a group and fixing membership. 2. Expertise survey by fishery experts on dimension and eutrophication of the Dam. 3. Technical transfer to the members as to management of the Dam, and assembly of the raft. 4. Technical transfer to the members as to mending of fishing net. 5. Establishment of how to allocate the profit from landing. 6. Management of committees for both inland fishery and tree planting.	1. Organizing the group, fixing membership. 2. Installation of the oven. Technical transfer of bread baking. 3. Transfer of baking techniques making use of locally available material. 4. Making rule of profit management and allocation. 5. Establishing appropriating a part of earnings to procuring inputs for forestry. 6. Management of committees for home bakery and tree planting.	1. Since the participants in potato storage/processing are also those in tree planting, this component contributes to the sustainability of village forestry activities. 2. Due techniques of planting, storage/processing of sweetpotato have been transferred to the village participants thereto. 3. This component has served as an improved food intake rather than as an income generating activity. 4. As to processing, the employed varieties are not necessarily suitable for processing, ending up in casual use as chilren's subsidiary foods. 5. Sweetpotato seed banks have positively been promoted with a lot of participants, thus	1. Technology transfer of construction of improved stove. 2. Confirmation of standard size of improved stove. 3. Firewood consumption and cooking time by improved fireplace can be reduced to two thirds of those consumed by conventional three stone stoves.
2 Items not yet verified during Pilot Study	1. Putting the committee's commitment into practice of landing. 2. Repairing of fishing net.	1. Retransferring technique for benefit management (obtaining flour measuring balance to ensure profit)	1. As to processing, the employed varieties are not necessarily suitable for processing, ending up in casual use as chilren's subsidiary foods. 2. Peak harvesting period coincided with the absence of PIU, there has not been additional chance of trial demonstration..	1. Though explosive installation has taken place, later development has been slowed down.

Summary of Components

Components	IGAs			Improved Cooking Stove (24 villages)
	Inland Fishery (2nd phase: one place at Milala Dam)	Home Bakery (2nd phase: one place in Manjero)	Sweet Potato Processing (2nd phase: 10 villages, nurseries at 24)	
VI. Forward				
1 Required plans and actions	<p>1. Instruction on management of the Dam and fishery resources by fishery extension staffs.</p> <p>2. Training of the members for horizontal expansion of landing by fishery extension staffs.</p> <p>3. Emphasis on the harmonized fishery and forestry activities (a duty set for conserving water storage capacity and water quality standard)</p>	<p>1. Training on horizontal expansion by extension staffs on community development.</p> <p>2. Though limited possibility of introducing it, not to all the villages but a few with larger village population who have been accustomed to eat bread for breakfast.</p> <p>3. For horizontal expansion, need supply of inputs and technology transfer.</p> <p>4. Emphasis on the harmonized fishery and forestry activities (duty to plant trees should be imposed to the members who must consume much firewood to heat oven).</p>	<p>1. Retraining of the participants on processing techniques and management by extension staffs.</p> <p>2. Retraining of PIU staffs on the techniques by the experts belonging to RDP, Bvmbwe Research Institute</p> <p>3. Emphasis on harmonization with forestry activities (norm to be imposed to the participants)</p>	<p>1. As vertical expansion, retraining of extension staff on gender and community development. Conduct by small groups organized inside the village.</p> <p>2. Enlightenment of villagers through group-village headmen, village chiefs and committee members.</p> <p>3. As horizontal expansion, instruction by extension staffs on gender and community development</p>
2 Required supporting measures for the implementation of Pilot scheme	<p>1. Fishery extension staffs do not abide in the vicinity of dam-site villages. A staff has to cover a vast jurisdiction.</p> <p>(1) supply of vehicles or motor-bike is desired to mobilize them.</p> <p>(2) Survey for water quality of existing dams.</p>	<p>1. Extension staffs on community development do not live in the vicinity of dam-site villages. A staff has to cover a vast jurisdiction.</p> <p>(1) supply of vehicles or motor-bike is desired to mobilize them.</p>	<p>1. Although extension staffs live in the adjacent villages, they have too vast jurisdictional area to be covered.</p> <p>(1) It is desirable to at least supply a bicycle to the staff.</p>	<p>1. The extension staffs on gender and community development do not live around the target villages. They have to cover a vast area.</p> <p>(1) Supply of vehicles, motorbike and fuel, or transportation are desirable.</p>
3 Effects by implementation of plans	<p>1. Establishing the way of managing the Dam fishery resources that enables them to guarantee regular and sizable catch. (annual catch estimated at 200-300kg).</p> <p>2. Increased intake of protein for related villagers.</p> <p>3. Harmonization of IGAs and reforestation.</p>	<p>1. Creating employment within the villages</p> <p>2. Improvement in food provision.</p>	<p>1. Increased food production in the communities.</p> <p>2. Augmented cash earning from increased food production</p> <p>3. Improved foods and nutrition</p>	<p>1. Increased number of improved fireplaces within target villages</p> <p>2. Saving of firewood for consumption</p> <p>3. Alleviation of tree felling or over-fetching of fuelwood</p>
4 Required inputs for implementation of plans	<p>1. How to procure fishery extension services and to provide transportation.</p> <p>2-1. Dams in Master Plan Area (as horizontal expansion) to expect catches and survey on ecosystem of fish habitat.</p> <p>2-2. Survey on the dimension of new dams.</p> <p>2-3. Trial on the capacity of catch.</p>	<p>1. Extension staffs on gender and community development</p> <p>2. As to horizontal expansion, supply of oven set and utensil of bread paddling</p>	<p>1. A few extension staffs to expand the activities both horizontally and vertically.</p> <p>2. Short-term training by the experts in RDP, Bvmbwe Research Institute.</p> <p>3. Supply of stock vines to seed banks.</p>	<p>1. Extension staff on gender and community development, procurement of transportation</p>

ANNEX I3

Roles of Counterpart Agencies

Name of Agencies	Roles	Members	Level of Staffs	Activities during the Pilot Project	Present Status/Situations	Proposed Activities and Inputs at the Post-Project phase	Difficulties by Malawi Side in realizing Proposed Activities and Inputs
SB (Supervisory Board)							
Department of Forestry (DOF), Ministry of Mines, Natural Resources and Environmental Affairs (MOMNREA)	To coordinate members and related agencies to form SB's policies on actions and assistance, Consult among member agencies to instruct and advice regional agencies and PIU on their activities.	Secretary of MOMNREA, Director of DOF, Principal Forestry Officer		* It has been principal counterpart to the Study, * It has been responsible for convening SB meetings, * It has been in charge of consultation with, instruction to and support for the Regional level, * It has held SC meetings and monitored the activities under the Pilot	* Keenly interested in the Study, * Hard to supply allowance, transportation fee, lodging fee for staff to monitor the activities, * Generally, cannot afford to supply enough budget to Regional level.	* Coordinate different opinions into unanimous, * Arrange the instructions at Regional level, * Support for building extension officers' capacity, * Cooperate with Research Centers and NGOs for training extension staff on new techniques.	* Design the project action plan conducted by three ministries, * Administrative budget for implementation of training and education.
Department of Land Resources Conservation(DOLRC), Ministry of Agriculture, Irrigation and Food Security (MOAIFS)		Director of DOLRC		* The frequently attended SB meetings and contributed to the discussions. * The member timely consulted, instructed and supported the Regional agencies.	* Deputy Director atnd the SB meeting, * Interested in this Study, * Budget is not allocated to monitor the activities		
Department Community Services (DOCS), Ministry of Gender, Youth and Community Services (MOGYCS)		Director of DOCS		* The member has often attended SB meetings. contributed to the discussions. * The member sometimes consulted, instructed and supported the Regional agencies.	* Deputy Director atnd the SB meeting, * Interested in this Study, * Budget is not allocated to monitor the activities		
Department of Finance, Ministry of Finance		Director of Finance		* The member has occasionally attended SB meetings. * The member has interest on the project budget.	* They feel some discrepancies about budgetary systems between supporting countries.		
GTZ(DED)		Project coordinator		* The member is in charge of another project with DOF, * The member has very often attended SB meetings. * The member gave useful advice and has interest on thi project.	* Expand the project with agricultural and research sector, * Extend long-term support project with opeing the staff offices in central and sites.		
SC (Steering Committee)							
Regional Forestry Office (South), Blantyre Forestry Office	Comprising regional agencies of the above listed ministries. To consult with, instruct the PIU, to monitor the PIU activities, to coordinate opinions of SC members, and to report the performances to SB.	Director of RFO(S), Blantyre Forestry Officer		* The member is chief counterpart to the Study, * The member held timely SC meetings, * The member has consulted with, instructed and supported the PIU, * The member has held and attended PIU meetings and monitored the activities.	* Afforestation activities used to be depended on funding agencies, their implementation by DFO is limited, * Delayed payments for staff allowance, public utility fees, etc. occur due to lack of fund, * Office vehicles are not used for fuel shortages by fund limitation, * Some staff are active but others are not for the project.	* Unify the opinions at Regional level, * Arrange the instructions to PIU, * Support for project implementation methods and technology transfer, * Education and training of extension officers about technology and implementation capability, * Cooperate with research centers and NGOs about the transference of new technology.	* Design the project action plan conducted by three ministries, * Administrative budget for implementation of training and education.
Agricultural Development Project (South), Blantyre Rural Development Area		Director of ADD(S), Chief of Blantyre RDP		* The member attended SC meetings, but sometimes the attendant had not always been acquainted with the Study. * Former member frequently visited sites to instruct the activities, but the current member is too busy to do. * The member has occasionally attended PIU meetings.	* Have many experiences of ODA, * Some staff are active byt others are not for the project, * Most vigerous among the three ministries.		
Regional Community Services Office (South), Blantyre Community Services Office		Director of CSO(S), Chief of Blantyre CSO		* The member has attended SC meetings, but sometimes the agents, who had not necessarily been familiar with the study. * The SC member have never visited any site to monitor activities.	* Have some experiences funded by EU, UNDP, * Some staff are active but others are not for the project, * Generally, budget shortage occurs and activities are delayed.		
The Wildlife and Environmental Society of Malawi (NGO)		Executive Director		* The member has excellent understanding on the Study. * The member has frequently attended the SC meetings and consulted or instructed the PIU, * At times the deputy who was not acquainted with the Stusy attended.	* Some staff are well trained as facilitators, * Experienced personnel are limited for operation, administration and implementation about the project.		
PIU (Project Implementation Unit)							
Regional Forestry Office (South), Blantyre Forestry Office	To coordinate members comprising local agencies concerned. To mobilize, to monito, to extend forestry, land conservation and income generating techniques to target villagers under the Pilot Study, To promote capacity building of villagers	Forester in RFO(S), Forester in Blantyre FO.	Graduate of vocational school or college	* PIU members are selected based on the experiences and educational level, * Members have been educated, but some of them have not enough practical capacities, * There are forest guards inside the study area, but they are not participated in PIU because of lack of duty experiences.	* Staff houses are far from extension areas, it is hard to extend the technology to villagers due to lack of transportation fee, * Extension area per staff is more than 100 villages, * Staff have not yet had extension technology especially agroforestry because extension of AF was recently started, * Salaries of staff are low, they have to earn by means of other works, * Some are not capable about a quantitative monitoring.	* Training on the forestry and extension techniques, * Transportation means (remove to near places, supply of transportation fee or vehicle) * Increased rate for supply of field allowances, * Training of forest guard as extension staff	* Supply of transportation fee (at present, RDP partly suppls its fee or motorbikes & fuel fee to the selected staff), * Increased rate for supply of field allowances, * Fund for training and education
Blantyre Rural Development Area: Kuntembwe Extension Planing Area (EPA), Chipandi Extension Planing Area (EPA)		Agriculturist in Kuntembwe EPA, Agriculturist in Chipandi EPA	Graduate of vocational school	* Staff are endowed with official residences within their extension areas, for it is relatively easier to extend the techniques to target villagers, * Some staffs have bicycles, * Staffs have practical knowledge on AF better than Forestry extension staffs, * Staffs are relatively active for vocation, * Staffs have more experiences on field works.	* Salaries of staff are low, they have to earn livelihood by additional means. * Visit to villages are neither regular nor frequent, * Extension area per staff is more than 30 villages, too vast to visit frequently, * AF extension was started earlier than extension by forestry staffs, * Some members are not capable of monitoring activities in a quantitative way.		
Regional Community Services Office (South), Blantyre Community Services Office		Community service officers in RCSO(S), Community service officers in Blantyre CSO	Graduate of vocational school	* Staffs are active because they have means of transport, * Staffs have many experiences on their works and of implementation.	* Staffs live far from villages, supply of trasnportation fee is limited, * They have not been trained on forestry or agriculture, * Some members are not capable of monitoring activities in a quantitative way.		
The Wildlife and Environmental Society of Malawi(NGO)		Employees	Graduate of vocational school	* Staff are active, * Staff are trained as facilitators with excellent presentation capability.	* They don't have enough techniques of forestry and agriculture, * Technical transfer to the villages is not enough, * Practical techniques are not sufficient, their capacity is not practical but remains in written knowledge. * Some members are not capable of monitoring activities in a quantitative way.		
					* Request to join and facilitate workshops and monitoring, making use of their high presentation ability.		

ANNEX J. Guideline for JOCV

ANNEX J-1

Table 1 Implemented and Envisaged Support for Pilot and Applied Activities in the Study Area

year	Community Empowerment	Capacity Building of Extension staff	Facilitation of Extension Activities	Supply of Initial IGA and AF Investment
2002	Workshop, training, study-tour,	Training in Kenya for 3 PIU staffs	Car hiring for visiting target villages	Input supply for nursery and IGAs
2003	Demonstration, inter-location monitoring	Training in Kenya for 5 PIU staffs	Car hiring for visiting target villages	Input supply for nursery and IGAs
2004	Demonstration, inter-location monitoring	Training in Japan for 2 forestry staffs	Car hiring , supply of 4 motor-bikes	Input supply for nursery and IGAs
2005	Seminar, training, mutual monitoring	O.J.T. provided by related local agencies	Use of 4 motor-bikes by self fuel supply	Self-supply by the villagers concerned
2006	Seminar, training, mutual monitoring *	Domestic training for 3 PMU staffs *	Use of motor-bikes and bicycles	Application of local institutional funds
2007	Seminar, training, mutual monitoring *	Domestic training for 3 PMU staffs *	Use of motor-bikes and bicycles	Application of local institutional funds
2008	Seminar, training, mutual monitoring *	Domestic training for 3 PMU staffs *	Use of motor-bikes and bicycles	Application of local institutional funds

Note: * in the case of agreement with donor(s) on assistance, part of the self-help can be substituted by alternatives, such as adding study tour for community empowerment, training in foreign countries for capacity building of staffs, additional motor-bike or bicycle supply through foreign assistance and some input replenishment for supply of inputs. PMU: project management unit covering target (24) villages in the Pilot Study. OJT: on the job training of office staff

Table2 Roughly estimated cost requirement to implement the above-tabulated actions

Unit: million MK

year	Community Empowerment	Capacity Building of Extension staff	Facilitation of Extension Activities	Supply of Initial IGA and AF Investment
2002	1	2	6	10
2003	1	3	6	8
2004	1	3	5	6
2005	0.5	1	1	0
2006	0.5 (1.5)	1 (3)	1 (6)	0 (6)
2007	0.5 (1.5)	1 (3)	1 (6)	0 (4)
2008	0.5 (1.5)	1 (3)	1 (6)	0 (2)

Note: bracketed figures indicate the envisaged cost incurred by donors programs with the budget borne by GOM. In this case, the increment borne by potential donor(s) is to be appropriated for vertical expansion inside the Study Area.

Table 3 Plausible Support for Pilot and Applied Activities adjacent to the Study Area

year	Community Empowerment	Capacity Building of Extension staff	Facilitation of Extension Activities	Supply of Initial IGA and AF Investment
2005	Workshop, training, study-tour, monitoring	Training in Kenya /SA for 3 PMU staffs	Use of motor-bikes and bicycles	Input supply for nursery AF and IGAs
2006	Workshop, training, study-tour, monitoring	Training in Kenya /SA for 3 PMU staffs	Use of motor-bikes and bicycles	Input supply for nursery AF and IGAs
2007	Workshop, training, study-tour, monitoring	Training in Kenya /SA for 3 PMU staffs	Use of motor-bikes and bicycles	Input supply for nursery AF and IGAs
2008	Workshop, training, study-tour, monitoring	Training in Kenya /SA for 3 PMU staffs	Use of motor-bikes and bicycles	Input supply for nursery AF and IGAs
2009	Workshop, training, study-tour, monitoring	Training in Kenya /SA for 3 PMU staffs	Use of motor-bikes and bicycles	Input supply for nursery AF and IGAs
2010	Workshop, training, study-tour, monitoring	Training in Kenya /SA for 3 PMU staffs	Use of motor-bikes and bicycles	Input supply for nursery AF and IGAs
2011	Seminar, training, mutual monitoring *	Training in donor country for 3 PMU staff	Use of motor-bikes and bicycles	Application of local institutional funds

Note: monitoring is scheduled in inter-location tours. Part of motor-bikes and bicycles may depend on supply by donor(s).

Table4 Roughly estimated cost requirement to implement the above-tabulated actions

Unit: million MK

year	Community Empowerment	Capacity Building of Extension staff	Facilitation of Extension Activities	Supply of Initial IGA and AF Investment
2005	0.8	1.6	4	8
2006	0.8	2.4	4	8
2007	0.8	2.4	4	8
2008	0.8	1.6	4	8
2009	0.8	2.4	4	8
2010	0.8	2.4	4	8
2011	0.8	0	4	0

Note: The amount does not include administrative costs or sub-contract margins incurred by the related government offices and NGOs. As a base of estimation, 20 villages for TA Kuntaja and 20 others in TA. Kapeni are to be covered for 6 years where the same rate of cost as experienced in the Pilot Study. Detailed estimation of the project cost is difficult at this stage because precise plan depends on the site specific nature of resource availability.