

**WOODLOTS COMMERCIALIZATION APPRAISAL FOR
SUBDIVIDED RANCHES IN EAST LAIKIPIA**

**A SUMMARY OF FOCUS GROUPS DISCUSSIONS WITH FARMERS IN
MATANYA, LAMURIA AND MUTIRITHIA CLUSTERS**

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A collaborative project of ARU - ASAL Laikipia , KEFRI and farmers in East Laikipia

TABLE OF CONTENTS

1.0. INTRODUCTION

1.1. Background

1.1. ARU – ASAL Laikipia

1.1. KEFRI, its functions and role in the project

1.1. Woodlots commercialization: Selling the idea to farmers

1.1. Project sustainability: Pertinent issues

1.0. Land use options in East Laikipia

1.1. Matanya cluster

1.1.1. Crop production systems

1.1.1. Livestock production systems

1.1.1. Tree growing practices

1.1. Lamuria cluster

1.1.1. Crop production systems

1.1.1. Livestock production system

1.1.1. Tree growing practices

1.1. Mutirithia/Kariunga cluster

1.1.1. Crop production systems

1.1.1. Livestock production systems

1.1.1. Tree growing practices

1.0. Views from the participants

1.1. Matanya

1.1. Lamuria

1.1. Mutirithia/Kariunga

1.0. Discussion and way forwards

- **Comparative view on livestock potentiality**

1.1. INTRODUCTION

1.1. Background

The strategy for woodlots commercialization have been developed over a time from ARU-ASAL experiences in farming systems of Laikipia. Conceptually it is aimed at increasing the wood biomass introduced on farms while allowing opportunities for the less crop friendly but better adapted tree species within the cold and dry Laikipia environment. More specifically is to define and elaborate on the potential of demand and supplies of wood products with an opportunity for income.

Overtime, ARU have continuously screened and promoted agroforestry tree species among small holder farmers. However, the Agroforestry species preferred by farmers are limited in variety and diversity and their potential for commercialization take-off is low. The woodlot strategy is therefore to facilitate decision support in comparative land use options with a view to increasing farm income.

1.2. ARU – ASAL Laikipia

The Applied Research Unit within ASAL Laikipia was started in 1994. The Units mission is to help improve farming systems in Laikipia through enhancing better land use by the different actors (farmers, extensionists and researchers among others).

ARU works in an iterative way in collaboration with NARs, including KEFRI, development NGO's, government departments and farmers. The participation of farmers is continuously sought at all levels of project cycle. In earlier surveys and agroforestry characterisation in East and West Laikipia the role of tree as a major component in the present farming systems have been identified. In elaborating on implementation options, woodlots have been prioritized as better option to maximize wood products productions for both subsistence and income. ARU therefore initiated a pilot phase in selected clusters where 4 species of Eucalypts, Grevillea and Casuarina, were planted on Irri basis in 1997. The establishment and growth rates of these trial woodlots will be drawn heavily in defining the potential of woodlots commercialization.

1.3. KEFRI; Its functions and role in the project

KEFRI is a national research institute with a mandate of carrying out research and development in forestry. It is based in Muguga but has national research centres distributed in various ecological regions of Kenya. It operate under four main programmes namely

- Farm forestry
- Dryland forestry
- Plantation forestry
- Natural forestry

The current work falls under dryland forestry since Laikipia is an ASAL area and farm

forestry since the study is conducted on trees planted on farmers farms.

1. 4. Woodlots commercialization: Selling the idea to farmers

The idea of planting farm woodlots was introduced to farmers in 1997 by ARU – ASAL Laikipia. This was a result of an agroforestry characterisation study carried out in West Laikipia in July 1997. The identified planting niches, adoptable tree species and mechanization of farm operations constrained many of the conventional agroforestry designs promoted for intercropping.

Whereas tree planting is a felt need among farmers and whereas tree products are in high demand in Laikipia, farmers have not embraced tree planting as a crop with potential for income. The strategy to commercialize tree production was therefore conceptualised through farm woodlots.

The pilot woodlots established in the four different agroecological zones are good reference case studies. The challenge was therefore to brainstorm with farmers within clusters where pilot work was done on whether it is possible or not to commercialize woodlots. In addition, the farmers commitment, fears and expectations were openly discussed. A consensus on way forward, roles and expectations were agreed on.

1.5. Project Sustainability

Forestry projects inherently have a long project cycle. The investment is commensurately high as well as risk factor. The woodlots commercialization project is no exception. In cognizance with the above observations, the aspect of sustainability was elaborately discussed. The farmers while appreciating woodlots as an alternative land use expressed their fears and expectations while the resource team guided them on issues of sustainability. The analogy of a river (community) with tributaries (entry of change agents) and distributaries (exit of change agents) was used to help conceptualize the sustainability of projects. Two scenarios, one of a sustainable project and another of unsustainable project were illustrated as below.

Scenario 1: Unsustainable Project

Scenario 2: Sustainable Project

To ensure that the woodlots project will be sustainable, the following issues were discussed and accepted;

- (i) The farmers must participate in all stages of the project cycle.
- (ii) Farmers are the owners of the project and all benefits accruing will be for them.
- (iii) Each farmer must set clear objectives and be committed to his/her woodlot project.
- (iv) ARU and KEFRI will transfer knowledge and assist mainly on technical issues.
- (v) A woodlots marketing association will be constituted to reduce exploitation by brokers.
- (vi) A management plan to facilitate regular supply to identified customers will be put in place.
- (vii) In pursuance of (vi) above, farmers will phase out their planting and harvesting schedules.
- (viii) A commitment, preferably in writing will be made between farmers, implementing agents and buyers.

2.0. LAND USE OPTIONS IN EAST LAIKIPIA

2.1. The case of Matanya cluster

Matanya cluster is a case of parceling of former ranching marginal land (AEZIV) into small land units for mixed subsistence immigrant farmers from central Kenya. The main production systems are rainfed crop production, limited irrigation of horticulture crops, semi-intensive to free range livestock production and fruits and woody tree production. The settlement started in 1970 and settlement density presently is about 74. The average land sizes range between 2.5 and 16 acres.

2.1.1. Crop production systems

The main production system is maize-bean-potatoes intercrop. Basically these are subsistence farmers who only sell when there is surplus farm produce. The main crops grown were listed and prioritized as shown in table 1 below.

Table 1: Crops grown in Matanya under rainfed farming

Type of crop	Ranking by area planted	Ranking by yield	Ranking by cash generation	Rate of failure (seasons)
Beans	2	1	2	2/5
Irish potatoes	3	2	1	2/5
Maize	1	4	4	4/5
Sweet potatoes	5	5		2/5
Soya bean	4	3	3	2/5
Dolichos	6	7		3/5
Millet	8	6		2/5
Sorghum	7	8	5	1/5

2.1.2. Livestock production systems

The main livestock production systems in Matanya is open (communal) grazing. However, fewer farmers practice semi-intensive where free grazing is supplemented with crop residue and planted fodder. The types of animals kept and ranking in terms of number, benefits to household and income is presented in table 2 below.

Table 2: Livestock types and ranking in Matanya

Livestock type	Ranking in Numbers kept	Ranking in household use	Ranking in cash income	Resilience to drought
Cattle	2	2	2	6
Sheep	3	6	1	5
Goats	4	3	3	3
Chicken	1	1	4	2
Rabbits	6	4	6	4
Bees	5	5	5	1

The strengths and weaknesses of livestock production in Matanya were evaluated by the farmers. The following summary in table 3 was generated.

Table 3: Strengths and weakness of livestock production in Matanya

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • Capital reserve for school fees and major household requirement. • Source of protein food (meat, eggs, milk) • Manure for better crop production • Quick source of income from sales e.g. chicken, sheep. • More resilient to drought than crops. • Area suitable to ranching. 	<ul style="list-style-type: none"> • Increase cattle thefts • High disease incidence e.g. ECF • Poor networks to external markets e.g. cattle. • Brokers exploiting farmers e.g. milk • Increased settlement reducing available grazing areas. • Frequent droughts causing livestock death (water, feeds)

The farmers viewed cattle rustling as the main constraint to livestock production. In addition, prolonged drought (e.g. 1994) causes massive livestock deaths, loss of animal farm and production. Inadequate planted fodder was also cited as a constraint in view of increased settlement.

2.1.3. Tree growing practices

Tree growing among Matanya farmer is mainly a practice imported from areas of origin. This also means the species preferred and planting techniques are a perception from high rainfall areas. Awareness on importance of trees is high among farmers. In table 4 below, a summary of species planted

Table 4: The mainly planted trees, priorities and reasons for planting in Matanya

Species planted	Ranking in benefits	Ranking in growth rate	Reasons of planting
Grevillea robusta	1	1	- Firewood, timber, fodder, tradition, fast growth intercropping.
Eucalyptus	2	2	- Firewood, timber, poles, posts, rafters, coppices well, fast grow.
Cypress	3	6	Timber, rafters
Pinus patula	6	7	Timber
Black wattle	5	8	Firewood, charcoal posts
Casuarina	4	5	Wind break, timber posts
Shinus molle		3	Shade, fence, coppices well
Croton megarocarpus		4	Shade, firewood, charcoal fence
Nandi flame			Beauty
Cordia abyssinica			Shade, timber, intercropping

The farmers are aware of tree products and their benefits. When asked to list tree products, they differentiated between products bought from outside Matanya those produced and used locally and products with potential for marketing. In table 5 below, a summary of tree based products is presented.

Table 5: Benefits of trees and tree products as perceived by Matanya farmers.

General benefits of trees	Product for subsistence use	Products bought from outside	Products marketed
<ul style="list-style-type: none"> • Firewood • Charcoal • Fencing • Live hedges • Timber • Fodder • Wind break • Prevention of soil erosion • Conservation of water catchments • Income from products • Medicinal products 	<ul style="list-style-type: none"> • Firewood • Saw dust • Posts and rafters for fencing 	<ul style="list-style-type: none"> • Cedar posts • Timber • Off cuts 	<ul style="list-style-type: none"> • Charcoal • Seedlings • Fruits e.g. Oranges

Charcoal is mainly got from natural Acacia stands in unsettled areas.

2.2. The case of Lamuria cluster

Lamuria area falls under agroecological zone IV to V. The area is inhabited by immigrant farmers from high rainfall areas main Nyeri and Kiambu. The settlement dates back to 1970's when Giant Gatarakwa land buying company bought the ranch and subdivided to small scale farmers through shares. The main production system is livestock production. Rainfed agriculture has also been introduced with limited irrigated horticulture along rivers Ngobit and Ngare Ngiro. The settlement started in 1981 and the settlement density is about 57%. The average land size per households is 7 acres.

2.2.1. Crop production systems

Agriculture activities are mainly rainfed dryland farming. However, the cropping patterns is a replica of maize – beans – potatoes intercrop imported from areas of origin. The main crops grown were listed and prioritized as shown in table 6 below.

Table 6: Crops grown in Lamuria under rainfed farming

Type of crop	Ranking by area planted	Ranking by yield	Ranking by cash generation	Date of failure (seasons)
Beans	2	1	2	2/5
Maize	1	4		4/5
Potatoes	3	2	1	2/5
Sweet potatoes	6			1/5
Garden peas	4			2/5
Sorghum	5			1/5
Finger millet	8			1/5
Chickpeas	7	3		2/5
Soya	9		3	3/5

Among the popular crops in irrigated production, in order of income generation are tomatoes, cabbages, onions, capsicum, kales and carrots. However, irrigated is to a small scale along the Ngobit and Ngare Ngiro river valleys.

A notable community opinion was their strong attachment to maize despite persistent crop failures. The farmers attributed this to tradition and being the main staple food. The major constraints to crop production are frequent droughts, occasional frost, insect pests and game damage.

2.2.2. Livestock production systems

The main livestock production system is free range grazing. This takes advantage of absentee lands. Few farmers supplement dairy cattle with crop residues and nappier. Use of concentrates is not popular. The types of animals kept and are presented in table 7 below.

Table 7: Livestock types and Ranking in Lamuria

Livestock type	Ranking in numbers kept	Ranking in household use	Ranking cash generation	Resilience to drought
Cattle	3	2	1	4
Sheep	1	4	2	5
Goat	4			3
Chicken	2	1	3	2
Rabbits	6	3		
Pigs	7			
Bee keeping	5	5	4	1

The farmers evaluated the strengths and weakness of livestock production. Table 8 below shows a summary of the farmers evaluation.

Table 8: Strengths and weakness of livestock production in Lamuria

STRENGTHS	WEAKNESS
<ul style="list-style-type: none"> • More resilient to drought than crops • Alternative food source (milk/meat) • Better income • Good banks i.e. capital reserve • Quick income from sales e.g. sheep • Source of farm income e.g. eggs, milk, manure • Adequate grazing pastureland 	<ul style="list-style-type: none"> • High incidences of E.C.F • Cattle rustling • Wildlife predation • Calamaties e.g. drought, disease out breaks • Inadequate water supply

The major constraints to livestock production were listed as;

- ◆ Cattle rustling
- ◆ Droughts
- ◆ Diseases
- ◆ Inadequate water
- ◆ Poor marketing structure i.e. brokers exploit farmers

2.2.3. Tree growing practices

Many farmers in Lamuria have planted trees on their farms. The culture of tree growing was inherited from areas of origin. This has influenced the siting, configurations and species preferred. The farmers are aware of the need for tree planting and potential of tree products. A summary of species planted, ranking and reasons for planting is presented in table 9 below.

Table 9: Summary of main planted tree, priorities and reasons for planting them in Lamuria

Species planted	Ranking in benefits	Ranking in growth rate	Reasons for planting
Grevillea robusta	1		- Timber, firewood, fodder intercropping
Cypress	3		- Timber, firewood, poles rafter
Eucalypts	2		- Timber, poles, rafter
Croton megarocarpus	5		- Firewood, charcoal, shade, medicinal
Shinus molle			- Shade, bee forage
Casuarina			- Timber, firewood
Melic azedarach			- Herbal medicine?
Leucaena			- Soil fertility, fodder
Acacia mearnsii	4		- Firewood, charcoal, posts.
Jacaranda			- Ornamental, timber
Bottle brush			- Ornamental

A notable point was the ranking of Eucalypts. This was influenced by the woodlots trial plots by ARU. Many farmers now appreciate Eucalypts for its fast growth and diverse products.

Farmers in appreciating the potential of tree products for both subsistence and commercial use, they differentiated those products imported, exported and or used at farm level. In table 10 below, a summary of farmers views is given.

Table 10: Benefits of trees and tree products as perceived by Lamuria farmers

General tree benefits	Products for use at farm	Products bought from outside	Products marketed
<ul style="list-style-type: none"> • Timber • Fuelwood • Construction materials • Environmental amelioration • Medicinal • Soil conservation • Preserve water catchment • Bee forage 	<ul style="list-style-type: none"> • Firewood • Rafters • Posts/poles • Shade (livestock) • Fruit 	<ul style="list-style-type: none"> • Cedar posts • Timber • Off-cuts • Post of fencing e.g. Eucalypts • Seedlings 	<ul style="list-style-type: none"> • Charcoal • Fruits

There was a general consensus that the natural Acacia stands are diminishing and tree products supply are unsustainable. Farmers are ready and willing to increase tree planting including woodlots.

The main planting configurations include boundary/perimeter planting, intercropping and boundary and farm woodlots. The latter is gaining popularity particularly with the introduction of Eucalypts species. The farmers reported that they have not gainfully started utilizing tree products from planted trees. However, they have been exploiting natural stands for tree products. In table 15 below, a summary of tree production, sources and utilization is presented.

Table 15: Potential of trees and tree products as perceived by M/K farmers.

Tree products used at farm level	Products sourced from outside	Products marketed
<ul style="list-style-type: none"> • Firewood • Charcoal • Fencing rafters • Live hedges • Shade • Windbreak 	<ul style="list-style-type: none"> • Timber • Off-cuts • Cedar posts • Saw-dust • Fencing posts e.g. Eucalypts, black wattle 	<ul style="list-style-type: none"> • Charcoal (from indigenous species)

The main constraint to tree growing in M/K were discussed and listed as below.

- Unavailability of tree seedlings
- Inadequate rainfall and droughts
- High cost of seedlings

- Poor planting techniques and tending skills
- Livestock and wildlife damage
- Poor species choices
- Long maturity period for tree
- Indifference of some farmers due to availability of wood in absentee lands

The potential of woodlots in M/K is high as an alternative land use option to generate income. In addition, the average land holdings (10 acres) can allow woodlots commercialization. Due to livestock rustling in M/K the farmers have no alternative income sources. Woodlot establishment can serve as alternative income source during times of drought or crop failure.

2.3 The case of Mutirithia – Kariunga Cluster

Mutirithia – Kariunga lies along the transition of agroecological zones IV and V. It is a more marginal area bordering the subsumed Mukima/Ngaiga small-scale farmers and the more arid pastoral Mukogodo rangelands. The immigrants are mainly from Nyeri district. The main production systems are rainfed agriculture with livestock sector severely delimited by cattle rustling.

The settlement is comparatively recent (late 1980's) and settlement densities about 10%

2.3.1: Crop Production systems

Although the area is ecologically more suitable for livestock ranching, the subdivision of land into small units have forced the immigrants to introduce mixed farming. The main cropping pattern is maize-beans and potatoes inter-cropping. Production is principally for subsistence with high risks of crop failures. The main crops were listed and prioritized by farmers as shown in table 11 below.

Table 11 main crops grown in M/K Cluster

Type of crop	Ranking by area planted	Ranking by yield	Ranking by cash generation	Rate of failure (seasons)
Beans	2	1	1	2/5
I potatoes	3	2	3	3/5
S. potatoes	5	5	5	2/5
Soya	4	3	2	2/5
Maize	1	4	4	4/5

The farmers noted that the newly introduced drought escaping crops by ARU were doing better. They rated the Katumani beans, chickpeas, Soya beans, Cassava and Sweet potatoes as better options in their area. In addition, inadequate rainfall, game damage and rodents were rated as the main constraint to promotion of the better performing crop varieties

2.3.2: Livestock Production Systems

The problem of cattle rustling has harboured keeping of livestock. Although the discussions were less objective due to farmers resentments, the following ranking in table is present enterprises was generated by farmers

Table 12: Livestock types and ranking in M/K

Livestock type	Ranking in Numbers kept	Ranking in household use	Ranking in cash income	Resilience to drought
Chicken	1	1	1	2
Rabbits	2	2		4
Pigs	6			6
Cows	5	3		5
Silkworms	4		2	3
Bee keeping	3	4	3	1

Farmers in M/K reported that inspite of large grazing lands mainly due to low settlement cattle, sheep and goats are not among the top ranking due to livestock thefts. They objectively evaluated the strengths and weaknesses of livestock production and a summary is given in table 13 below

Table 13. Strength and weaknesses of livestock production in M/K

STRENGTHS	WEAKNESSES
Good source of income Alternative source of food Copes better with drought Ample grazing pastures Area conducive for livestock	Prone to cattle misters Disease outbreaks e.g. tick borne Drought Inadequate water for animals

The farmers agreed on cattle rustling as the prime constraint to livestock farming. Other major planted fodder, poor markets and exploitation by brookers.

3.3.3: Tree Growing Practices

Although M/K farmers are recent settlers, they have started tree planting initiatives. However there is a culture of tree cutting by new settlers to clear land for crop farming and a time lag of 3 – 5 years before starting tree planting. The planted species and niches of introduction trees are mainly influenced by experiences from areas of origin. Although the settlement density is low, farmers are aware of the unsustainability of firewood supply from indigenous stands and in particular reliance on planted trees is shown in table 14 below.

Table 14 Planted trees, priorities and reasons for planting them in M/K.

Species planted	Ranking in benefits	in	Ranking in growth rate	Reasons plating
Grevillea robusta	1		2	Timber, firewood windbreak, intercropping
Eucalypts	2		1	Timber, firewood, poles posts
Casuanna	4		4	Timber, construction
Cotton megarocarpus	3		5	Firewood, charcoal shade
Leucaena lencocephala	6		3	Fodder
Mulbery	5			Fodder for Silkworms
Sesbania				Fodder
Pinus patula				Timber
Shinus mole				Shade, bee forage
Bottle brush				Ornamental, bees

4.0. DISCUSSIONS AND WAY FORWARD

The group discussions gave the opportunity of selling out the idea of commercialisation of woodlots. Discussions with farmers reviewed that there is potential for commercialisation of woodlots. Farmers were given an opportunity to express their fears and worries which have to be taken into consideration when implementing the project. Farmers recognise that tree growing is possible since they have seen the woodlots that were established by ARU in 1996 and which are doing well.

Farmers in Lamuria seems to have more capacity for establishment of woodlots. Most of them took up the idea of commercialisation and can implement it with minimum incentives. The current study will be useful to such farmers since it will give them the expected returns from woodlot establishment and opportunity costs. On the other hand, farmers in Mutirithia seems to have little capacity for implementation. However these farmers have one strength in that they value tree growing more than farmers in other clusters. There is little livestock activity in Mutirithia and so farmers consider trees as the alternative source of income. These farmers have to be supported in establishing woodlots during implementation stage.

The information collected in focus group discussions will be used in designing a questionnaire which will be administered in households. The other data will be available for the final report and interpretation of results collected in household survey.

Focus group discussions will be followed by household survey and then financial analysis. Household survey will collect quantitative data which can be used to extrapolate results for the whole population in each of the clusters.

LIST OF PARTICIPANT

MUTIRITHIA

NAME	YEAR OF SETTLEMENT	VILLAGE	FARM SIZE
1. Jane Gathigia	1991	Mutirithia	10 acres
2. Lydia Wanjiku	1990	Mutirithia	10 acre
3. Jane Nyambura	1981	Mutirithia	10 acres
4. Julia Wambugu	1993	Mutirithia	10 acres
5. Mary Njeri	1998	Mutirithia	10 acres
6. James Mutahi	1996	Mutirithia	10 acres
7. Wilson Gachima	1986	Mutirithia	10 acres
8. John Karani	1991	Mutirithia	10 acres
9. Peter Njoroge	1989	Mutirithia	3 acres
10. John Githinji	1989	Mutirithia	2 acres
10.1.1. Maina Gichuhi	1997	Mutirithia	2 acres
11. James Ndi	1989	Mutirithia	10 acres
12. James Wanjohi	1992	Mutirithia	2 acres
13. Samuel Mukiria	1992	Mutirithia	5 acres
14. James Wahome	1995	Mutirithia	5 acres
15. Simon W. Gakumbi	1992	Mutirithia	5 acres
16. Joyce Wanjiru	1992	Mutirithia	10 acres
17. Stephen Kahiga	1989	Mutirithia	10 aces
		Mutirithia	10 acre

MATANYA CLUSTER

<u>NAME</u>	<u>VILLAGE</u>	<u>FARM SIZE</u>
1. Joseph Kiumu	Tigithi	3.5 acres
2. Elias Kingori	Tigithi	4 acres
3. Antony Kimathi	Burguret	3.5 acres
4. Stephen Maina	Iriuko	3.7 acres
5. John Ndei	Iriuko	1.2 hectares
6. Samuel Karinga	Iruiko	1.2 hectares
7. Wilson W. Machuiri	Weruini	14 hectares
8. Josphat Kingori Mbutu	Matanya	3.5 acres
9. Joshua Wachirah Mwangi	Tigithi	1.2 hectares
10. Felix Ndungu	Tigithi	1.5 hectares
11. Ann Chege	Tigithi	3.5 acres
12. Leah Nguyo	Weruini	10 acres
13. David Nderitu	Waguthiru	3.2 acres
14. Paul Murithi	Matanya –Marura	3.5 acres
15. Simon H.K. Wathome	Tigithi	3.5 acres
16. Paul Gichohi	Burguret	3.7 acres
17. Mary Wangui	Burguret	3.5 acres
18. Irungu Wachiuri	Weruini	14 acres
19. Paul Muchiri	Tigithi	6.4 acres
20. Moses W. Gitahi	Burguret	4.0 acres
21. Elizabeth Kagure	Burguret	3.5 acres
22. Regina Mumbi	Burguret	3.5 acres
23. Joseph Njuguna	Tigithi	3.5 acres
24. Julius Muriuki	Thome	4 acres
25. Charles Maina	Kabanga	4 acres
26. Josphat Muchoki	Tigithi	10 acres
27. James Gachimbi	Tigithi	3 acres
28. Wanjira Küige	Weruini	12 acres
29. Robert Waweru	Weruini	9 acres
30. Eunice Wangu	Weruini	10 acres
31. Munyiri Kimondo	Matanya	7 acres

LAMURIA CLUSTER

YEAR OF

Settlement	NAME	VILLAGE	FARM
1. 1982	Charles Mucheke	Karai	4 Acre
2. 1997	James Rukwaro	Mwakinya	1 Acre
3. 1985	Peter Wambugu	Ithanji	8 Acre
4. 1982	Elijah Githambo	Karai	12 Acre
5. 1998	John Gitonga	Mwakinyi	1 Acre
6. 1989	Johnson Wanohi	Ithonji	16 Acre
7. 1995	Lameck Gachangaga	Ithanji	8 Acre
8. 1983	Gitonga Muthoga	Ithanji	36 Acre
9. 1982	Michael Kande	Karai	8 Acre
10. 1995	Samuel Ndungu	Ithanji	44 Acre
11. 1981	David Kamau	Karai	12 Acre
12. 1980	Lucy Njoki	Ithanji	7 ½ Acre
13. 1984	David Nderitu	Karai	12 Acre
14. 1982	Joseph Njagi	Ithanji	11 Acre
15. 1983	Janet Wamuyu	Ithanji	4 Acre
16. 1989	Mary Mumbi	Karai	4 Acre
17. 1989	Alice Wagura	Karai	6 Acre
18. 1984	Stephen Gatimu	Ithanji	4 Acre
19. 1986	Mwathe Gikuhi	Ithanji	4 Acre
20. 1997	Daniel Macharia	Karai	1 Acre
21. 1993	Mary Muthigani	Ithanji	10 Acre
22. 1997	Grace W. Gitahi	Karai	5 Acre
23. 1990	Alice Wangechi	Karai	8 Acre
24. 1982	Maria Karoki	Ithanji	4 Acre
25. 1991	Susan Nyagaki	Ithanji	2 Acre
26. 1981	Hemdan Ngari	Ithanji	2 Acre
27. 1989	Joseph K. Kinuanjohi	Karai	20 Acre
28. 1990	Jessee Mwangi	Ithanji	4 Acre
29. 1983	Bernard Mwangi	Karai	8 Acre
30. 1981	J.M Muniyari	Ithanji	17 Acre
31. 1978	Erupe Nakasikou	Karai	4 Acre
32. 1993	Victoria Nduku Kamau	Karai	4 Acre
33. 1993	Teresa Wambui Nderitu	Karai	2 ½
34. 1997	Simon Ng'ungu	KARAI	4
35. 1990	Jonson Njaramba	KARAI	5
36. 1997	Charles Kariuki	ITHANJI	4
37. 1980	John Muthee Wambgu	KARAI	2
38. 1980	Wachira Gachuhi	KARAI	24
39. 1984	Kirungo Ndegwa	RUAI	4
40. 1989	Susan Kiboi	ITHANJI	8
41. 1996	Josphine Waithera	KARAI	8