



# KEFRI *Newsletter*

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**KEFRI HOSTS CONFERENCE ON AFRICA INITIATIVE  
FOR COMBATING DESERTIFICATION IN SAHEL  
AND HORN OF AFRICA STATES**



Mr. Jonathan Mung'ala (Centre) from Kibwezi, Makeni County being applauded by Mr. Kenadid Mumin Cali from the Republic of Somalia after sharing information on growing *Melia volkensii*, an indigenous fast growing dryland tree species on his farm amongst other activities for mitigating climate change

Cover Photo: (L-R) Dr. Margaret Mwakima (PS), Prof. Judi Wakhungu (CS), Ms. Keiko Sano (JICA), Dr. Ben Chikamai KEFRI Director and Stephen Wakhungu (PA to CS) soon after the opening of the conference on desertification

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## Training and Conferences

By S. Gitonga R. Mokaya and J. Otwoma

### African Initiative for Combating Desertification

**A**frican Initiative for Combating Desertification to Strengthen Resilience to Climate Change in the Sahel and Horn of Africa regions held a forum from 1st to 3rd February 2017, at KEFRI headquarters, Nairobi.

Prof. Judi Wakhungu the Cabinet Secretary for Environment and Natural Resources accompanied by Dr. Margaret Mwakima, the Principal Secretary, State Department of Natural Resources officially opened the 3-day forum organized by Ministry of Environment and Natural Resources (MENR) jointly with Japan International Corporation Agency (JICA), KEFRI and Kenya Forest Service (KFS).

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The African Initiative under the Capacity Development Project for Sustainable Forest Management (CADEP-SFM) has been developed to enhance sharing of knowledge and experiences, as well as facilitate technology transfer among African countries in order to collectively combat desertification.

“The Sahel and Horn of Africa region face surmounting environmental challenges as much of the region is dry and highly degraded with frequent and severe droughts culminating in climate change that is likely to accelerate desertification,” said Prof. Wakhungu.

It is against this background that addressing desertification and strengthening resilience to climate change was identified as a major strategy to making nations of the region achieve sustainable development.

“However, Africa has in recent past made great progress in various spheres of development, despite emerging challenges such as climate change, desertification and natural resource, degradation continue to impact negatively on the continent, thus eroding gains already made in various sectors,” Wakhungu said.

Africa is rich in natural resources and many livelihoods within the continent are closely linked to land and forestry resources.

JICA’s Chief Representative to Kenya Ms. Keiko Sano stated that JICA will support the implementation of the project.

The Initiative running for a period of five years, from August 2016 - 2021 is anchored on three major output pillars namely; building a robust network among stakeholders for combating desertification and strengthening resilience to climate change, raising awareness of international community to desertification, and sharing experiences and knowledge on combating desertification in the region.

Visitors were drawn from seven countries in the Horn of Africa namely; Djibouti, Ethiopia, Eritrea, Kenya, Southern Sudan, Somalia and Sudan, Kenya being the national hub.

Participating institutions and organizations included; United Nations Conference to Combating

Desertification (UNCCD), Food Agriculture Organization (FAO), and Global Environment Fund (GEF).

The participating countries were assigned responsibilities ranging from collecting good practices that are adoptive, effective, innovative, environmentally, economically and socially acceptable, to write and submit progress reports to CADEP-SFM project management, share good practices within and among Horn of Africa countries, incorporate African initiative project activities into institutional budgets and annual work plans, and to identify potential partners for financing and resource mobilization.

The delegates were also tasked to participate in regional cooperation meetings; collect information on good practice for strengthening resilience to climate change, establish database for collected information on good practice; share collected knowledge and transfer technologies to other countries in Sub-Saharan Africa; resource mobilization; networking; and monitoring and evaluation.

The delegates visited farmers in Makueni County to familiarize themselves with climate change adaptation strategies being implemented by various stakeholder in bid to achieve food security and enhancing resilience to climate change in the drylands of Kenya.

The visit proved that researcher-farmer linkage and farmer innovations are viable strategies for dissemination and up-scaling good practices for rehabilitating degraded dry lands and eventually improving livelihoods.

Conclusively delegates were encouraged to adopt good practices that would be practical in combating desertification and climate change as; land rehabilitation and restoration, planting of drought tolerant trees, re-seeding techniques, establishment of woodlots and soil conservation among other techniques in their respective countries to combat desertification.

## Conference on Trees Improvement

By John Otwoma

The threat to climate change is real according to the World Bank's estimate, the average annual temperature is likely to rise by 3-4 degrees Celsius in Africa over the next 100 years necessitating prolonged drought to occur more often. Currently, deforestation and degradation remain a challenge due to exploitation of forests by rapid population. It is against this background that KEFRI/JICA formulated a project to develop drought tolerant trees to combat negative effects of climate change.

KEFRI jointly with JICA and Forestry Tree Breeding Institute (FTBC), Forest and Forest Product Research Institute (FPRI) organized a 3-day International conference on the 'Project on Development of Drought Tolerant Trees for Adaptation to Climate Change in Dry lands of Kenya from 13<sup>th</sup> to 16<sup>th</sup> February, 2017 at KEFRI headquarter Muguga'.

Ambassador of Japan to Kenya H.E. Toshitsugu Uesawa, JICA Chief Representative Ms Keiko Sano, and Vice President, Forest and Products Research Centre of the Japan Tree Breeding Centre, Mr. Satoshi Watanabe graced the opening of the conference which was attended by a total of 72 delegates from 16 organizations.

Prof. Judi Wakhungu officially opened the forum accompanied by the Principal Secretary, Dr. Margaret Mwakima, and Conservation Secretary, Mr. Gideon Gathaara.

The project to develop drought tolerant tree species has selected *Melia volkensii* and *Acacia tortilis* superior tree species whose improved germplasm have established clonal seed orchards in Tiva and Kibwezi sites. Additionally, eight progeny trials are established in Tharaka Nithi, Embu, Kitui, Makueni and Taita taveta counties.

Prof. Wakhungu commended the project stating the demonstration plots will provide superior seeds to the local communities which will contribute to increasing forest cover.

The CS called upon Kenyans to plant drought tolerant trees to improve forest cover to 10%. Currently the forest cover stands at 7.4% from 6.9% in the year 2010.



4 year old *Melia volkensii* seed orchard under trial at Kibwezi in Makueni County

The CS also thanked the Government of Japan through the Embassy of Japan and JICA for the goodwill and extra funds to support the project. Similarly her ministry will seek more funds from treasury to support the project.

The delegates visited trial site in Tiva, Kitui County and Mr. Jonathan Kituku's farm in Kibwezi where the improved drought tolerant dryland trees are planted to mitigate climate change.

The forum cited land, soil and vegetation degradation caused by overgrazing, poverty, poor dissemination and inadequate information on good practices among others as challenges for combating desertification.

Land rehabilitation and restoration, planting of drought tolerant trees, re-seeding techniques, establishment of woodlots and soil conservation techniques were some of the good practices the delegates identified to adapt in combating desertification in their home countries.

# ASK Shows and Field Days

## Farmers Field Day, Nyandarwa

By J. Otwoma and S. Wakori

KEFRI Central Highlands Eco-Region Research Programme organised a farmers' field day in Nyandarwa County on 18<sup>th</sup> January, 2017. The field day held at Mr. John Njeru's farm in South Kinangop, aimed at demonstrating application of bamboo in conservation of riparian areas.

Mr. John Njeru gained bamboo propagation knowledge from KEFRI in 2009 and has since intensified bamboo growing.

The farmer in conjunction with KEFRI staff showcased types of bamboo suitable for the area and their propagation methods, uses and diverse value added products such as; table mats, pen holders, picture frames, necklaces, and serving dishes.

Bamboo being a grass is suitable for protecting catchments as its fibrous roots has minimal competition in the soil. Bamboo takes 2-5 years to mature and its diverse culms are used in making furniture, fancy items among others that are sold to improve farmers livelihoods.

Representatives from the Ministry of Agriculture, Kenya Forest Service (KFS), Water Resource Users Association (WRUA), Imarisha Maisha - an NGO conserving Lake Naivasha, Community Farmers Associations (CFA) and World Wide Fund (WWF) attended as corporate entities.

A total of 100 farmers attended the event and were issued with publications on bamboo propagation guidelines and the KEFRI profile.

Mr. Boniface Nduu, the District Forest Officer, in-charge of farm forestry in Kinangop sub-County, commended KEFRI for availing information on bamboo propagation to farmers, noting that information is power that leads to informed decisions.

“Farm forestry is adopted slowly in the country due to the long time trees take to yield in comparison to food crops,” said Nduu.

Tree planting is long term investment, therefore, quality tree seed, sight matching visa vis climatic condition of the region to be planted is key to increasing productivity.



Field day attendants interacting with Ms. Gatama, a KEFRI scientist based at CHERP



Display of Bamboo products

Mr. Nduu encouraged farmers to incorporate trees on their farms to tap the myriad tree benefits. He assured them that his office is open for queries related to farm forestry.

Speaking during the same occasion, Mr. Mbogo Kamau - from 'Imarisha Maisha', commended KEFRI for engaging communities in growing bamboo on farm adding that it will help in soil erosion control which will consequently enhance conservation of Lake Naivasha currently threatened by siltation.

Mbogo encouraged communities to plant trees that are environmentally friendly inclusive of bamboo which is suitable for conserving the environment and boosting cottage industry.

Ms. Stella Gatama, a scientist representing the CHERP assured farmers of KEFRI's commitment to reach communities and individual farmers to share forestry technologies that will improve their livelihood.

## World Wetlands Day

By N. Leley and J. Okumu

Wetlands play an important role in provision of resilience to natural hazards and climate change scenarios such as floods, droughts et cetra. Unfortunately, wetlands are often viewed as wasteland, and more than 64% of the world's wetlands have disappeared since 1900 AD.

World Wetlands Day is an annual global event celebrated on 2<sup>nd</sup> February to raise public awareness on the value of wetlands since the signing of the Convention on Wetlands in Ramsar, Iran, in 1971.

The Ministry of Environment and Natural Resources joined the rest of the world in marking this day whose theme was 'Wetlands for Disaster Risk Reduction'.

In his address, the Principal Secretary State Department of Environment Mr. Charles Sunkuli stated that the Ministry in conjunction with different actors has adopted to rehabilitate and restore ecological health of major wetlands in the country.

The PS encouraged local communities to protect their environment for the good of future generations. The Ministry has invested in capacity building for field staff and public education in a bid to promote wetlands conservation.

"Majority of the wetlands are a life line to rural communities thus improving the health of these ecosystems will enable communities benefit from the goods and services they provide," Sunkuli said.

KEFRI under the auspices of Kenya Water Towers and Climate Change Mitigation and Adaptation Programme (WaTER) launched on June 23<sup>rd</sup>, 2016 to improve landscape and natural resource management in Mt. Elgon and Cherengani Hills ecosystems participated in the celebrations hosted in Trans Nzoia County.

The wetland day was marked with a cleanup of Saiwa Swamp National Park and Kipsaina Market on the eve of the celebrations.

Hon. Maurice Lokwaliwa County Executive Commissioner (CEC) for Environment, Trans Nzoia



Hon. Maurice Lokwaliwa CEC-Environment, Trans Nzoia County, assisted by Dr. Ayub Macharia Director NEMA flags off the cleanup exercise at Saiwa Swamp National Park

County, assisted by Dr. Ayub Macharia Director for Environment - NEMA graced the cleanup exercise at Saiwa Swamp National Park.

Saiwa Swamp National Park is a forested paradise filled with exotic flowers, trees and birds and forms the habitat of the rare and endangered semi-aquatic Sitatunga antelope and a preserve for the rare De Brazza's monkey.

The swamp ecosystem is under threat from various invasive plant species mainly the elephant grass which is choking the ecosystem. The species has been introduced into the swamp as a result of farming activities from farms further upstream.

Kenya Wildlife Services (KWS) in partnership with the local communities have in the past uprooted the grass manually and replanted papyrus on the sites.

However more effort is currently needed to raid off the grass menace in order to sustain the park's authenticity and the wildlife which is now under threat.

Senior KWS Warden Mr. John Oyugi urged the farming community to uproot and burn the elephant grass and refrain from damping it in the streams.



Left: Water Towers Project Officer Mr. Gaya displaying to Prof. Tanui of Kenya Water Towers Agency uprooted elephant grass. Right: Awareness creation to stakeholders who attended the event

## Marking the International Day of Forests

By S. Kamonde

Members of Muguga Ecosystem Research Community Forest Association (MERCFA) joined the global community in marking the International Day of Forests by planting trees at Karai, Kiambu County, Kenya, on 21<sup>st</sup> March, 2017. The event took place at a farmer's demonstration site in Ndeiya which is a semi-arid zone in central region. The area experiences drought in most times of the year due to poor soils and inadequate rainfall, resulting to food scarcity and residents relying mostly on relief foods.

The community marked the day by planting *Grevillea robusta* (Mubariti), *Mangifera indica* (mango) *Cyphomandra betacea* or Tamarillo locally known as tomato tree. It is anticipated the *Grevillea* trees will provide firewood, construction materials and fodder for livestock whereas fruits will boost food supply, improve nutrition and generate income for the community.



Community members planting a tree at Karai to Mark the day

Addressing the gathering, MERCFA Chairman, Simon Kamonde commended the community for the initiative to conserve the environment as well as improving community livelihoods, a requirement already enshrined in the Muguga Participatory Forest Management Plan (PFMP) 2016 - 2020.

MERCFA is a group formed and registered by community members neighboring Muguga forest station and collaborates with the Kenya Forest Service (KFS), Kenya Forestry Research Institute (KEFRI), Kenya Agricultural and Livestock Research Organization (KALRO) and other stakeholders forming Muguga forest management team. The team manages Muguga forest ecosystem through protecting, rehabilitating and conserving the biodiversity for the benefit of present and future generations.

## Eldoret Agricultural Show

By J. Leley and J. Okumu



Hon. Dr. Cleophas Langat, Governor Nandi County (in red tie) and ASK officials visiting KEFRI stand

KEFRI Rift Valley Eco-Region Research Programme - Londiani participated in Eldoret agricultural show from 7<sup>th</sup> to 11<sup>th</sup> March, 2017 to disseminate research findings to stakeholders and the public.

H. E. Jackson Mandago, the Governor Uasin Gishu County, officially opened the show on Thursday 9<sup>th</sup> March 2017.

Under the show theme 'Promoting Innovation and Technology in Agriculture and Trade', KEFRI staff from Londiani, Turbo, Marigat and LVERP - Maseno and Migori sub-centre displayed technologies and shared information on tree growing, forest resources management and sustainable utilization of forest products and services.

### Exhibits

KEFRI showcased displays that included; landscape conservation methods, best tree nursery practices, tree improvement technologies, management and utilization of *Prosopis juliflora*, wood and non-timber forest products, integrated pest management, bamboo propagation and its assorted value added products, energy conservation technologies, implementation of EMS and QMS ISO standards, publications and other information dissemination methods.

To enhance understanding the showcased technologies were supported further with information in the posters and demonstrations.

The ground model demonstrated technologies for rehabilitating water towers, specifically targeting rehabilitation of Mau forest complex, Mount Elgon and Cherangany hills, on-farm tree adoption for instance agroforestry technologies and forest productivity improvement.

Technologies for rehabilitating montane forest were demonstrated with the model which displayed tree species suitable for restoration such as *Croton megalocarpus*, *Juniperus procera*, *Olea* sp, *Polyscias* spp and indigenous bamboo among others. Tree species suitable for conservation of riparian areas such as *Syzygium* sp, *Albizia gummifera* and bamboo species were also demonstrated.

Eucalyptus, Pinus, Grevillia and Cypress suitable for on farm forestry were demonstrated under silvo-pastoral system.

Alley cropping was also demonstrated where trees were planted in rows at wide spacing with crops grown in the alley ways between the rows. This helps diversify farm income, improve crop production and provide protection and conservation benefits to crops.



Landscape conservation model

### Bamboo propagation

Technologies for bamboo propagation such as selection of suitable culms, wildlings, cuttings and tissue culture raising seedlings in the green houses.

Best tree nursery practices for raising high value tree species both indigenous and exotic were explained. However use of superior planting materials free from diseases is recommended to avoid future losses.

### Grafting

Grafting is a technology used to enhance genetic variability as well as production of high quality planting material within a short period of time.

Grafted seedlings of *Pinus patula*, *Cupressus lusitanica* and *Grevillea robusta* as well as reagents and tools used in grafting were demonstrated.

Visitors were enlightened on grafting techniques including criteria for selecting scions based on the phenotypic characteristics where mother trees with superior qualities are selected to provide scions which are later grafted to root stocks. The mother trees are from different provenance and are usually denoted by codes to ease identification. Breeding is done for straightness, and to shorten period to maturity.

### Seed technology

Tree seeds of priority tree species within the region were exhibited. Seed collection, processing, packaging and storage were explained. Visitors were enlightened on availability of tree seeds from various ecological zones and advised on importance of using high quality tree seeds and other planting materials and site matching.



Certified tree seeds from KEFRI packaged in glass containers

### Wood products

A collaborator trained by KEFRI on value addition displayed wood carvings from *Jacaranda mimosifolia* which is majorly planted for ornamental purposes. The tree does not have quality timber for construction or poles, however it is nowadays used as alternative for wood carving. The collaborator therefore exhibited assorted products including wine glasses, cups, candle holders, sugar dishes and rollers among others made from Jacaranda wood. Visitors were enlightened on distribution of tree species in various ecological zones and advised on importance of species-site matching.

### Non-wood forest products

Various non-wood products displayed included; Aloe products, Indigenous fruit products, Gums and resins and *Mondia whtyeii*.

# Scientific Corner

## Elusive biocontrol agent

By E. Mutitu & S. Gitonga



Dr. Eston Mutitu presenting his findings from the study entitled "Invasion history of *Thaumastocoris peregrinus* and development of a biological control agent" during thesis defence at the University of Pretoria

Invasive tree pests are spreading and increasing their geographic ranges at alarming rates. *Thaumastocoris peregrinus*, commonly called Bronze bug is one of the recent invaders of Eucalyptus. This is happening in the globally introduced areas. The tree species is fast growing and

has a wide range of uses.

The bug has spread across the Southern Hemisphere and is now spreading northwards in less than 5 years since it was first reported (in South Africa) outside its native range in Australia in 2003.

The rapid spread of *T. peregrinus* amongst Eucalyptus growing regions give impetus to development and implementation of an appropriate management solution for this devastating pest.

A team of entomologists including Dr. Eston Mutitu from Kenya, who has earned a doctorate degree (PhD) from South Africa carried out his studies in investigating *T. peregrinus* invasions, its populations genetic structure, development of a biological control agent, and mitigation measures of Eucalyptus invasive insect species in Kenya. The PhD studies contribution to science include identification, host testing specificity testing and mass multiplication of the biological control agent *Cleruchooides noackae*.

The study explored the bugroutes of invasion, its population genetic structure and how is it compares with other global invasive and native populations. This was done in order to generate better understanding of the routes and ecological process of its invasion in Africa and South America. A combination of past historical records of pest appearance and use of nine (9) previously developed microsatellite markers (=Simple Sequence Repeats (SSR)) were used to determine the source populations, genetic diversity, route of invasion and founder effects.

The data was compared with similar findings from other studies on invasive tree pests in the southern

hemisphere plantations, to provide inference of invasive pest monitoring, phytosanitary and quarantine regulations measures at both regional and continental levels.

"The arrival of *T. peregrinus* in Kenya at the onset of this study provided an opportunity to study the spatiotemporal spread, population dynamics and identification of possible factors associated with the population phenology in Kenya," says Dr. Mutitu.

The spread and seasonal population dynamics of the pest were assessed annually from 2010 to 2013 through surveys on randomly selected Eucalyptus plantations in Kenya. Information on biological control as a pest management tool, including the benefits, risks and cost-benefit ratios based on past documented biological control programs was synthesized to help implementation of classical biological control strategy.

A biological control agent, the egg parasitoid, *Cleruchooides noackae*, imported from Australia were



Dr. Eston Mutitu with his supervisors Prof. B. Slippers (seated), Dr. B. Hurley and Prof. M. Wingfield soon after the graduation

reared into quarantine in South Africa. Dr. Mutitu studied the biology of the wasp, growth and effect of nutrients on its long life and sex ratio in order to develop rearing methods for the wasp.

The study found out *C. noackae* is a prospective biological control agent for *T. peregrinus*. However

rainfall, temperature, relative humidity and elevation, timing of release for the biological control agent are factors that could influence establishment and impact of bug populations.

The knowledge generated from this study will be useful for planning of monitoring programs, release of biological control and impact assessments as well as enhancing understanding of genetic diversity of pest population within and between invaded regions; inform biological control programs for mitigation and management of invasive Eucalyptus insect pests, as well as provide mechanisms to reduce tree invasive pests in the eastern African region.



## Alternative path of hope for dryland communities in Loitokitok

By Gitonga S.



**K**EFRI Deputy Director Biodiversity and Environment Management Dr. Gabriel Muturi (in picture) featured in 'Makala ya Kilimo', a KBC Radio Taifa programme on 10th March, 2017 where he expounded on the Kenya Climate Change Adaptation Project (KCCAP) facilitating the dryland communities in Kajiado south.

The programme hosted by Tom Mathinji (FM 92.9) was aired on Friday between 6:30 and 6:45 p.m. Dr. Muturi explained the objective of KCCAP Project and its activities that are instilling hope in the communities and offering alternative technologies to the traditional land use systems.

The project through public and private agencies as well as community groups in the county have teamed up with KEFRI experts and planted thousands of seedlings on degraded forests and farm lands.

The project aims at improving the livelihoods of the communities in Kajiado County and seeks to restore and preserve hectares of land in Kajiado south to curb deforestation of the Loitokitok forest by the year 2030.

Others featured in the same programme were; Stephen Meruti a tree farmer in Entarara sub-location and Eunice Muiya a member of Elephant and People Amboseli group, conserving the environment through minimising human wildlife conflict. Mr. Meruti has planted over 3000 commercial trees on his farm in Rombo location

Mrs. Muiya explained the environmental challenges faced by women in the county and interventions put in place by KEFRI jointly with the Ministry of Agriculture.

The project has empowered the community through issuance of crop seeds and seedlings, which will help restore the land. Once rehabilitated, the community will have water, fodder for their livestock and food crops as well as be able to generate income from the sale of these products.

Radio and television will be used to reach out to the audience through documentaries on environmental issues, history and successful cases.

Tune in every fridays to hear about programs on environmental issues and news impacting our community.

## Rehabilitating Water Points and Riverines in Loitokitok Sub-County

By S. Wairungu & J. Ngugi



Community in Loitokitok drylands planting native tree species in the degraded Rombo spring

**T**he Kenya Climate Change Adaptation Project (KCCAP) is being implemented jointly by KEFRI, KFS, Sub-County Agriculture Office and the Forest/Catchment Adjacent Communities through the Community Farmers Association (CFAs) and established community structures in the Loitokitok Sub-county in Kajiado County.

KEFRI Scientists in the rehabilitation component jointly with stakeholders identified and mapped the degraded sites for rehabilitation prior to intervention and the preferred Community Action Plans (CAPs) were developed in the previous quarter.

The degraded areas for rehabilitation through tree planting were classified as the riverine livestock watering points, and adjacent riverine, Entarara catchment, Olchoro springs and Lewani, Marko and Kimengeria seasonal rivers as well as Nutureshi River in Kimana located at Rombo springs.

## Progress of implementation

Approximately 2100 seedlings procured mainly from local nurseries were planted during the commencement of the November 2016 rainfall. At Rombo 600 tree seedlings comprising *Albizia gummifera*, *Syzygium guineense*, *Markhamia lutea*, *Balanites aegyptica* and *Terminalia brownii* were planted using spacing of 2.5 m x 2.5 m. Three hundred tree seedlings were planted in Entarara catchment, 100 seedlings in Olchorro springs, 400 in Lewani and Marikos Riverine areas within Loitokitok forest station, 400 in Kimana springs and 250 in upper River Noulturesh catchment.

The low concrete wall which may require reinforcement by planting live fence along the perimeter will enable planting of seedlings at Rombo springs.

### Summary of planted seedlings in Nov-Dec, 2016

Rehabilitation site	Species	No. planted
Rombo springs	<i>Albizia gummifera</i>	150
	<i>Balanites aegyptica</i>	100
	<i>Markhamia lutea</i>	100
	<i>Syzygium guineense</i>	150
	<i>Terminalia brownii</i>	100
Entarara springs	<i>Albizia gummifera</i>	50
	<i>Balanites aegyptica</i>	50
	<i>Markhamia lutea</i>	50
	<i>Syzygium guineense</i>	100
	<i>Terminalia brownii</i>	50
Upper Noulturesh River Catchment	<i>Albizia gummifera</i>	100
	<i>Syzygium guineense</i>	100
	<i>Markhamia lutea</i>	50
Oloitokitok forest (Rivers Lewani & Marikos riverine)	<i>Albizia gummifera</i>	150
	<i>Syzygium guineense</i>	150
	<i>Markhamia lutea</i>	100
Kimana Oloporo springs	<i>Albizia gummifera</i>	150
	<i>Syzygium guineense</i>	150
	<i>Markhamia lutea</i>	100
Olchorro springs	<i>Terminalia brownii</i>	50
	<i>Syzygium guineense</i>	25
	<i>Markhamia lutea</i>	25
<b>Total number of seedlings planted</b>		<b>2100</b>

## Climate Change Awareness forum

The rehabilitation team participated in the climate change awareness forum organized by KEFRI jointly with Elephant and People Group Amboseli on 9<sup>th</sup> December, 2016. The field day at Olchorro Primary School in Entonet aimed at creating awareness on the project's environmental conservation activities earmarked to cushion the communities against the adverse effects of climate change.

Olchorro catchment is one of the identified rehabilitation sites in Entonet targeted to benefit the communities with fencing and planting of indigenous tree seedling to conserve the spring.



A poster mounted to create awareness on Climate Change prior to the forum held at Olchorro

## Recommendations

Tree seedlings totalling 15,000 are expected to be planted at the catchment sites and adjacent areas within the year.

A live fence preferably of *Dovyalis caffra* or any other suitable species will be planted along the inner side of the concrete wall surrounding Rombo spring to safeguard seedlings from destruction by animals and people.

There is need to expand protection area at Entarara spring as the surrounding wall is too close to the water level. The community requested the project to expand the planting space from 3m to 8 m, so as to improve the catchment areas.

Concrete protection fence will be establishment at Olchorro catchment areas within the year to enable rehabilitation activities to be undertaken the following year. This year, the minimal planting was done in the school compound.

The month of February saw KEFRI staff elect their representatives in the Pension Scheme, Ukulima and Asili Sacco Societies.

Majority of KEFRI staff termed the exercise as democratic as they had the opportunity to elect their preferred officials to serve them for a given period of time in various capacities.

## Pension Scheme

The staff elected Mr. Francis Ochung as a trustee to represent non-scientific staff in the KEFRI Direct Contribution (DC) Retirement Benefit Scheme. The position fell vacant following Mr. Jonathan Ochieng's tenure which ended on 22<sup>nd</sup> November, 2016 after retiring.

The election that was conducted through secret ballot took place on 10<sup>th</sup> February, 2017 at KEFRI headquarters and all regional centres. The aspirants were Mr. Francis Onyulo Ochung, Ms. Beatrice M. Ndakwe and Mr. Duncan Muthoka.

## Ukulima Sacco Society

The Ukulima Sacco Society held Muguga branch election on 15<sup>th</sup> February, 2017. The aspirants who vied for various posts met the requirements of section 26 of the Society's by-laws. The law stipulate elections shall be held after every three years. The contested positions included branch Secretary and Treasurer.

Apparently all the outgoing officials retained their positions apart from Ms. Beatrice Ndakwe who did not defend her post then. Mr. Hudson Obuya and Ms. Alice Rawago clinched the treasure's position and branch Secretary respectively. Ms. Rose Nyamache, a cooperative officer from the ministry of cooperative development, presided over the election which was free and fair. The elected officials who had campaigned tirelessly prior to the election appreciated the good gesture extended to them and promised to deliver optimal services to the members.

### Re-elections:

Members of Ukulima Sacco Society held an election on 16<sup>th</sup> March, 2017 to vote for the Chairperson following a regrettable oversight that arose from election held on 15<sup>th</sup> February, 2017.

The presiding officer then assumed that Ms. Beatrice Ndakwe who was elected board member in 2015 was not subject to election. However Ukulima Sacco rule requires delegates and board officials seek re-election at grass root levels after three years. Mrs Beatrice Ndakwe was proposed and seconded by Mr. Emmanuel Oduor and Mary Gathaara while her only competitor Mr. Gilbert Okose was proposed and seconded by Mr. Elijah Onyalo and Mr. Penuel Oyabi.

Mr. Mathew Mutua and Mr. Chege Kuria from the Ministry of cooperatives presided over the election which Beatrice Ndakwe won by a landslide becoming the undisputable chairperson of Ukulima Muguga branch.

## Asili Sacco Society

Asili Sacco Society also held its Muguga branch elections on 17<sup>th</sup> February, 2017. The aspirants were; Ms. Elizabeth Korir, Mr. Kennedy Obago and Tom Odidi. The latter two were re-elected whereas it was the first time that Ms. Korir was elected.

Co-operative officers supervised the election that was free and fair. The positions of the elected delegates will be at the discretion of the Board of Directors of Asili Sacco Society who will determine their tenure of office. The newly elected officials appreciated the electorate for voting them in. They pledged to serve Asili Sacco members diligently to the end of their term.

## Sacco By-laws and Bills

The two Saccos elections came at a time when the Sacco Societies (Amendment) Bill, National Assembly Bill No. 26 of 2016 was being debated in parliament. The bill's objective is to streamline the Sacco's operations through empowering Sacco Societies Regulatory Authority (SASRA) to equip board members with leadership and financial skills that will enable them query management decisions. Further, the bill is expected through SASRA to regulate operations of the societies.

Some of the recommendations include mandatory continuous or minimum professional development courses, training and certification which every director of a Sacco society must undertake, as enshrined in the (Amendment) Bill.

The Authority also intends to strengthen Sacco's governance structures and increase capital adequacy, the two being the major issues that had bedeviled the sector for decades. Sacco directors defaulting will be relinquished of their executive positions. The authority also proposes to put in place checks and balances on the sacco's financial status or solvency as well as lock out directors who have mismanaged any sacco in the past.

It is anticipated that once the bill is passed into law, it will instill sanity in the sacco's which is a multi-billion sector.

## Union of Kenya Civil Servants

Members of Kenya Union of Civil Servants in KEFRI elected their office bearers of Muguga Chapter on 16<sup>th</sup> March, 2017 following cancellation of earlier election held on 26<sup>th</sup> September, 2016.

Mr. Stephen Ndung'u was elected the Chairman while Mr. Shem Odiyo the Secretary and Mrs. Ann Njoroge as the treasurer.

Ms. Janet Mbugua from KEFRI human resource presided over the election. The officials promised to work in harmony with members when handling day-to-day issues that could arise in the course of discharging their duties. On the other hand, members promised to cooperate with the officials for a smooth running of the union.

The chairman urged staff to register with the Union to strengthen its bargaining power which will be beneficial to all.

## Election Petition

The Union had held an election on 28<sup>th</sup> September, 2016 and some members were disgruntled by the process used to elect the deputies. The bone of contention was that the deputies were neither proposed nor seconded as required by law. This prompted a petition which culminated into re-election on 16<sup>th</sup> March, 2017 where Mr. Kepha Omenda retained the deputy Chair unopposed, Mr. George Mmasi elected the deputy secretary and Mr. Aineah Ludenyo retained the post of deputy-treasurer.

Ms. Mbugua thanked all who participated in the election and apologized for the inconveniences caused during the previous election.

Speaking after the election, Mr. Stephen Ndung'u thanked members for turning up in large numbers to vote in officials of their choice. He assured members that his transfer to Nyeri will not hinder discharge of duties bestowed upon him and his able team.

He called upon members to forward grievances to the union office first for deliberations and advice. During that period, members should exercise patience as they wait for the verdict to be communicated to them at the opportune time.

The Union will hold meetings quarterly and inform members accordingly.

## Salaries and Remuneration Job Evaluation

By S. Gitonga and E. Mukiha

KEFRI underwent a job analysis exercise between 21<sup>st</sup> and 31<sup>st</sup> March, 2017 at the headquarters. The exercise was conducted by Price Water House Coppers (PWC), one of the consultancy firms engaged by Salaries and Remuneration (SRC).

This was in line with job evaluation exercise conducted in the entire public service.

The purpose of the exercise was to analyse the worthness of public service jobs and to harmonize pay structure.

The entire public service is divided into seven (7) sectors. KEFRI is categorized under the Research Institutions, Public Universities and Tertiary Education Institutions one of the two sectors which was yet to be evaluated.

The exercise was steered by KEFRI's Job Analysis Team (JAT) which was nominated from both Research and Administration Departments.



Dr. Kigomo receiving a certificate of completion for the job description analysis from Mr. Bernard Kingori - PWC firm

A total of one hundred and seventy two (172) jobs were evaluated in both departments and the results will be submitted to SRC for analysis.

Speaking during the closing ceremony Dr. Bernard Kigomo, Senior Deputy Director Research and Development commended the PWC staff and KEFRI team for carrying out the exercise successfully.

## Attrition

KEFRI fraternity salutes the following officers for having served the institute in various capacities until their departure from service.

**Membership withdrawals from KEFRI DCRBS from 1<sup>st</sup> January, to 31<sup>st</sup> March, 2017.**

	Name	P/No.	Retired	Demise
1	Joseph Mwendwa Mutunga	5306	1st Jan 2017	
2	John Karanja Mungai	5112	''	
3	Alex Mwalimu Mwinga	5069	''	
4	Samuel Kipkemoi Rono	6387	''	
5	James Mukolwe Asira	6525	''	
6	Walter Juma Ochieng	6366	''	
7	Charles Mululu Obonyo	5299	''	
8	Ainsworth Githinji Karani	5420	''	
9	James Nchogu Bogeni	5238	''	
10	Jacob Mulyungi Kwinga	5260	''	
11	Elizabeth Masinga	5074	''	
12	Marcel Wera Ogongo	5615	''	
13	Daniel Kilonzo Musya	5217	''	
14	Margaret Wangeeci Kahiga	5985	''	
15	James Oduge Oduol	5856	''	
16	Francis KunduKarani	5838	''	
17	Rufus Macharia Mwangi	5632	''	
18	John Mbore Mungai	6749	17th Jan 2017	
19	Rose Lizi Gwiyo	5376	1st Feb 2017	
20	Ben Owino Oronda	6787	''	
21	Mark Miheso Shiakamiri	5512	5th Feb 2017	
22	Patrick Nyachoti Omesa	6904	14th Feb 2017	
23	Joshua Akech Adongo	5208	1st Mar 2017	
24	Milton Ouru Manguro	6485		21st Feb 2017
25	Alice Chepkirui Talam	6089		17th Mar 2017

## After Retirement what next?

By S. Gitonga & A. Dzitu

Having an enjoyable life after retiring from formal employment is what many employees desire. But as many retirees have asserted, the truth is, figuring out what to do next after retire can be difficult. In addition, the loss of a job can be unexpectedly traumatic, changing ones current life to begin another is challenging and many of the retirees never cross over the valley.

To overcome some of these shortcomings, KEFRI pension scheme headed by Dr. Mercy Gichora the Chairperson, Mr. Joseph Koech representing non-scientific staff, Ali Dzitu Pension Fund Officer and consultants from Octagon Pension Services held pre-retirement seminars at various centers countrywide to sensitize the staff on how to prepare for retirement and better life thereafter. Seminar for the Eastern circuit for staff in Kitui, Kibwezi and Gede was held on 6<sup>th</sup>, 8<sup>th</sup> and 10<sup>th</sup> March, 2017 in that order.

In Kitui, Mrs Josephine Musili was the guest speaker and she narrated her successful life after retirement. Josephine worked as support staff at the tree nursery and after retirement she engaged fully in retail shop which she had started earlier while in service. The business has a return of approximately Ksh. 2000 per day which she claim is adequate to sustain her comfortable life after retirement.



KEFRI Pension Chairperson Dr. Mercy Gichora with Mrs. Josphine Musili at Kitui, KEFRI Centre

In Kibwezi, Mr. Simon Kinyua was the guest speaker. Until his retirement, Kinyua worked as driver in the centre. Soon after retirement he partnered with dealers and engaged in the charcoal business which sunk almost all his retirement benefit without return. He reverted to leasing a used tractor which he had bought cheaply while in service and rent from rooms he had developed in Kibwezi Township. Today he earns approximately Kshs.70, 000 per month.

Likewise, the same happened to Mr. G. K. Kimani



Mr. Simon Kinyua sharing his retirement experience with former colleagues at Kibwezi centre



Mr. G.K. Kimani with Mr. Joseph Koech during his presentation at Gede Centre

a retired forester in Gede. Kimani narrated to staff how he burnt his retirement money in poultry farming which he started without experience.

Luckily he was saved by rental payment from mud rooms he had constructed earlier before retirement and later developed with part of the retirement money. Today he has reverted to poultry farming which he claims is potential business in the coast region.

From these testimonies it is absolute that we need to learn several strategies towards retirement. Retirement is not the end of life or work. Each employee need to approach retirement in a sober mode, learn to save and plan well what to do early enough while still in employment.

According to Social Security data estimates at least a 60-year-old couple can expect to live another 23 to 28 years, whereas one-third of all retirees may live to age 92, meaning savings will have to stretch to cover 32 nonworking years.

While still in employment save,save, save enough for retirement and begin a viable commercial venture to hop in once you have retired,for this could make all the difference between a comfortable, healthy retirement and one in which you have more free time but are stretched too thin to enjoy it.“Never invest the retirement money in new business of which you have no experience,” cautions Kimani.

Save extra for the basic needs, healthcare because medical costs going forward are difficult to estimate. Once retired you are healthy enough to enjoy the free time and money to cater for the daily needs. Find activities you enjoy and people you enjoy doing them with so that you have an active life. If you do so it means you will trade inactive time for active time, that is, instead of sleeping or watching television, you will be engaging in activities that make you get up and move. Proverbs 13:22 says, ‘A good man leaves an inheritance to his children’s children’. So don’t worry even if you pass on and leave a lot of savings behind.

Finally remember the adage ‘He who has been advised is wise’. Successful people generally have been successful because they were willing to do something new.

## Demise



*The late Milton Mang'uro*

KEFRI mourns the death of Milton Mang’uro which occurred on 21<sup>st</sup> February, 2017. Until his demise, Mang’uro worked at National Forest Product Research Programme-Karura. He was laid to rest at Lala village in Homabay County on 10<sup>th</sup> March, 2017.



*The late Alice Talam*

KEFRI mourns the death of Alice Chepkirui Talam which occurred on 17<sup>th</sup> March, 2017. Alice worked at KEFRI Londiani center. She was laid to rest at Chebung’ung’on village in Kericho County on 22<sup>nd</sup> March, 2017.

**May God rest their souls in eternal peace**





Threatened Kimana spring in Loitokitok in Kajiado South sub-county now targeted for rehabilitation through KCCAP fund



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