



**TEGEMEO INSTITUTE OF AGRICULTURAL POLICY AND
DEVELOPMENT**

**Proceedings of the Dissemination Workshop on ‘Status, Trends and
Opportunities in Smallholder Agricultural Productivity and Market
Participation for Improved Food Security and Incomes’**

Nyeri County

**Held at the Constituency Development (CDF) Hall, Othaya on
July 27th, 2011**

Tegemeo Institute-Egerton University

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SESSION ONE:

The meeting was called to order at 9:20 am by Mr. Francis Karin of Tegemeo Institute. He invited the Director, Tegemeo Institute to welcome guests and participants and to introduce the key guests and chairs of various sessions.

Welcoming remarks: *Director, Tegemeo Institute*

The Director started by introducing herself and requesting Fr. Martin, one of the participants to offer a word of prayer. She noted with appreciation, the fair representation of Nyeri County in the workshop as well as the good presence of government officers concerned with the agricultural sector. She introduced the following guests:

1. Professor Jude Mathoko; DVC Research and Extension, Egerton University.
2. Mary Kanyi; Provincial Livestock Production Officer (PLPO) Central region
3. Helen Chege; District Officer (DO)1, Othaya
4. Joseph Gachingiri; Provincial Director of Agriculture Central region.

She then invited Prof. Mathoko to give welcoming remarks and to invite the DO-1 to officially open the workshop.

Welcoming Remarks: *Prof Mathoko, DVC Research and Extension, Egerton University*

Welcoming the participants and appreciating their efforts to attend the workshop inspite of the cold weather, he appreciated the presence of the government officers, and the director in charge of the meteorology department in central region and all departmental heads in the province. He also appreciated the effort of Tegemeo Institute in organizing the workshop. He then proceeded to give a brief history of Egerton University:

Egerton University is the oldest institute was started by Lord Egerton started in 1939 to train the British service men coming from war. Having started with only three students, the college has grown into a fully fledged University. Prior to 1969, the college did not admit female students until the then First Lady, Mama Ngina Kenyatta visited the college and promised not to visit again until they started admitting female students. In 1987 it became a fully fledged University. It has 14,000 students and several constituent colleges and campuses like Njoro, Laikipia, Chuka Kisii, colleges, and Nakuru town, Eldoret, Kericho, Kisumu campuses. He noted that the University was not yet in Nyeri yet but its Institute, Tegemeo had been working with farmers in the County. He explained that the University has been working with communities for a long time and that currently its Research and Extension arm was working with communities in projects

such as: biogas production, beekeeping, and traditional (herbal) medicine and as has appeared severally in the printed media. He also indicated that the university was popularizing the llama, a goat from southern Americas. The university has 1000 acres of land with a collection of medicinal plants and an herbal medicine research centre where herbalists are trained and the university also learns from them. The University has three farms namely; Gongongeri farm (2700 acres), Talton farm 1000 acres, and Chemeron dry land farm 1000 acres. The university is also known for its Yoghurt. It also exhibits its farm products at the ASK shows in Nakuru and Nairobi.

Before inviting the chief guest, Madam Helen the DO-1 Othaya, he encouraged the participants to participate fully by interacting and asking questions.

Welcoming Remarks: *Helen Chege, DO1 Othaya*

She welcomed workshop participants to Nyeri south District, on behalf of the Provincial Commissioner (PC) and the District Commissioner (DC) who she indicated were away on official business. She said it was a privileged to host a workshop that brings back to the farmers findings from their district as well as from others in Nyeri. She also said it was a privilege to have the provincial directors of agriculture and livestock present. Indicating that she had been posted to Othaya in 2007, she commended the good work that has been done during that time in Nyeri. She also appreciated Tegemeo's work in Kieni East and West. She observed that Nyeri area was not doing well in food production probably due to over emphasis on coffee. She noted that the district was also faced with challenges of climate change and appreciated the presence of Nguata Francis of the meteorological department. She pointed out that the research by Tegemeo would provide insights on the status of agriculture and informs policy at all levels of government. She pointed out that Nyeri still has a long way to go in terms of crop and livestock production and that implementing the findings by Tegemeo and recommendations from the workshop would translate into improved productivity and production. She recalled the media reports of that morning that five children that died in Daadab. This, she said, tells us that we are not doing well in terms of food production as a country. She reiterated that food in Othaya was expensive because farmers concentrate on coffee & tea farming. She therefore encouraged the farmers to set aside small portions of their farms for food production saying this should translate into improved food security and incomes. She again welcomed the participants to the workshop and thanked the audience.

Introduction to the Workshop Objectives: Director, Tegemeo Institute

The Director pointed out that in the past Tegemeo Institute had organized workshops and conferences solely at the National level and in Nairobi. This year though, the Institute has decided to discuss with communities where the Institute has been collecting her data from. She proceeded to make a brief presentation about Tegemeo Institute and the dataset from which policy and programming messages are derived.

(See presentation on introduction to workshop objectives, in pdf)

The Director outlined the core business of Tegemeo:

- i. Tracking of key indicators in the rural sector (e.g. technology use, productivity and incomes)
- ii. Rural household data from 1997 to 2010
- iii. M & E for development programs initiated by government and the civil society

She said the Institute was looking forward to getting feedback/learning from the community indicating that the expected outcome was to discuss Tegemeo findings and to:

- i. Identify possible pathways out of low productivity and incomes
- ii. Identify critical bottlenecks and
- iii. Establish a reliable baseline against which future development programs may be evaluated

Appreciating that the panel dataset was representative nationally, she cautioned that it may have some limitations at the County levels due to the way the sample was drawn, but was still very useful in informing county level policies and programs. She proceeded in sharing the day's program and invited the chair for the second session to take over.

SESSION TWO

Session II was chaired by Mr. Gachingiri, the Provincial Director of Agriculture (PDA) in the central region. He requested the participants to listen keenly and note down any questions, comments or concerns on the findings for a later Question-Answer session. He then invited Dr. Lillian Kirimi, a Research Fellow at Tegemeo Institute to make the presentation on: '*Household characteristics, Agricultural productivity and Input use*'.

After the part presentation on household characteristics and agricultural productivity, the chair invited comments and questions on the presentation.

Questions

Participant 1: Observed that in 2007 all graphs seemed to be going down and wanted to know if the presenter had tried to find out what happened in 2007. He also sought to know whether the oscillating graph on dairy productivity could be used to predict that every four years productivity goes (or will go) down? He also wanted a definition of or a description of agricultural assets.

Response:

a) On the question of whether Tegemeo had tried to find out what happened in 2007 the Director explained that the Tegemeo enumerators take a lot of time with the respondents but they don't go to the details of what might have happened. She also explained that Tegemeo had not gone down to do the qualitative analysis on what might have happened in 2007. The director then requested the local residents and farmers to assist with that information on what might have happened.

b) Prof. Mathoko said that one of the possible explanations for constant declines during election years was that people started campaigns early hence affecting productivity.

Participant 2: Sought clarification on the specific assets whose values had been on the decrease as was depicted on the graph of real assets and sought to know the causes (actors) of decline in the value of assets and incomes for the zones that had declines

Response:

c) In answering the question on the particular assets used in the survey John Olwande explained that visited households were asked to list the assets they owned and their values in the first wave and in the subsequent waves the values of the originally listed assets were enumerated and farmers gave lower values for the same assets. He noted that this was consistent with depreciation. He also clarified that during analysis inflation was also considered and factored in.

d) The director added that because the same households were interviewed, the effect of aging heads and members and hence not replacing assets could have played a part.

Participant 3: wanted to know if a conclusion that 'farmers are getting poorer' could be drawn from the graph of value real assets.

Response:

e) The Director made a clarification that not all the graphs on value of real asset were showed declining trends. She made an observation that there was an increase in the values in Mukurweini and a decline in Othaya and that it was the decline in Othaya that overweighed the increase in Mukurweini.

Participant 4: wondered if the observation that grade cow kept was decreasing while milk production was increasing was a contradiction.

Response:

f) Dr Kirimi explained that with smaller numbers maybe there was better management.

Dr Kirimi proceeded with the last part of 'Input use'.

The chairman thanked the presenter for the enlightened presentation, and again called on the participants to ask questions on the presentation.

Participant 5: Asked if the research had information on food security as was mentioned in the workshop theme and whether in working with the farmers in the various areas of the county, cases of food insecurity were identified and if there were any drivers of food insecurity in the areas.

Response:

g) Dr. Kirimi answered that the question on food security was asked but that analysis was not included in the presentation; therefore the question can be answered later from the data later.

Participant6: asked if the study had compared the findings with weather information to try and explain the variations in the productivity because many social and cultural activities were dependant on weather. He added that he believed that the studies were carried out under certain weather and that weather/climate was a substantive driver of agricultural activities

Response:

h) Weather variability was asked but only in 2010. The data showed households are able to identify increase in temperature overtime and frequent droughts. Also farmers are making conscious choices on farming practices. There are researchers from the Institute doing interviews with selected farmers from the same that this data was gathered on climate change.

Participant 7: Another participant sought clarification on the clear difference between dose rate and application rate as presented.

Response:

i) In response to the question on dose rate and application rate, Olwande said that in computing application rate the total quantities of fertilizers used were divided by the total acres cultivated while dose rate was the total quantities of fertilizer applied divided by only the total acres on which fertilizer application was made.

Mr. Gachingiri (PDA): Asked why there was a decline in both dose rate and application rates for the fertilizers.

Response:

j) John explained that the study asked why farmers did not use fertilizers and some said the fertilizers burnt crops or they destroyed soils. He then posed a question to the participants why they thought the government was subsidizing fertilizers. He concluded that it was all about affordability that the dose rate and the application rates were declining.

Participant 8: asked whether the rates on inorganic fertilizers presented could be used to conclude that Central province was doing fine from the fact that their application rate as presented was well above the recommended 80kgs per acre.

Response:

k) Director said that the rates presented were for all the fertilizers combined and not specific to any particular crop. She added that the fertilizers were a combination of both planting and top dressing.

l) Dr Kirimi highlighted the fact that it was a learning process and assured the participants that in the next meeting the fertilizers analysis would be disaggregated by crops to give a better picture.

m) Olwande explained that other studies have shown that fertilizer dose rate was higher in coffee and tea than in maize even as confirmed by the yields.

Note: It was observed that fertilizer and seed subsidies may not be helping poor farmers. The issue of affordability and poor farmers' ability to access fertilizer was highlighted. It was suggested that researchers need to come with fertilizer and seed use recommendations.

Participant 9: Suggested it was necessary to also present costs of livestock production inputs to explain the production in the livestock sector.

n) Dr. Kamau assured the participants that the question on livestock production inputs was taken seriously and positively and will try to respond to it in future communication.

Participant 10: wanted to know why the higher income households appeared to be using less certified seeds.

Response:

o) Dr. Kilungu contributed to the discussion by stating that it was possible that farmers could move to some higher value crops and this could explain the dip in the use of certified seeds by the higher income households.

p) Dr. Mercy Kamau added that the issue could be more analytical or it could be there was a problem of seeds in 2007.

Participants proceeded to take a coffee break due to time considerations but were assured questions and concerns will be addressed later.

Questions were saved for later due to time considerations.

SESSION THREE

This session was chaired by Mrs. Grace Ngambi (KENFAP, Nyeri region). She invited Mr. John Olwande, a Research Fellow at Tegemeo Institute to make the presentation on:

‘Market Participation and Household Incomes’ covering;

- I. Market Participation*
- II. Household Incomes and their Composition*
- III. Access to Infrastructure and services*

After the presentation the Director encouraged the participants to be free to communicate in any language they were comfortable with, including the vernacular language. Due to limitations on time, the question and answers were pushed to the session on plenary discussion and way forward.

SESSION FOUR

This session was chaired by Mrs. Mary Kanyi (Provincial Livestock Production Officer, Central region) and Dr. Mercy Kamau a Research Fellow at Tegemeo Institute.

Plenary Discussion & Way Forward

The chair welcomed participants to the last session which she described as very important. She then introduced Dr. Mercy Kamau as her co-chair for the session. Dr. Kamau appreciated that participants had revealed much information on the challenges and suggested that it would be good to chart a way forward on the opportunities and necessary interventions for farmer in the region to achieve the full potential in productivity. Mrs Kanyi indicated that the plenary would begin by with comments on the presentation from the previous session.

Participant 11: Observed that trends in maize and bean yields were declining and wondered whether it was related to a price issue. Also wanted to know if the farmers are leaving maize and bean production for higher value crops and if yes which are these crops?

Participant 12: Observed that the presentation shows that the crops in Mukrweini are yielding higher income than those in Othaya and wanted to know which crop in Mukrweini was making incomes higher?

Response:

q) Olwande explained that in computing shares of income, it was the contribution of the different enterprises to the total income. He observed that the share of crop income had been declining and that the share had declined more in Mukrweini than in Othaya. The reasons behind the decline can be discussed in the workshop.

r) Dr. Kirimi explained that the income from the crop income may be attributed to the crop mix for example, tea growing in one area and not the other.

Participant 13: wondered if the collection points for subsidized fertilizer and seed could have distorted the distance to fertilizer and certified maize seller.

Participant 14: Asked *why*, there is'nt much change between 2000 and 2010 on the use of extension despite having more government (nearer to the people) over the 10 year period?"

Response:

s) Mr. Olwande observed that the reason for no change in distance to extension is rather hard to explain. Farmers probably referred to location of respondents and the location of extension officers as opposed to where the government offices are located.

t) Dr. Kirimi: indicated that distance to extension was more of where the farmers are getting the extension advice and maybe they are not going to the government officers for advice. This would mean that more government would not change in the distance travelled.

Participant 14: Asked if it would be okay to replicate or assume exact findings in the larger Nyeri region.

Response:

u) Olwande explained that it would not be wise to assume same situations in other areas in the whole of Nyeri region although the findings can be used for policy and planning purposes in areas similar to those where studies were conducted.

The chair declared the plenary session open and invited the participants to start with the Challenges.

Participant 15: Observed that the age of the farming population is very advanced. Labor is therefore a major challenge because the young people are going to towns and leaving agricultural work to the old. He wanted to know why the youth are moving to urban areas and not staying to work on the farm.

Raphael Kimathi: Challenges on the factors of production: On land, subdivisions are leading to non-viable land sizes. On labor, rural-urban migration and the practice of telephone farming is very common. On capital, the youths are disadvantaged in sourcing credit, and the few that get it misuse due to lack of advice. This is financial empowerment has been low and hence financial management has been poor. On markets, marketing has been challenge because brokers exploit the farmers.

Grace Gambi: Kenya is an agricultural country and the government should look at ways of re-introducing agriculture studies to the school curriculum. Parents should consider paying their children for work they perform on the farm. This will make them value farming. It is time the parents considered giving children land to do the farming. She further said that research on irrigation is highly necessary so that farmers can move away from rain fed agriculture. She wondered who would take the initiative.

Nguata Francis: Pointing out that climate change and global warming are now a reality because even farmers can no longer predict the rains and the seasons. He observed that we needed to change with technology. For example, there are insurance packages for cushioning farmers against losses due to erratic weather patterns. This however can only work where there is sufficient quantitative data, farmers, research institutes and the meteorological department should partner to generate quantitative data for accessing weather indexed insurance products.

He pleaded for farmers should be equipped with good and current technology on farming and the training must be continuous.

Participant 16: Coffee prices have stagnated over time in this area. The study did not talk about quality which could be one of the reasons. Declining coffee production has a multiplier effect. There is a need to intervene to promote coffee productivity.

Participant 17: Is there any research conducted to find out whether resource poor farmers use the inputs they get from subsidy programs.

Response 17: Resource poor are identified by the community and are assisted so that they can produce something for themselves. On the issue of selling the inputs, I think they have been sharing and not selling.

Participant 18: A study on NAAIAP revealed that compared with the middle-poor farmers, the very resource-poor farmers do not utilize the subsidies. There is therefore need to rethink the criteria for the selection of poor farmers i.e. who should receive subsidy inputs.

Participant 19: subsidized fertilizer collection points are very far removed from poor farmers. The cost of transportation and the time taken deters farmers from going for these inputs. My recommendation is that these should be placed nearer to farmers to reduce these costs.

Kinuthia: Provide ways of diversifying from maize and beans into other foods. This can be achieved by providing farmers with the planting materials for these other crops.

Participant 19: What percent of women are in agriculture? Why are more women heading households?

Response:

v) Dr. Kirimi clarified that the TAPRA data shows that most of those households are headed by widows.

Prof. Mathoko: He noted that women do the work on the farm but when meetings related to agriculture are called, men are the first to arrive. He wondered whether information was reaching the right people i.e. women. He suggested there is need for change of culture so that those that are more involved in farming would attend the meetings on agriculture.

Participant 20: Wondered why the government does not distribute subsidize inputs through agro dealers that are closer to farmers instead of using collection points i.e. NCPB? He said giving subsidies through NCPB 'kills' the agro-dealer business? He noted that there has been minimal if any government support to private investors who are better placed to promote markets for farm produce.

Kimathi: He indicated that farmers often take up crops for different areas rather than using relevant information sources to know which crops are best suited for an area. He said there is need to solve the problem of weather forecasting; to test soils; harvest water, and change community attitude towards agriculture. Further, the subject of agriculture must be taught in schools.

Participant 21: He indicated that farming as a business is plagued by problems like fake fertilizers and fake seeds. He suggested that farmers need a guaranteed minimum return (price per unit) price. Further, knowledge must be shared through the mass media since not all farmers

can go to Egerton University. Soil analysis should be emphasized so soil borne diseases (coffee and potatoes) can be controlled.

Response by Prof. Mathoko: The government has been encouraging agricultural courses by lowering the grades of admission to the university. Some universities have even given the course new names such as bio-systems management. The university is trying to improve food security in this country through trainings and biogas production. It has trained many farmers and is already seeing results. In western province we are doing water harvesting, there is a lot of water there for agriculture yet water is a key variable. Let's take off our coats and do serious farming.

Participant 22: Wondered whether the youth fund could be finance youth (individuals or groups)? This would encourage the youth in agriculture?

Participant 23: Asked how the survey was carried out? Was the same respondent visited during the four years or was a random sample drawn every year?

Response:

w) The Director, Tegemeo indicated it was a panel of the same household visited four times over the 10 years.

She noted that NAAIAP program was a good initiative particularly for the weak and vulnerable farmers in the society. Indicating that liberalization of the output market ensured people can buy and sell everywhere and to everyone, she suggested that government should regulate so that some people don't exploit others. As a people we are saying that what the government should do is to buy the fertilizers from the market and then they can subsidize that so that we keep the agro-dealers and protect the weak farmers too. The system should reach the very vulnerable but NAAIAP is not since it is distorting the markets and benefiting a few. She further suggested that government has a social responsibility to provide food aid when there is no food but we also encourage our people not to rely on that. But we need to produce our own. We need to have food self sufficiency and this planning is very important. I think we are in the right direction of moving the vehicle to where we want it to be. I think with these comments I hand over back to the chair.

Summary and way Forward: *Dr. Mercy Kamau*

CHALLENGES AND OPPORTUNITIES/AREAS OF POTENTIAL ACTION

- Observation that: young people leaving the farm, going to look for jobs in town white collar jobs; farming left to the aged, low productivity. Why is this happening?
- Issues on factors of production
 - Land: Subdivision impediment to productivity growth
 - Labor: Rural-urban migration
 - Capital: Financial access difficult, especially for the youth who do not have capital. Management is also a challenge. The Youth Fund can be made more accessible to the youth involved in agriculture
- Marketing problems
 - Farmer exploitation by brokers
- Farming: need to include this in the school curriculum.
- Change in attitude , make farming as a business (even pay your own children if they work on the farm)
- Need for research on irrigation. The technology is needed to reduce dependence on rain-fed agriculture
- Parents must provide land for children to farm so that they engage in and appreciate farming
- Climate change effects are becoming more obvious: There are frequent droughts and less water. Institutions should partner with the Met department to get weather measurement equipments and this will make weather information more available
- Farmer training on use of modern farming technologies is needed
- Coffee: There is need for intervention to improve productivity and quality
- There is need to refocus mechanism of providing resource poor farmers with subsidized inputs in a manner that allows efficient and effective use of the inputs thereby preventing them from selling the inputs
- Subsidized fertilizers should be availed nearer to the farmer to reduce transport costs. This can be achieved by subsidizing the inputs through agro-dealers, who are usually near the farmers
- Farming communities should diversify their production and consumption away from maize and beans to traditional crops such as sweet potatoes, arrow roots, etc
- Much of farm work and farm management is left to women, who face challenges in accessing relevant & new information on agriculture. Innovative ways of targeting women with information should be identified and implemented.
- Ways of combating food shortage:

- Promote water harvesting by farmers. E.g. Egerton promoting this in Western Kenya
- Encourage young people to embrace farming. Also teach agriculture in schools.
 - The government has encouraged students to take up agricultural studies in the universities by lowering entry grades to the course. But very few apply for agriculture courses
- Avail and use of weather information - to farmers
- Promoting conservation agriculture
- The challenge of poor/fake seed qualities should be addressed
- Developing efficient markets that ensure prices adequately compensate farmers effort
- Information/demos on ways to combat potatoes diseases, especially in Mukuruweini
- Make farming attractive to the young people by ensuring returns from farming are high/adequate
- We should target support to farmers who can make a difference
- This information on some districts in Nyeri County may be helpful in guiding agriculture sector investment in the whole County
- Security in Nyeri County is an issue that needs to be urgently addressed

Closing Remarks: *Prof. Mathoko*

He thanked the participants on behalf of the University. He indicated that the government has plans to set up agricultural research and knowledge centers and posed again the question of ‘who is a farmer’. He beseeched the participants to make use of the research findings to develop farming in the County. He requested the participants to take the message back home and the government officers to preach it in their meetings/barazas.

Closing remarks: *Dr. Kilungu*

“The DVC Egerton University, DO 1 Madam Helen, Director Tegemeo Institute, staff of Tegemeo Institute, distinguished guests, ladies and gentlemen; I want to take this opportunity to introduce my colleagues...”

Saying that the meeting provided a basis for dialoguing and for forming a way forward, he explained that the goal of USAID was to reduce hunger, poverty and promote nutrition. Nutrition, he said is very important for development and must be a major focus in USAID forums.

Noting that the workshop falls under the value chains in USAID programs where the focus is on productivity and marketing. Saying there is potential to increase productivity and marketing, he

pointed out the need to work and help farmers to get organized and to train them because the future is for the organized.

He said his team traveled from Nairobi to encourage the local community and will attend other workshops organized by Tegemeo Institute to give them our support wherever. The Agency wished also to link ore with the Agricultural Sector Coordination Unit (ASCU) to increase productivity and cut down post harvest losses in the country. Noting that Uganda was exporting maize to Kenya at a cheaper price than Kenya's maize, he said there is need to look at the issue of costs and competitiveness. Noting that over 130 Acts governing agriculture had been merged together into three bills, he said it was a step in the right direction.

The forum he said had provided a baseline for the Nyeri County which can be used as a basis for evaluation of development programs. He then declared the workshop officially closed.

Vote of thanks: *Farmer*

She thanked the organizers for bringing the workshop to the people of Othaya, and for enlightening and guiding them on the way forward as farmers. She implored the local participants to work together to identify challenges and tackle them and above all take the voices of the Nyeri farmers to the highest level.

Closing Remarks: *DAO Othaya-Host*

He appreciated the presence of the organizers and distinguished guests. He assured Tegemeo that the information would get to the right people. He said the information provided a chance for Othaya people because they have seen the challenges and can now work on them. He thanked the farmers who agreed to give information to the Tegemeo team and urged them to continue with the same spirit and to always give them the right information so that it can be used in formulating good policies and programs.

The workshop ended with a word of prayer and the MC inviting the participants for Lunch.

LIST OF PARTICIPANTS

<u>Name</u>	<u>Position/Organization</u>
1. Adhiambo, Agnes	Tegemeo Institute, Nairobi
2. Chege, Hellen	DO I, Nyeri South
3. Gachara, Boniface	Farmer, Othaya, Nyeri
4. Gachingiri, Joseph M.	Ministry of Agriculture, Nyeri
5. Gachuru, Elena Wairimu	Farmer, Othaya
6. Gathanga, Agnes	Farmer, Nyeri
7. Gathanga, Joyce N.	Kieni Constituency Office
8. Gathogo, Josephine	Agriculture Office, Othaya
9. Gathongo, Patrick Njuguna	Mukuruweini, Nyeri
10. Gatoto, Joseph W.	Growers Mahiga Banana, Othaya
11. Gichane, Simon Kagiili	Agricultural Staff, Mukuruweini, Nyeri
12. Gichigi, Kibui	Farmer, Othaya
13. Gichohi, Juma G.	Mukuruweini, Nyeri
14. Gichuki, Alice W.	Ministry of Agriculture, Nyeri
15. Gitahi, Martin N.	Mukuruweini, Nyeri
16. Githaigah, Joseph Elijah	Farmer, Tetu
17. Githinji, Augustine W.	Farmer, Mukuruweini
18. Githuku, James	Tegemeo Institute, Nairobi
19. Gitonga, Stephen	Ministry of Livestock Development, Nyeri
20. Humaiya, Stanley N.	Ministry of Livestock Development, Nyeri
21. Ireri, Jeremiah	Tegemeo Institute, Nairobi
22. Josephine, W.N	CDF, Nyeri
23. Kagai, John	Mukuruweini, Nyeri
24. Kahari, Joseph	Farmer, Othaya
25. Kamau, Beth G.	Ministry of Agriculture, Karatina
26. Kamau, R.M.	Ministry of Agriculture, Othaya
27. Kangara, Symon W.	Africa Harvest, Mukuruweini
28. Kanyi, Mary W.	Provincial Director Livestock Production, Nyeri
29. Kanyingi, John M.	Farmer, Kieni West
30. Karianyahu, Joseph M.	Marewa, Nyeri
31. Karin, Francis	Tegemeo Institute, Nairobi
32. Karinga, Bernard M	Wakulima Dairy Ltd, Mukuruweini
33. Kariti, Irene	Farmer, Tetu
34. Kariuki, Francis	Ministry of Agriculture, Karatina
35. Kariuki, H.N	Ministry of Agriculture, Karatina
36. Kariuki, Patrick M.	Githunguri Kenyage, H.S Group
37. Kathingi, Murithi	Egerton University
38. Kiama, Joseph K.	DLPD, Tetu
39. Kiarie, Geoffrey	Tegemeo Institute, Nairobi
40. Kibe, Jane W.	Ministry of Agriculture, Nyeri

41. Kihumba, John	Ministry of Livestock Development, Othaya
42. Kilungo, Julius	USAID, Nairobi
43. Kimanthi, Esther N.	Farmer, Othaya
44. Kimaru, Leah Wambui	Farmer, Mukuruweini, Nyeri
45. Kimathi, Raphael N.	Farmer, Othaya, Nyeri
46. Kimuttu, John K.	Ministry of Cooperative Dev. and Marketing, Othaya
47. King'ori, John Mwaniki	Farmer, Othaya
48. Kingu, Patrick K.	Ministry of Cooperative Dev. and Marketing, Nyeri
49. Kinuthia, Peter K.	Ministry of Agriculture, Nyeri
50. Kinyongu, Teresa	Provincial Agriculture Office, Nyeri
51. Kiragu, R.M	Ministry of Livestock Development, Othaya
52. Kirimi, Dr.Lilian	Tegemeo Institute
53. Kirimi, Jane	Ministry of Agriculture, Kiganjo
54. Kiura, Hesbon	DCO, Tetu
55. Maina, J.K.	Ministry of Livestock Development, Othaya
56. Marekia, C.M.	Ministry of Livestock Development, Nyeri
57. Mathai, J.N	Ministry of Livestock Development, Nyeri
58. Mathenge, Dr. Mary K.	Director, Tegemeo Institute, Nairobi
59. Mathooko, Prof. J.M.	DVC, Egerton University, Njoro
60. Matu, Alice	Ministry of Agriculture
61. Mbach, Felicita N	Vision Gardens, Nyeri
62. Mbuyi, Samuel O.	Egerton University
63. Methu, Andrew M.	Farmer, Nyeri Central
64. Mugacha, Jimmy	CDF office, Othaya
65. Mulinge, Veronica	USAID, Nairobi
66. Muraguri, Rosemary W.	FADC, Othaya
67. Mureithi, Paul Kabuya	Provincial Administration, Othaya
68. Muthoga, Fred M.	FADC, Othaya
69. Mutugi, Stephen M.	Ministry of Cooperative Dev. and Marketing, Nyeri
70. Mwangi, Ephantus	Ministry of Agriculture, Othaya
71. Mwangi, Jackson M.	Ministry of Agriculture, Nyeri
72. Mwangi, Peter	Gakindu, Mukuruweini, Nyeri
73. Mwangi, Reginah W.	Farmer, Othaya
74. Ndengwa, Marting Fr.	Mukuruweini Stake holders, Mukuruweini, Nyeri
75. Nderitu, Daniel	Farmer, Tetu
76. Ngambi, Grace	KENFAP, Nyeri
77. Ngige, David M.	Nyeri Social Forum, Nyeri
78. Nguatah, Francis	Meteorological Dept. Nyeri
79. Njeru, Editar	Ministry of Agriculture
80. Njoroge, John Kamau	Tegemeo Institute, Nairobi
81. Njuguna, Eratus	Mukuruweini, Nyeri
82. Nyambura, Gladys	Farmer, Mukuruweini, Nyeri

83. Nyanga, Nicholas	Gakindu Dairy, Nyeri
84. Olwande, John	Tegemeo Institute, Nairobi
85. Omondi, Kevin	Tegemeo Institute, Nairobi
86. Rukungu, Robert K.	Chief, Mukuruweini, Nyeri
87. Theuri, Beatrice	Ministry of Agriculture, Mukuruweini, Nyeri
88. Thuku, Peter M.	Farmer, Othaya
89. Thurania, James G.	DAO, Kieni East
90. Wachira, Cyrus	Kiangoma Village, Mukuruweini, Nyeri
91. Wachira, Esther M.	Farmer, Nyeri
92. Wachira, Evanson M.	Chinga N. Othaya
93. Waigera, Francis W.	Farmer, Mukuruweini, Nyeri
94. Wamani, R.N	Ministry of Livestock Development, Nyeri
95. Wambugu, Simon G.	NALEP Rep. Mukuruweini, Nyeri
96. Wambui, Eunice	CDF, Othaya
97. Wamiti, Joseph Macharia	Farmer, Othaya
98. Wangari, Beatrice	Farmer, Othaya
99. Wanjiku, Nancy	County Council, Othaya
100. Wanjohi, Cyrus	Kiahungu T.C Banana, Mukuruweini, Nyeri
101. Warungu, Daniel K.	Farmer, Mathira West
102. Wathuo, Lydiah	CDF, Othaya
103. Waudu, Albert	USAID, Kenya
104. Waweru, Paul	Tegemeo Institute, Nairobi
105. Wekesa, Josephine K.	Ministry of Livestock Development, Karatina