



FARMING SYSTEMS KENYA (FSK)

THE FSK Update

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Nakuru County Governor Hon. Lee Kinyanjui, the Deputy Governor, County Secretary, CEC Member Agriculture, Livestock and Fisheries together with FSK Executive Director Dr. Raphael Kinoti during the sensitization meeting to draft Nakuru County animal welfare bill 2018

VISION
A vibrant, profitable & sustainable farming community in Kenya.

MISSION
Facilitate the transformation of the farming community into entrepreneurs through innovative technology transfer.

With more than 75 percent of Kenyans making some part of their living from agriculture, and the sector accounting for more than a fourth of Kenya's gross domestic product (GDP), agriculture is the backbone of Kenya's economy.

We have continued to engage communities and households in efforts to achieve our vision of a vibrant, profitable and sustainable farming community in Kenya. Towards this end, we have kept our interactions high both at the community level as well as with diverse stakeholders for effective technology transfer. Beginning 2019, we will endeavor to actualize our strategic plan 2019-2023. This being the very first year of the implementation of this plan, we are geared towards establishing the platforms on which this plan will stand and indeed be implemented in the next 5 years. We continue to seek ways of ensuring sustainability both at the community and household levels. Towards this end, we have doubled our efforts in helping farmers to undertake comprehensive soil management, build resilience through sustainable water management and

drought tolerant food crops, undertake animal welfare with an emphasis on donkey as the beast that embodies resilience in our geographical area of service as well as facilitate communities to engage their own thought processes with an aim of re-defining their own cultures through defined mobilization processes; in this case the Church and Community Mobilization process which has continued to produce huge positive results. We do most sincerely appreciate the partnership with the government of Kenya, especially at the county

Dr. Raphael Kinoti - FSK Executive Director



Lomolo community members with French embassy staff celebrating the first harvest of sweet potatoes in the FSK's dry-land farming project in Rongai sub-County, Nakuru County.

governments in this journey. The efforts of Nakuru County government in joining hands with us in actualizing the animal welfare bill is highly commendable. We are at different stages with other counties in implementing diverse actions to the benefit of our communities. They say with God all things are possible. This is our belief and drives as we engage the next level of development.



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SOIL FERTILITY AND MANAGEMENT

By Steve Chebet - FSK Soil Technician

Soil fertility is the capacity of the soil to supply nutrients to plants in adequate amounts and in suitable proportion. The productivity of the soil is the combined result of fertility and management. Soil fertility is based on the following important properties; Soil pH, Nutrient content, Cation Exchange Capacity, Humus content and composition. Water holding capacity, permeability to air, soil depth and soil structure are other factors. At FSK we do have a digital soil scanner which gives soil fertility results in real time. The machine is Accurate, Fast, Reliable and Affordable. The results not only tell your soil status but also advises you on what to do so that you can grow strong and healthy crops.

Soil Acidity causes a number of problems on our agricultural fields;

- 1) Reduced availability of some essential nutrients.
- 2) Increased solubility of certain micronutrients sometimes to toxic levels.
- 3) Reduced microbial activity of beneficial organisms and enhancement of harmful ones.
- 4) Impact on some herbicide performance and yield loss from crop damage and weed infestations.

By measuring and managing with soil tests and following the appropriate steps for determining lime application rates we can easily fix problems associated with soil acidity.



Sweet potato vines at initial stages of establishment by the farmers in Laikipia County



FSK Staff mixing lime with the soil.



A healthy sweet potato plot after soil correction plan.

Incorporation of Lime Applications

Through the incorporation of lime we speed up the reaction and affect the pH change quickly. In conventional primary/secondary tillage practices it is easy to incorporate the lime. In reduced till or no-till operations lime incorporation is limited. Therefore In reduced till it is necessary to reduce the single application rate. Current practice suggests half the amount twice as often.

The impact lime has on soil nutrients; has a profound effect on soil Microbiology. Soil is healthier when proper pH is maintained as a host of beneficial bacteria, flora and fauna can flourish. The nitrogen and sulfur cycle and organic matter production are enhanced at proper pH.

INSTALLATION OF THE FIRST PREPAID WATER METER IN BARINGO COUNTY

By Kenneth Gaitho - FSK Project – Business Development Officer/WASH

Innovative technology has brought a major change at Kadokoi water project in East Pokot, Baringo County. Community members no longer carry cash to the water kiosk to have access to clean water. Instead, installed prepaid water system has ensured that consumers at the kiosk get access to water which is paid for. Previously, community members used to draw water at water kiosk where monies were given to water kiosk attendant. Some people failed to pay, there was a lot of wastage at the water kiosk and accountability for monies collected was sometimes an issue.

With Support from Church World Service (CWS) Africa, FSK sunk a borehole, constructed an elevated steel structured which was installed with a 10,000-litre water tank and a water Kiosk. Further, two water kiosks were installed with prepaid meters. Community members, as well as the Water Management Committee, were trained on the usage and operations of the prepaid meters. Community members were issued with prepaid chips. These chips are loaded with credit (cash) which facilitates one to draw

water at the water kiosk. Community members choose what quantities of water to draw. The system is calibrated to dispense 22 litres of water (one jerrican) for Kes.5 .Once a community member draws less than the calibrated amount one gets a refund which is credited back to the chip. With the introduction of the prepaid meter, there has been an elimination of cash exchange at the water point, eliminated water wastage and increased accountability.

Mr. Nambair, the chairperson of the project said, "The introduction of the prepaid meter system has been the program's biggest success. Less manpower is required to operate the system, community members can only access the amount of water they have paid for, it has reduced queuing and one can draw water any time of day or at night, you don't need water kiosk attendant to serve you, the system has also eliminated free water, which is not sustainable. We are very grateful to Farming Systems Kenya and Church World Service for introducing the technology in our area. It has developed an interest in the whole of Baringo County. People want to come and learn how it's working."



FSK Staff training Kadokoi community members how to operate prepaid water meter



She could not resist a smile after fetching water using the pre-paid card



Mr. Dominic Otieno a farmer from Lomolo Village, Nakuru County in his cassava farm



A young boy holding sweet potato from their plot which was for midday meal

ALLEVIATING HUNGER TO VULNERABLE COMMUNITIES

By Kevin Nakitare - FSK Crops, Environmental & Natural Resource Officer

With the help of the French embassy and Church World Service (CWS) FSK has continued to transform the community by reducing their vulnerability to hunger. The introduction of sweet potato and cassava in Rongai Sub-County, Nakuru County and Olmoran ward, Laikipia County has seen a rise in the number of hectares under cultivation. of this crop. The community is currently upscaling production and technologies for value addition since they are now experiencing surplus production.

Tree planting

FSK has invested in projects that aim at reducing drought spread by planting trees that transform Arid Semi-Arid Lands (ASALS) into a high potential areas. The agro-ecological zones (AEZ) that FSK works are more inclined.



Mr Tuiya from Lomolo village, Rongai Sub-County watering his moringa tree nursery

towards low to medium productivity potential. To remedy this, tree planting is fundamental leading to the adoption of technologies like Farmer Management Natural regeneration (FMNR) and Evergreen green agriculture. Currently, the organization has over 5 tree nurseries within communities raising huge numbers seedlings

Dual Purpose Goats

There is need to promote appropriate resilience mechanisms and adaptive

Kenya. FSK is working around 300 households in Lomolo village in Rongai sub-county, Nakuru who are the beneficiaries of Rongai Integrated Food Security. The project has provided over 120 dual purpose gala goats to the beneficiaries for milk production.



Mrs. Claire Cherono couldn't resist a smile after receiving a gala goat from FSK Executive Director and FSK Crop Officer

STRENGTHENING FARMERS AGRIBUSINESS LINKAGES

By. Ruth Kinyua - FSK Business Development



Mrs Norah Chepkurui of Kelelwet youth group in Lomolo Village Nakuru County overwhelmed with joy after purchasing inputs Through FSK credit Support.

35 new groups with a membership of 525 were recruited in Naivasha Sub-County, Njoro Sub-County, Molo Sub-County and Baringo County. The groups were trained in group dynamics, business skills, record keeping, credit management



Mrs Norah Chepkurui with her two children after harvesting 25bags of maize.

and financial management. 5 groups were given loans amounting to Kes. 1,182,000 with individual members getting between Kes.5, 000 and Kes.20, 000. The groups have continued to have loan among themselves which is a sustainability measure to ensure that the groups continue these business



Mrs Norah Chepkurui at her homestead preparing the maize for storage.

loans advanced to getting funds even after repaying them. Apart from these core products, the farmers can access extra products including solar Lamps, water tanks, and dairy goats among other agricultural inputs.



Mr.Ngetich walking joyfully after receiving his well harnessed donkey

COLLECTIVE ACTION IN ADDRESSING DONKEY THEFT

By Sarah Kuhutha - FSK Community development officer Narok County

Since the opening of the four donkey slaughter houses in Nakuru, Baringo, Turkana and Machakos Counties the cases of donkey theft, illegal slaughter and skinning have become rampant in Narok county where many people depend on donkeys as a source of income. Communities work with donkeys to transport water, farm produce among other items. This has led to some people becoming jobless unable to feed their families, pay school fees and rent, others becoming mentally affected because of the stress of losing the only daily breadwinner. Women have had the greatest outcry upon discovering their donkeys skinned alive which is a taboo in many Kenyan communities.

In Ilmotiok location, Narok west Sub-County theft and slaughter of donkeys was never an issue of concern since no one had ever experienced it. However, the situation changed in December 2017. Community members started losing 1, 2, 3 donkeys and the situation worsened in January 2018 where the community lost count of the donkeys that went missing. For a period of 2 months over 100 donkeys went missing in Ilmotiok ward.

Mr. Simon Ngetich was one of the most affected. In the night of 31st January 2018 he lost his 5 donkeys at once. Ngetich and his family for long had relied on the donkeys as their only source of income. Food, water, clothing to school fees was generated by his working donkeys. He narrates that since 2015 he was given a tender by Olereut high school to supply water. Ngetich used to transport 320 liters of water on a daily basis. In return, two of his children would get education in the school. Apart from the school tender, he used to be a water vendor where he used to sell about 200litres of water to Kiosks in Olereut centre per day. Every 20 liters went at KES.20. Upon loss of his donkeys Ngetich, had to meet all his family needs on his own not forgetting his wife who got sick (depressed) due to the stress of losing all the donkeys and cannot provide for her family. Ngetich had been left in total poverty " *Am now almost a beggar going from one household to another requesting for donkeys to make ends meet since I have no other business I can do.*" Upon witnessing the suffering Ng'etich's family was going through, ilmotiok donkey owners groups started fundraising where every group was given a target of funds to raise towards supporting Ngetich family. Funds were raised and one donkey was bought for Ngetich's family.

Besides buying that one donkey the groups had requested the MCA ilmotiok ward, FSK, Brooke EA and other donkey owners to support the family as well. During that day the donkey bought by ilmotiok donkey owners groups was presented to Ngetich. This was accompanied by two tether ropes and a harness. In addition, KES 22,000 was contributed during the event by other donkey owners, MCA, FSK and Brooke EA.

Mr Ngetich managed to buy another donkey with the funds raised. Donkey prices have gone high with minimum price being KES 15,000 and even finding one is a bit challenging. It took him two weeks to find one to buy. In October 2018 luckily, the donkey donated gave birth to a male foal, right now Ngetich has 3 donkeys thanks to the support he received from his community. He is now back to his normal life, children went back to school where one is a 4th form candidate.



Dr.Njau CDVS checking on the donkey being presented to Mr.Ngetich by donkey owners

The wife's health stabilized and the family is back on their feet. "My life is back to normal, look at my wife...May God bless you for supporting me, everything you see in this house comes from the contribution of the work of donkeys" says Ng'etich joyfully and full of life.

In addition, two Barazas and two inter-border meetings were held where leaders tried to develop strategies of minimizing donkey theft. In these efforts, over 100 women (donkey owners) demonstrated against donkey theft. These meetings and local networking have seen donkeys lost being recovered. During the month of July 2018 out of the 19 donkeys reported stolen 14 were recovered. There is power in communities taking part in addressing problems that face them.

IT'S POSSIBLE TO ERADICATE HUMAN RABIES BY 2030

Dr. Dennis Kipkorir - FSK Veterinarian Officer



FSK Veterinary Officer vaccinating a dog at Tegea centre-Kuresoi North Sub-County

Rabies is a disease of mammals, transmitted through bites from rabid animals. 99 % of human rabies is dog-mediated. The virus infects the central nervous system ending in the brain. It has 100% mortality rate. Saliva from an infected animal can also transmit rabies if the saliva comes into contact with the eyes, mouth, nose or open wounds. Symptoms include fever, headache, excess salivation, muscle spasms, paralysis and mental confusion. When bitten by a suspected animal, clean the wound with copious amounts of water and soap and immediately seek medical attention.

This year marks 3 years since Kenya launched a strategic plan that would progressively reduce human deaths due to rabies and make the country rabies free by 2030. To achieve this 70% of the dog population has to be vaccinated consistently in a given area. However, data doesn't exist. The 2009 census

didn't capture dog population. Thus a human: dog ratio of 8:1 is normally used.

Nakuru County has an estimated human population of 2,179,579 people as per the Kenya Bureau of Statistics, 2018. Thus dogs can be estimated to be 272,447 in the county. In order then to eliminate rabies, 190,712 dogs will need to be vaccinated consistently in the county.

We did a successful mock vaccination exercise in Mauche, Njoro sub-county, Molo Sub-County and Kuresoi North Sub-County and learnt that successful campaign will require proper mapping of the vaccination points, conducting vaccinations during school holidays and conduction mass education and sensitization of the public on rabies.

All the counties are urged to adopt and implement the national strategic plan on rabies elimination by 2030. Active rabies elimination committees should be put in place to monitor surveillance data for animal bites, positive rabid dogs, human deaths due to rabies and the yearly vaccination coverage by the different stakeholders. The committee shall also advise the counties in making budgetary provisions towards the cause.

She couldn't resist a smile for a photo after her dog was vaccinated and a vaccination certificate issued



Dogs turned up in large numbers for anti-rabies vaccination, at Sirikwa Kuresoi North Sub-County





AIC Ang'acha primary school beneficiaries for CCMP one of the best performed school during 2018 KCPE couldn't not hide their joy.

CHANGING THE MINDSET OF COMMUNITY IN WEST POKOT COUNTY

By Morgan Kinyua – FSK Project Officer

Church and Community Mobilization Process (CCMP) is a community mobilization model that has now been applied in over 500 churches and communities in over 14 countries in Africa since 2001 when the CCMP was designed. The results everywhere are astounding – the church impacting its immediate community in such a way that she influences important decisions that affect the way of life of the community, the church motivating its immediate community to transform its situation sustainably, the community beginning to take charge of its destiny without having to depend upon external support, relationships among people being restored in a lasting manner, people supporting one another to meet the most basic needs, people addressing their physical and spiritual poverty deeply and extensively, people honoring and worshipping God more consciously. AIC Kalapata which is located in Alale Sub-County, West Pokot County started a primary school early in the year 2016 with a population of 9 pupils whose parents are members in this church. The number of pupils in the school has remained that low until recently when the church began the CCMP process with support from FSK . This process acted as an inspiration to the parents as they desired a community that is enlightened. This motivated them to bring their kids to school, bringing the total number of students to 61 in the second term of the year 2018, only 3 months after undergoing CCMP. This was as a great move towards achieving the target of a learned

community and it, in turn, challenged the rest of the community members to bring their children to school. Alale Sub-county lies within the most marginalized localities in the country, with the least number of enrolment in both primary and secondary schools. The teacher in charge speculates a further increment in the number of pupils come next year as many parents have already booked in their children for next year's enrolment. One of the greatest challenges that the school was facing was feeding the kids because the school does not receive any support from the government. There was also an acute shortage of classrooms.

pupils as a way of appreciation to the church for standing with her during her period of addiction to alcohol and giving back to God for saving her.

2) During the final year's parent's day that happened on Thursday 25th October 2018, the parents resolved the problem of limited classrooms by assigning themselves the responsibility to build the rooms for their kids. Nursery pupils' parents will team up to build a class for their kids while the class 1,2&3 parents will come together to do the same. The meeting agreed to have that objective achieved by the start of the year. The parents who also are the members of the church have promised to bring



Kalapata community during the monitoring visit

The CCMP led the church and the community members present in discussing the ways in which those problems could be resolved.

The following developments have been realized:

1) Mrs. Veronica Kamar an active member of the church has volunteered to be cooking for the

along timber frames that will be needed for this activity. This resolution will ensure that pupils will get adequate space for learning.

3) Parents are now contributing food stuffs for the school.

BUILDING RESILIENCE AMONG DONKEY OWNERS IN ARID AREAS

By Joy Kirui – Community Development Officer, Baringo County

Baringo County is situated in the former Rift Valley province. The county is made up of six Sub-counties namely: Mogotio, Eldama Ravine, Baringo South, Baringo Central, Baringo North and Tiaty. The county is classified as arid and Semi-arid. The rainfall varies from 350mm in the lowlands to 1500mm in the highlands per annum. The dry seasons are in the month of January, February, March, Long rains in April, May, June and July, and short rain seasons in August, September, October and November.

The County is Livestock based and cattle rustling in the area have been rampant. Conflicts are also very common and are resource based (Pasture and Water). FSK has been working with donkey owners in Mogotio Sub County to sensitize them on good animal welfare practices. Building their resilience to drought has been a priority hence the pasture development project. The project targeted two locations Kaplelwo and Lelen. In this area, there is a high dependency on donkeys and is frequently hit by drought. Here the communities are trained to plant drought tolerant crops ie sorghum and



FSK community development officer explaining the importance of bracharia grass to Kaplelwo Head Teacher

Brachiaria sp. grasses which do well in semi-arid regions. The promotion of pasture production through reseedling, irrigated pasture production and conservation will enhance pasture development.

In the demo plots established in the two locations, there was a success (pictured). FSK will support donkey owners to develop their individual plots with plans of upscaling it. Donkey owners will not only have enough food (food security) and feed (donkeys and other livestock) but the surplus can be sold to provide them with income for their other household requirements. With this donkeys' workload will reduce significantly.



Lelen donkey owners working together during pasture establishment.



Kapsagatia donkey owners posing on their demo plot after pasture training

FSK LAUNCHES 5 YEARS STRATEGIC PLAN (2019-2023)



Paul Mugo Maina - Chairman Board of Governance launching 2019-2023 strategic plan



FSK board of Management hands over the strategic plan to FSK management for implementation.



FSK Staff Holding the New Launch strategic plan document

Over the years, FSK has implemented many programs in agriculture and agribusiness development, environment and natural resource development, water and microenterprise development. This has been possible through partnerships, collaborations and linkages with various development agencies. These have been implemented by adopting a holistic approach to project implementation which enabled FSK to achieve great milestones. In its 37 years of agricultural development work, FSK has undertaken both national and international assignments in its endeavor to serve especially the small-scale farmers, and the farming community at large. The organization has evolved and changed farming systems approach to respond to the changing demands of its clients and national interests. Despite the successes of FSK in the implementation of projects and the positive impact achieved, there is need to sustain the gains made, embrace dynamism in organizational development as well as project management and above all explore new frontiers for purposes of sustainability at institutional level, growth and poverty reduction at community level. FSK has over the years reviewed and improved various agriculture extension methodologies. Through the FSK vision 2050 and this strategic plan, FSK has refined an extension model referred to as the Value Extension Service (VES). This is the vehicle through which the FSK strategic plan 2019-2023 will be implemented. We at FSK are confident that the implementation of this strategic plan will bring about the realization of our vision and the fulfilment of our mission. I wish to appeal to our stakeholders, collaborators and development partners to support FSK to achieve the objectives identified in this strategic plan.

Paul Mugo Maina, Chairman Board of Governance

FSK STAFF TEAM BUILDING 2018



Thanks to FSK Development Partners



EMPOWERING FARMING COMMUNITIES

Through Value Extension Service (VES).

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