



2022 EDITION

Agri-Finance Digest

A publication of Agricultural Finance Corporation

Hydroponics Africa

AFC reflective drive to climate adaption

Which way for Development Finance Institutions?

My Broiler rearing journey



ISO: 9001:2015 CERTIFIED



Products and Services

- ☒ Agricultural Research and Business Consultancy
- ☒ Livestock development
- ☒ Seasonal Crop credit
- ☒ Cash Crop loan
- ☒ Fisheries development
- ☒ Machinery development
- ☒ Water development
- ☒ Horticulture development
- ☒ Agro processing loans
- ☒ Agri - business loans
- ☒ Flouriculture loans
- ☒ Sugar development loans
- ☒ Co-operative Ride -on- Access Window (CRAW)
- ☒ Micro -Finance Ride - on Access Window (M_RAW)

HEAD OFFICE

Agricultural Finance Corporation

📍 Development House, Moi Avenue

P.O Box 30367, 00100, Nairobi

📞 +254-020-3272000/3317199

📱 +254 - 788 524998/704153773

✉ info@agrifinance.org

🌐 www.agrifinance.org

REGIONAL OFFICES		
📍 Central Rift	- Nakuru	+254 - 786-542662
📍 Coast	- Kilifi	+254 - 775-634600
📍 Eastern	- Kiambu	+254 - 705-318963
📍 North Rift	- Eldoret	+254 - 776-188782
📍 Mt. Kenya	- Nyeri	+254 - 51-8010937
📍 Nyanza/Western	- Kakamega	+254 - 57-2531570

Stimulating investment through agriculture

PUBLISHER:
AGRICULTURAL FINANCE CORPORATION
P.O BOX 30367 - 00100
NAIROBI

EDITOR
Pauline Kathambana

CONTRIBUTORS
Samuel Ochieng
Elizabeth Akinyi
Richard Singa
Harun Njago
Dennis Mulongo
Priscilla Angwenyi
Eurry Mabonga

DESIGN AND LAYOUT
Priscilla Angwenyi



THANK YOU
for engaging with us



www.agrifinance.org



@AgriculturalFinanceCorporation



Agri_FinanceKenya



@Agri_FinanceKenya



AgriculturalFinanceCorporation



Agricultural Finance Corporation

2022 EDITION- ISSUE 3. NO. 4

CONTENTS



CUSTOMER FOCUS

P.9

Hydroponics Africa



Courtesy: Intellect.com

P.5

CORPORATE FOCUS

ISO Certification

Disclaimer | Information contained in this newsletter has been captured from different sources. The accuracy and completeness of such information expressed herein cannot be guaranteed. Opinions are subject to change without notice, and Agricultural Finance Corporation assumes no responsibility to update or amend any information or opinions contained herein.

CONTENTS



P.16 **CUSTOMER FOCUS**
My broiler rearing journey



P.24 **CUSTOMER FOCUS**
My mixed farming journey



P.21 **CUSTOMER FOCUS**
AFC ventures into blue economy

14 Pineapples farming in Kilifi County

29 World Milk Day

36 AFC reflective drive to Climate Change

39 Which way for Development Finance Institutions?

41 Banana Production

48 Millet and Sorghum: Forgotten foods

51 Huge potential for e-commerce

54 What Covid - 19 pandemic has taught me

57 If you must speak



P.32 **FEATURE**
Restoring our water towers

AFC bags top position in State Corporations ranking



Photo: innermatrix.com

By Harun Njago

The Agricultural Finance Corporation has made it to the top of the charts in the State performance review of Ministries, Departments and Agencies, revealing a forward-looking commitment to make Kenya food-secure. Of the 238 State Corporations reviewed in 2020/21 financial year Performance Contracts, the Corporation scored a composite score of 2.5144, “VERY GOOD” making it 14th best overall.

This indicated an improvement of 7.73% as compared to the FY 2019/2020 composite score of 2.7351 (VERY GOOD). The achievement speaks to the Corporation's steady performance and delivery on its core mandate and other key performing indicators.

According to Public Service Performance Management and Monitoring Unit (PSPMMU), the rankings were based on key performance indicators that directly

impact service delivery by the ministries. Some of the metrics used during the evaluation included; project completion rate, corruption prevention and provision of youth internships among others.

The evaluation exercise carried out by the PSPMMU involved evidencing achievements for the signed performance targets. The PSPMMU undertook the actual verification of reported achievements as per the Government performance contacting guidelines.

The Corporation also performed well on other two categories, Agriculture, Rural & Urban Development Sector Working Group category and Financial State Corporations category.

Under the Agriculture, Rural & Urban Development Sector Working Group category, AFC was rated the best followed by Kenya Plant Health Inspectorate Service (KEPHIS).

Under Financial State Corporations, the Corporation emerged 2nd best in the category headed by the Kenya Industrial Estate (KIE).

According to the report released by the Public Service Performance Management and Monitoring Unit, eight (8), representing 3.4% attained an “EXCELLENT” Performance Grade, while 36.2% attained a “VERY GOOD” Performance Grade. A total of 140 State Corporations, representing 60.2%, achieved a “GOOD”, “FAIR” or “POOR” Grade and hence did not achieve their agreed performance targets.

“Analysis of the performance of the State Corporations indicates that there was marginal improvement in performance in the

Under the Agricultural Rural & Urban Development Sector Working Group category, AFC was rated the best

FY 2020/2021 compared to that of FY 2019/2020 since the average composite score improved from 3.1972 to 3.1191,” read the evaluation report.

The National Irrigation Authority (NIA), University of Embu and Tharaka University College have been ranked the top State corporations in service delivery.

The PSPMMU report for the year ended June 2021 shows that the NIA was the best performing institution with a score of 1.889.

It was followed by the University of Embu and Tharaka University College with scores of 1.929 and 1.9682 respectively.

The bottom five performing State Corporations were Sony Sugar, National

Oil Corporation, and Special Economic Zone Authority. The bottom performer was South Nyanza Sugar Company Limited with a Composite Score of 4.1629.

Performance evaluation is the culmination of the process of Performance Contracting and is carried out annually at the end of each contract period. It is executed by the Public Service Performance Management and Monitoring Unit (PSPMMU) to all Ministries, Departments and Agencies (MDAs). The Annual Performance Evaluation Report prepared at the end of the contract period will document status of the extent to which non-fulfilment of commitments and obligations made by the Government to the Corporation may have affected performance.

*Harun Njago is a Corporate Communications Officer
at Agricultural Finance Corporation*

ISO 9001:2015 Certification



organization with properly deployed QMS works smoothly and gives out exceptional results. The most popular approach to quality management systems is the international standard for organization ISO9001, which is sometimes used interchangeably with QMS. The fact is ISO: 9001 refers to documents that guide an organization to implement a QMS efficiently, 2015 connotes the year that the ISO 9001 documents were revised.

The Quality Management System therefore, presents a whole picture of how the Corporation teams up to strategize and implement plans to deliver “High Quality Loan products and services to the customers.”

Why is QMS important to AFC?

Quality Management System or QMS is a set of protocols that list the guidelines that the Corporation must adhere to maintain its desired level of excellence. It helps the Corporation to introspect its policies and refine them for the advancement of business flow and operations.

How does QMS benefit the Corporation?

- **Enhanced customer experience and satisfaction** - A quality product will increase our customers’ satisfaction, which in turn is a great opportunity for a business to grow its brand. Quality in this context also refers to the timeliness of the loans and services rendered to our customers. How long do the

The term Quality is defined as “the grade by which a product meets the customer demands.” For an organization, the higher the quality of their goods and services, the happier their customers will be. A satisfied customer is an invaluable asset to any organization. It boosts the overall business of a company.

How can the Corporation achieve its goals?

How do we manage to carve out our niche in such a highly competitive market space? The answers lies in a well-placed quality management system (QMS). Any

These standards or “principles” help the Corporation to brainstorm ideas to build an effective QMS for achieving the strategic goals and objectives.

AGRICULTURAL FINANCE CORPORATION

DEVELOPMENT HOUSE, MOI AVENUE P.O BOX 30367 - 00100, NAIROBI, KENYA

This is a multi-site certificate, additional site(s) are listed on the next page(s)

Bureau Veritas Certification Holding SAS - UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 9001:2015

Scope of certification

PROVISION OF FINANCE FOR AGRICULTURAL DEVELOPMENT

Original cycle start date:	18-04-2022
Expiry date of previous cycle:	NA
Certification / Recertification Audit date:	22-12-2021
Certification / Recertification cycle start date:	18-04-2022
Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on:	17-04-2025
Certificate No.:	KE003150
Version:	1
Issue date:	18-04-2022




0008

Certification Body Address: 5th Floor, 66 Prescott Street, London, E1 8HG, United Kingdom

Local Office: Bureau Veritas Certification (Kenya) Ltd, Box 34378 - 00100 Nairobi, Kenya

Further clarifications regarding the scope and validity of this certificate, and the applicability of the management system requirements, please call: +254 20 3669000



appraisals take? How was the customer served? etc.

- **Improvement in attainment of organizational goals** - QMS focuses on improving the overall quality of the Corporation through periodic monitoring and evaluation of our process flow and internal operations.

- It helps to reduce error and deviations in

the system - Since QMS follows a critical approach to analyze a process, the errors are found beforehand. The QMS provides a channel for major damage control and also helps in reducing mistakes in the future. This is achieved through the internal ISO audits that are undertaken periodically to ensure compliance and check for improvement.

- **Effective marketing tool for the Corporation** - When customers get quality products and services, they are more likely to recommend AFC to their friends and acquaintances, which leads to an effective referral marketing.

Principles of Quality Management System

ISO 9001 has laid out some standards to analyze the quality management system of an organization. These standards or "principles" help the Corporation to brainstorm ideas to build an effective QMS for achieving the strategic goals and objectives. There are seven principles on which ISO 9001 standards are based. Some of these principles include;

A) Customer Focus - Customers are the livelihood of any organization. Hence, it only makes sense to prioritize their expectations and demands while sorting out a QMS. Customer needs are identified through research. Effective communication between the company and its consumers is key. Throughout the process, the experiences of the customers with the product have to be examined and measured by using tools to gain feedback.

b) Leadership - Leaders are the pillars of

any organisation. A strong, envisioned leader plays a vital role in implementing a QMS effectively. A passionate leader will look out for room for improvement in their team and work on areas to be improved. A good leader is also open to new ideas, even if it is from their sub-ordinates, to improve the whole process. They will also encourage their subordinates to work better, which in turn creates a beautiful chain reaction for effective work across the organization.

c) Continuous Improvement - In order to achieve long term goals, the Corporation must always be constructively critical of its work policies and regulations. It helps to address the areas where the errors are happening regularly. Your organization must look out for ways to mend the

irregularities and imperfections, to create the best output, not just once, but always.

d) Fact-Based Decisions - A thorough understanding of the facts and research-based outcomes need to be done before making any decision. An organisation that records data properly is more likely to use it efficiently to assess its overall functioning.

Conclusion

A quality Management system is the need of the hour for an organization to flourish and prosper in this dynamic business landscape. Therefore, the Corporation needs to look into its policies/work guidelines and product quality to thrive in this ever-growing lending market.

Elizabeth Akinyi is a Research Officer at Agricultural Finance Corporation



Hydroponics Africa



Dr. Peter Chege at the farm

Providing affordable and simple hydroponic farming solutions to every household in Kenya

By Priscilla Angwenyi

For a long time, farmers have been faced with various surmounting challenges such as high costs of farming inputs and low crop yields, soil borne diseases, pests and weed control, water scarcity or wastage, labour intensive requirements, reduced farming space due to increased population and urbanization, negative effects of climate change, reliance on sporadic and dwindling rainfall patterns and therefore forced to farm only during rainy seasons.

“The challenges in agriculture made me settle in hydroponics”

Dr. Peter Chege, the Founder and CEO of Hydroponics Africa saw the need of providing a comprehensive local solution to these challenges. “The challenges in agriculture made me settle in hydroponics,” Dr. Peter Chege said in an interview with AFC team. In his pursuit for solutions, Dr. Chege developed simplified hydroponic systems that enable farmers to grow highly nutritious and a wider variety of food crops for human consumption and grow quality animal fodder at a low cost without the use of soil but through a specific nutrient solution. “It has been there

for many years in developed countries so my work was to customize hydroponics to work at the African context. You can see I am using local materials, I make my own fertilizer, I make bio-pesticides then we develop training programs for farmers so that we can be able to adapt under our context,"Dr. Chege added.

Hydroponics Africa offers innovative and tested hydroponic solutions. A farmer uses up to 80% less water, nutrient solution, without soil, in a limited land space, to produce more crop yields and increased nutritious food. The crop is not affected by changing climatic conditions and therefore a farmer can farm all year round under whatever climatic conditions. Hydroponics Africa manufactures and distributes hydroponics systems, nutrients, sells barley, seedlings, offers farmer training, agronomist crop support and systems maintenance services.

The company has a management that runs day to day operations and currently has a total of thirty six staff. It has grown from a startup company, commercialization stage and now is scaling up at stage under Dr Peter Chege's leadership.

Competitiveness and innovation

Hydroponics greenhouse maintains the right temperature without any thermostat or electricity needed. The greenhouse is also constructed with water circulation meaning the water usage is lower than alternative solutions. Additionally, soil is not used as the growing media but rather inert medias such as pumice, coco pit and coco chips which not only retains a lot of water but also free from soil borne diseases. The innovation also supports growing of a range of products such as all leafy vegetables, tomatoes, capsicum, all types of herbs such as coriander, parsley, celery, basely: fruits such as oranges, strawberries; and starch foods such as Irish and sweet potatoes, maize and fodder for all livestock which takes a maximum of seven days to mature.

The hydroponic system comes in different designs and therefore supports both rural and urban set up's including densely populated regions like informal settlements.



Dr. Chege checking the tomato plants



Hydroponics Africa Limited has a wide range of hydroponic farming products including; hydroponic grow bags, hydroponic hydro crates, hydroponic hanging bags, hydroponic greenhouse, hydroponic hydro walls, hydroponic PVC Vertical system, hydroponic automated setit forget it system, hydroponics fodder system, hydroponic capillary system, hydroponic hydro buckets, integrated hydroponic and aquaponic systems.

Specifically formulated hydroponics nutrients, chemically treated patented trays, high quality seeds and seedlings and raw materials for animal feeds.

Hydroponics Africa Limited is the sole distributor of plant responsive systems in Africa by Responsive Drip Plc USA. This is the most superior underground drip system one of its kind supports growing of

crops and livestock fodder in any type of soil, climate and does not use electricity and with twelve years life span.

Capital

The capital required to start up the project was intense and thus required Dr. Peter Chege to acquire more financing. “We have had a lot of development partners; USAID, European Union and Aqua for all and another one called SOS ,” Dr. Peter said. The company has benefitted quite a lot from these partnerships. They have managed to save one billion tons of water and learnt a lot in terms of business advice, business model and acquired more investors through the partnerships. He revealed that the company managed to get some investment from Kenya Climate Innovation Centre (KCIC) and later from AFC.

*hydroponics
structures being
extended Upward*



Challenges

Mr Peter Chege went ahead and listed some of the challenges they faced before and are still facing in this project. Not only for them but the farmers, the capital for installation is quite high and thus a major challenge for those who want to venture into hydroponics. He stated that there was a lot of skepticism from farmers. "The hardest part was to convince farmers," said Mr Chege. The Covid-19 pandemic also affected the business as the buying power of farmers reduced. They then opted to venture into commercial growing and selling. He advised farmers who were interested in the activity that there was need to learn first.

Future prospects

"In the next five years we expect to have over 20,000 farmers across the country. We expect to be visiting the farmers especially on crop support because we know that's where the farmers have a

problem and aggregate these crops and sell. Next year we are going to import tomato ketchup production line, we already have market in Rwanda and Congo."

AFC journey

In the beginning of 2021, Hydroponics Africa Limited approached AFC for a loan. During the interview, Dr. Peter Chege praised AFC for being quick and clear on the loan application process. He further added that the terms of AFC are good as well as the interest rates of the loans which are favorable to the farmer. He recommended that AFC use alternative collateral as most farmers lack title deeds or also adapt use of guarantors especially in farmers' groups to provide an opportunity for everyone to engage in agriculture.

Priscilla Angwenyi is a Corporate Communications Officer at Agricultural Finance Corporation

Dr, Chege holding a tray of hydroponic plants at the nursery





AFC leads in funding pineapple farming in Kilifi County

By Samuel Ochien'g

As a leading agricultural financier, AFC has been keen in identifying potential agricultural sectors, and funding the same for spur economic development in a number of sectors and/or areas. When we talk about pineapples in Kenya, many minds flash to Thika, because of the vast pineapple farms owned by Del Monte Company. But it's good to note that pineapples are also grown in large scale in Kilifi County, Malindi, and Kisii. Whereas the Thika pineapples are mostly geared towards industrial processing of juice drinks, the Malindi and Kisii pineapples are mostly earmarked for fresh produce markets such as Marigiti in Nairobi, Kongowea in Mombasa, Jubilee in Kisumu, and Daraja Mbili in Kisii.

Pineapples originally come from South America, most probably from the region between South Brazil and Paraguay. From

there, pineapples quickly spread around the continent up to Mexico and the West Indies, where Columbus found them when visiting Guadeloupe in 1493. In Malindi Kenya, they were brought about by the voyage of Vasco Da Gama, having come with the crop from Portugal.

The first harvesting of pineapples takes place at least 18 months after planting and thereafter every nine months. The fruit is a good source of vitamin A, B, C as well as calcium, magnesium, potassium and iron. It is also a good source of bromelin, a digestive enzyme. It is consumed fresh or in the form of juice, jam, squash and syrup.

In Kilifi County, fresh pineapples are mainly grown organically in Malindi, particularly in Magarini Sub County. Magarini is a vast land, mostly trust land and this is where large scale pineapples farming is undertaken. This is mostly in Adu, Changote, Chamari, and Marafa areas



From left: AFC Branch Manager, Kilifi, Edward Mwachoki and a farm worker at the plantation

where vast pineapple farms are found. However, there is vast idle land as well suitable for pineapple growing because the potential has not been well exploited.

Through its Kilifi branch, AFC has funded three (3) large scale pineapple farmers in Magarini area. This funding will open up the area economically and change the economic status of the local livelihoods.

One of those funded is Dr. Lucas Kinyanjui, who is a Pastor, a Philanthropist and a Development Expert living in Glasgow, United Kingdom. He has set up a 120 acre farm in Kanyambuni, near Marafa Town. The Corporation funded the farm from bush clearing to purchase of suckers, planting, and construction of water reservoir dams. The farm has now grown to be a model farm in the area employing about 100 local residents. His produce is mainly for export to the UK, and other countries such as Israel where there's a huge demand for fresh

pineapples.

Another beneficiary of AFC financing is Colonel Peter Kahindi, who is doing large scale pineapple farming also in Kanyumbuni area. The Corporation funded him to undertake 100 acres of pineapple farming mostly geared for farm gate and local fresh produce markets.

While the supply of fresh pineapples was constant, the area lacked processing capacity. To close this gap, the Corporation funded Mr. Joseph Wambugu, who is a large scale pineapple grower in Chamari area, to set up a pineapple processing plant in Bore, Singwaya location, Magarini. This will be a game changer for the area since the plant will be able to buy pineapples from local farmers and process juices or sucrose, sell and pay the farmers. They will actually act as aggregators to the benefit of the local small scale and large scale pineapple producers in the area.

The newly tarmacked Sabaki - Marafa road also opened up the hitherto remote area. The road which goes up to Wakala Trading centre near Baricho, the source of clean drinking water to Kilifi and Mombasa towns, has opened up the area for transportation of commodities to the market. The area is now booming with myriad economic activities and there's much hope in investing in pineapple farming. So next time you buy a fresh pineapple from your local grocery, know that you could be buying produce from our Kilifi County.

Samuel Ochieng is the Branch Manager at Agricultural Finance Corporation, Kakamega Branch



My broiler rearing journey

By Priscilla Angwenyi

Harrison Ng'ang'a tending to the broilers

Many people are interested in broilers farming in Kenya. Broilers are meat birds often referred to as fryers in some places. They are bred to grow fast so that they are ready for the dinner table at between 4 and 10 weeks of age. According to a study done by KIPPRRA, *Overview of The Kenyan Poultry Sector*, in Kenya, there is a rising demand for broilers moreso in urban areas.

Mr. Harrison Nganga, a former cattle farmer who transitioned to poultry farming and now has a wealth of experience in the business. He began the project some years back where he bred his chicks and sold in Thika town. Mr. Nganga has grown

vastly and now it has a poultry house that can accommodate 6,000 chicks and piped water hence has a constant water supply that is necessary for poultry farming.

Broilers are sold between 1.5 and 3 kg live weight depending on consumers' preferences and market demands. They are judged on cleanliness and the valuable meat areas i.e. large breasts and thighs. They should also be appealing when dressed out, which means they should not have any skin imperfections or broken wing feathers. After dressing place, them in seal bags and only show the broilers that look perfect.

Journey with AFC

His journey began with 1,500 chicks when he secured his first loan with AFC for the project. Having been into cattle keeping before, he was aware of AFC existence and since he had to pay for everything, he sought AFC for a loan. He has so far taken 3 loans from the corporation. The 1st loan was for poultry in 2014, the 2nd loan was in 2017 for dairy and the third for broilers in 2020. Mr. Nganga praised AFC and said that it has changed for the better in terms of how they offer their loans. "They are more straightforward with their dealings."

He is grateful as AFC has highly contributed to his growth.

Broiler Rearing

Housing preparation

Broilers are relatively easy to rear. Before bringing in the chicks, the whole house should be disinfected and brooder rings placed in the house. These rings create a microclimate relative to the rest of the room to prevent drafts and keep the birds warm and near the feed and water. The waterers in the brooder rings must be kept filled. When the birds arrive, they are placed into the brooder rings and introduced to the waterers and feed.

To start off, feed is placed in the feeder lids or plastic feeder trays in the ratio of one per 100 chicks. Feed can also be spread on paper placed on the floor to encourage young birds to eat. By the time the birds are ten days old, all the lids and trays should have been removed.

Normally, broilers are brooded in a portion of the house until a certain age before being given access to the entire house. The house should be divided so that 33% of the cage is destined for chickens in their two to four week age period. The 66% remaining space is destined for the broiler chickens in



Mr. Ng'ang'a holds one of the birds



the four to eight-week period. The floor has litter made of straw, wood shavings, or some other material that absorbs moisture, keeping the birds clean.

Enough floor space for each bird is necessary to at least one square foot from age six to ten weeks. After ten weeks, they will need at least two to three square feet per bird.

Mr. Nganga says that Anirita poultry farm checks whether the farmer adheres to these standards before supplying them with the chicks.

Feeding

The three common mistakes in feeding are: inconsistent feeding, overfeeding, and underfeeding. Feed is the greatest expense in commercial poultry establishments; therefore it is important to purchase feed from reputable millers who can assure consistency in the quality and performance of the feed.

Broilers need quality ration. Ready mixed feeds that are recommended for growing lots of meat on these broilers are available at local feed stores. You can mix your own feed for say twenty five broilers, but in most cases it is not any cheaper and can be quite a bother to mix thoroughly when you can buy it already mixed. For his project, Mr. Nganga said that he purchases feed from Anirita poultry farm since they offer feeds based on the records of the kind of poultry, they supplied you with. Their food is also of better quality. It is vital to always follow the manufacturer instructions on the feed and avoid mixing feeds from several millers, adding other protein sources and mineral salts as this changes the balance in the feed thereby affecting performance. Manure and litter from broiler production can be used as organic manure. Consult your nearest livestock extension officers if you need help on how to vary the feed.

Mr. Ng'ang'a demonstrates how to use the light in the brooder

Operational Challenges

Finding the market for his poultry once they were mature was a great problem. During the interview, Mr. Harrison told us that he would sell his chicken to brokers who would choose only the best leaving him with the smaller ones. The money gained from the sale would then be used to buy feeds for the smaller ones, a loss for him.

He added that in some cases he was forced to even slaughter and deliver the chicken to hotels himself. During those times dogs and eagles would flock his compound which was disturbing. Mr. Harrison Nganga later gained a contract with Anirita poultry farm who supply them with chicks and purchase live mature broilers.

Mr. Nganga said the project became easier once he partnered with them.

The farmer advises that before investing in broiler production, finding out the market outlets should be the first task. You have to make marketing arrangements with local hotels, restaurants, cafeterias, groceries, and other regular users before rearing broilers for sale. This will ensure timely and regular orders for the birds and that no birds are left unsold.



A worker checks if the birds have enough food in the feeder

Priscilla Angwenyi is a Corporate Communications Officer at Agricultural Finance Corporation



AFC ventures into blue economy

By Samuel Ochieng



Mr. Alex Kisilu Farm Manager holds a crab.

The sea is a major resource at the Kenya coast and other coastal areas all over the world. The concept of the “Oceans Economy” or “Blue Economy” originated from the United Nations Conference on Sustainable Development held in Rio de Janeiro, Brazil in 2012. This sustainability aspect is also taken to mean sustainable utilization of the ocean resources. The Kenyan coastline which covers about 1,420 kms therefore has a huge potential that needs to be exploited for the economic benefit of the region.

AFC has positioned itself to play its part to promote the blue economy through its fishing loan product that comprises funding the entire fish value chain.

The financing package includes purchase of equipment such as fishing gear lines and boats which enable fishermen to delve deep down into the sea for a good catch, fish processing and storage operations.

Many Kenyan fishermen have been unable to exploit the blue economy potential due to lack of funding. For instance, in Kilifi County, there are only few fishermen based in Malindi who can go to the deep sea due to lack of fishing equipment and proper boats.

In other beaches of Kilifi, only poorly equipped fishermen fish and mostly for farm gate sales and subsistence. The County Government of Kilifi has established cold rooms for fish collection at Malindi, in Malindi Sub County, and another at Takaungu, in Kilifi North Sub County, but they are not adequate.

In this sector, AFC has financed Mr. Alfonso Koome Muriithi. Mr. Muriithi is a



Farm Manager, Alex Kisilu (left) shows AFC team Samuel Ochien'g, Edward Mwachoki and Florence Mutuku the holding ground water basins at Watamu Farm

sea fish exporter who buys sea fish, mainly crabs and lobsters from fishermen in Lamu and Shimoni in Kwale County. The areas are chosen because the fishermen in those two locations have adequate infrastructure to plunge into the deep sea. He has a farm in Watamu Town where he holds the crabs and lobsters in preparation for export to China where there's a huge market.

The nature of the business is that the crabs and lobsters are transported from Lamu and Shimoni Kwale, where they are put in holding water basins awaiting packaging into 15kg cartons.

The exporting process then will have to be timely for it involves a delicate time bound export. All the requisite papers are prepared, requisite permits from Kenya Fisheries Service obtained and the confirmations done by the travel agent. The live lobsters and mud crabs stay alive

for a maximum of 36 hours outside water, and so the export process must strictly take 36 hours from Watamu to Guangzhou, China which is the destination, where they are again put in water. The strict adherence to export hours has a mortality rate of about 0.4 % which is negligible.

The Corporation shall continue to intensify efforts to play a pivotal role in the Blue Economy, which is the mainstay of the Coastal Region Economy.

Samuel Ochieng is a Branch Manager at Agricultural Finance Corporation





My Mixed farming journey

By Priscilla Angwenyi

From left: Director Mr. Stephen Muritu, farm Manager Boniface Kihara and a worker at the Mam farm

In Kenya, AFC is the only development finance institution whose sole responsibility is 100% lending to the agriculture sector. In the last 10 years, it has lent over Kshs 40 billion to the agriculture sector.

One of its long-time clients, Mr. Stephen Muritu who hails from Murang'a County shares his farming journey with the Corporation.

Muritu grows coffee, has a banana plantation, pigs and a dairy unit in his 50-acre farm, of which 20 acres are under bananas, 30 acres under coffee.

Mr. Muritu, a former teacher and now the director of Mam Farm, has been in

farming for around 20 years, "As people started moving out of or abandoned coffee because of low prices, unable to buy fertilizer and other inputs, I decided to take advantage and grow coffee because I had substantial acreage," he says.

Even though the temperatures in his region are normally higher, he does drip irrigation to maintain the coffee. The 30-acres under coffee has 30,000 bushes that produces approximately 150,000kg of cherry every year. He pulps the cherry and takes it to millers who in turn market the produce to Tropical Agency, the buyer. During harvesting, he engages mainly women to pick the cherry as well as weeding the farm.



Farm workers display picked coffee berries

The main challenge with coffee farming is getting workers from the area and this forces him to ferry them from extremely far especially during harvesting, as well as lack of qualified people to do things like pruning since it's not a coffee zone. They also do spraying of the coffee bushes to boost the production.

Besides coffee, Mr Muritu also ventured dairy farming. "I decided to do mixed farming because of inter dependency.

"At times coffee doesn't do well and again, we use the money for our farm, water waste from pen wash is also used to irrigate the bananas," he says.

The mixed farm currently employs over 70 permanent employees and can go up to 200 depending on the season.

Like during coffee harvesting, it requires to get more casual farm workers majority who are women.

The farm has about 200 animals producing between 1200 to 2000 litres of milk daily which he sells mostly to hotels, schools and few customers who come for raw milk. He also make yoghurt even though prices fluctuation is a challenge.

Capital

Farming is a capital-intensive venture which requires money, how does the farmer do it? "We started with Cooperative Bank but later changed to AFC who have been our principal financier all through. They have been following up what we are doing and exceptionally good partners, having helped us in improving the pig unit, dairy," the farmer says.

"As people started moving out of/ abandoned coffee because of low prices, unable to buy fertilizers and other inputs, I decided to take advantage and grow coffee because I had substantial acreage".



Mr. Stephen Muritu together with his son Hesbon Muritu the CEO at the farm

It is worth noting that the farm manufactures its own feed, they only buy the raw materials.

Challenges

The biggest challenge with coffee farming is labour shortage during harvesting thus forcing him to ferry workers from other regions.

Mr. Muritu added that he was doing very well in pig farming in which he had over 3,000 animals and was appointed by Farmers Choice to supply 100 pigs per month. However, the animals were attacked by African swine fever which wiped out over 2,400 pigs. This resulted in big loss that affected his business as well as other enterprises.

Before the attack, Mr. Muritu used to work with small scale farmers by breeding both pigs and dairy animals for the farmers, but since he has no more pigs, he is now focused on breeding the dairy animals and selling them when in calf.

Covid-19

Asked about profitability, Mr. Muritu said the enterprises are doing well even though Covid-19 did affect the farm “The hotels were closed so we couldn’t sell our milk. It went to waste. We also had nowhere to sell bananas and the pigs and so not much came in, we just survived,” he said.

For bananas, the main market used to be buyers visiting the farms to buy the produce. But since the Covid – 19, it is a challenge to sell.

Future prospects

Mr. Muritu's future is in value addition. “If we do value addition to the maximum then I think we shall be packing our milk, yoghurt and even coffee. We intend to be marketers, milling our coffee and putting in the shops”.

For there to be continuity in farming, it is important to introduce your family so that there will be no time anything in the farm

“We started with Cooperative bank but later changed to AFC who have been our principal financier all through”

stops because of your absence and that is why my son has joined me in the farm.

“You have to be original in your thinking. The only thing we have is land. The main source of income is farming. The difference is that we should do it as a business”

To the young aspiring farmers, Muritu had this to say “you have to be original in your thinking. The only thing we have is land. The main source of income is farming. The difference is that we should do it as a business”.

Let me conclude by saying that AFC is an incredibly good financial institution. Their loan does not take long to process, they do follow up and check where you are failing and give proper advise.”

Priscilla Angwenyi is a Corporate Communications Officer at Agricultural Finance Corporation



A worker at the banana farm



Mobile banking

HOW TO ACCESS

1. Dial *349# on your keypad



2. Enter your PIN number in order to proceed





Theme: Sustainability in the dairy sector as well as environmental, nutritional and socioeconomic empowerment

The World Milk Day is celebrated on the 1st of June every year. It is a day which was established by the Food and Agriculture Organization (FAO) in 2001 to recognize the importance of milk as a global food and celebrate milestones in the dairy industry. This year's theme "sustainability in the dairy sector as well as environmental, nutritional and socioeconomic empowerment" aims at recognizing the dairy industry and its contribution to the development of the world while addressing nutritional needs of the population as well as its environmental concerns. Kenya which is a major dairy country and the Kenya Dairy Board in particular will join other dairying nations the world over in celebrating this day.

The Kenya dairy industry is growing at an estimated rate of 5 % annually and contributes an estimated 4 %, 12 % and 44 % to the National, Agriculture and Livestock GDP respectively per annum. Total milk production is estimated at 5.8 billion annually. More than 1.8 million small holder households derive their source of livelihood from dairy while an estimated 750,000 people derive direct employment and an estimated 500,000 indirectly from the sector.

Kenya Dairy Board is a state corporation, established through an act of Parliament Cap 336 of the laws of Kenya in 1958. The Board is mandated to regulate, develop and promote the Kenyan dairy sector. As we celebrate World Milk Day, we seek to reflect on the progress and key milestones achieved by the dairy industry in Kenya.



Margaret Kibogy, OGW
 MD - Kenya Dairy Board.

These include and not limited to: **Continuous improvement of the regulatory and policy framework** which is aimed at creating a conducive environment for investment and ensure sustainability of the sector along the value chain. In this regard, the government gazetted the Dairy Industry Regulations 2021 with the objective of creating an enabling regulatory framework to



guarantee safety of milk and milk products. One of the key regulations is Pricing of Dairy Produce which sets a minimum producer price at Kshs 33.00 per a litre of milk. This ensures that the farmers are able to meet their cost of production and ensure a fair return on investment.

The Board has operationalized the National Dairy Regulatory Laboratory, which will improve our testing capacity for milk and milk products in order to enhance the quality of dairy produce thereby improving our competitiveness in both the domestic and export markets.

Promotion of school milk programme with a view of improving the nutritional status of school going children, improve pupil enrolment and retention as well as contributing to dairy development at county and national level. Currently there are over 800 private schools in the programme and 8 counties have implemented the programme for public schools in their counties. All the milk is supplied by our local processors.

Engaging in consumer education and sensitization in order to make our stakeholders more informed and better decisions makers. This is achieved through various channels including the mainstream and social media among other channels. It aims at encouraging consumers to consume milk of certified quality and encourage dairy business operators to comply with statutory safety and quality requirements.

The Board **undertakes inspection and advisory programs** to ensure that dairy business operators comply with safety and quality requirements so as to assure consumer safety in consumption of dairy products.

The world is fast moving into the digital world and the Board cannot be left behind. Currently **the Board is fully automated** creating a platform for efficient and effective service delivery with quick turnaround time.

In enhancing environmental management, the Board in partnership with other stakeholders, **has planted more than 70,000 indigenous trees in the last five years.** This is also in support of the government's target of achieving 10% national forest cover by this year 2022. The Board has equally taken measures to sensitize and educate the dairy producers on use of Bio-gas as an alternative source of energy to curb the green gas emissions which has contributed greatly to global warming.

The Board has continued to **sensitize dairy farmers to conserve feed** during the times of plenty for use during times of scarcity. This ensures steady food supply for the dairy cows in order to achieve constant supply of milk and milk products throughout the year.

As we celebrate this year's world milk day let all Kenyans value the nutritional and health benefits of milk in their diet. Let us cultivate the habit of a taking at least a glass of milk a day.

From Kenya Dairy Board

The Kenya dairy industry is growing at an estimated rate of 5 % annually and contributes an estimated 4 %, 12 % and 44 % to the National, Agriculture and Livestock GDP respectively per annum.





AFC team, teachers and pupils of Muthenkuar Secondary School Kilgoris, holding tree seedlings for planting

By: Priscilla Angwenyi

Restoring our watertowers

Trees are vital to the existence and well-being of our environment. Not only do they improve the quality of the air that we breathe, but they also provide food and shelter for human beings and wildlife.

Trees provide a multitude of benefits, both long and short term. They give us clean water to drink, shade for humans and animals, conserving water, preserving soil and supporting wildlife. Above all, they help mitigate the impacts of climate change that are making future pandemics more likely.

Trees also provide habitats for numerous species of fauna and flora, firewood for cooking and heat, materials for buildings and places of spiritual, cultural and

recreational importance. Trees are very important for the global environment and the health of the species that live there, and they need our unconditional care and protection.

Prolonged dry seasons, water shortages and low food production are vexing problems communities face due to reduced tree coverage.

Deforestation is one of the major cause of global warming. As indigenous trees are being cut for various use, the future for planet earth is at risk for severe climate change.

The high demand for commercial forest products like timber, pulp, gum trees and

so much more in the construction industry and energy sector has continued to prompt domestic deforestation, driving the Government to look for solutions for this problem.

The forest cover in Kenya has declined over the years and most recently, it has reduced significantly due to the demand for domestic and industrial use.

According to the Kenya Climate Change Action plan, the overall demand for wood products is estimated at 37 million cubic meters per year while total sustainability stands at 30 million cubic meters annually creating a demand short fall for 7 million cubic meters.

In Kenya, deforestation has reduced the forest cover to 7%, approximately losing 12 acres of forest a year despite the Governments attempt to stop the problem.

The forest cover desired is 10% from the current which stands approximately at 7.5%.

Tree planting is recognized as one of the most engaging, environmentally friendly activities that people can take part in the better planet.

As a way of contributing to the achievement of 10% tree coverage nationwide, the Corporation has taken part in a tree planting exercise in the country through its six Regional Offices, namely, Mt. Kenya, Nyanza/Western, Central Rift, Coast, North Rift and Eastern Regions.



With the help of the local area workforce under the guidance of the Kenya Forest Service (KFS) Officers, the Corporation has planted over 60,000 tree seedlings.

Other activities carried out alongside the tree planting include weeding and spraying of herbicides as well as the replacement of destroyed trees. Environmental conservation is aligned with SDG 15 meant to protect, restore and promote sustainable use of terrestrial ecosystems, sustainable manage of forests, combating desertification, halting and reversing land degradation and halt biodiversity loss.

Forestry is a nature of venture that majorly sustains its growth with little attention. Like all other investments, there is unit capital that is required per unit area (per acre) in clearing the land, seedlings, weeding and other maintenance.

Regional Manager, North Rift, Lilian kimulany watering the tree seedling at NYS Turbo Sub County Unit



Planting trees according to the environment and weather patterns ensures indigenous tree species thrive while fruit trees increase food sustainability.

Trees are the greatest weapon upon climate change. According to Kenya Forest Service, trees help stop climate change by removing carbon dioxide from the air, storing carbon and releasing oxygen into the atmosphere.

It is also important to instill tree nurturing culture among children especially through school tree planting activities.

Despite all these benefits, there are challenges like fire and illegal activities within the community.

It is for this reason, Kenyans have been called upon to make tree planting exercise a noble responsibility to every farm, individual, community member especially during rainy seasons to restore lost forest cover, improve water retention and reduce the impact of climate change.

Priscilla Angwenyi is a Corporate Communications Officer at Agricultural Finance Corporation



Agricultural Finance Corporation Reflective Drive to Climate Adaptation



Photo: geneticliteracyproject.org

By Dennis Mulongo

Climate change seems to be the defining issue in the post-COVID economy revitalization era. Indicative data points have shown a big threat on developmental gains across the continent. With the population projected to double to 2.4 Billion by 2050, Africa needs to feed a rapidly growing population in the face of climate variability and extreme weather events.

The agility of the Corporation is to effect a country-led prioritization and sequencing through the earmarked agricultural flagship programs in the AFC strategic plan (2018-2022). This has created a need to leverage and scale-up digital technologies while creating a good environment for private investors to participate in agriculture. Such will be complimented with climate tools to manage performance



picture source: ucsusa.org

– in particular, the biennial review dashboards that will be of enormous value to the climate resilience monitoring in the agricultural sector.

Such bold trajectories catalyzed by digital revolution to drive inclusive and sustainable agricultural transformation, will be about de-risking the agriculture sector. It is imperative that new efficiencies available via digital tools will help Kenyan farmers anticipate the impact of climate change, facilitate business efforts to manage value chains, and create accessible and affordable insurance products — all of which reduce risks associated with agriculture.

Adaptation and resilience seems to be key accelerators and enablers to achieving development results and are a core part of the Corporations' gains stand. In this regard, an urgent, massive and coordinated push is urgently needed – across the agricultural space in Kenya – in order to increase the resilience of livelihoods among smallholder farmers and rural communities.

As widely noted by Micheal Hailu, Director of CTA, that “digitalization can be a game-changer in modernizing and transforming Africa's agriculture, attracting young people to farming and allowing farmers to optimize production while also making them more resilient to climate change”.

Consequently, there is acknowledgment to link climate-related vulnerability and poverty and the risk posed by climate change to the achievement of the Sustainable Development Goals (SDGs). Drawing on previous agreements, discussions and processes including the work of the Committee of African Heads of State and Government on Climate Change (CAHOSCC) under the African Union, the AAA initiative, the Global Commission on Adaptation, coalitions such as the recently formed Just Rural Transition (JRT) and the recommendations from the Africa Climate Week 2019. There is conscious of the need to take a broad, integrated approach towards food systems and land use, including alignment and development of policy frameworks.

Agricultural Finance Corporation has a strong urge to all multilateral, bilateral and private partners to support efforts by ensuring their investments and loans in agriculture are designed with deliberate consideration of adaptation and resilience needs.

It is quite unprecedented that the Corporation has a joint ambition to accelerate the progress towards adaptation and resilience of Kenya's food systems and

weather events is of paramount importance. As such, deliberations to develop comprehensive risk management plans coupled with appropriate financial tools with which to manage risk, including setting aside budgetary and other types of contingency resources should be given a priority by the Kenyan government.

Lastly, a need has been seen to strengthen climate data analysis and reinforce Early Warning Early Action (EWEA) systems to protect livelihoods. Early warning mechanisms provide crucial information for decision making at farmer-level. Equally, the support of climate-informed agricultural advisories is significant, leveraging digital platforms appropriately, to inform farmer choices. Additionally, significant investment in mapping to better prepare for emergencies and put measures in place to safeguard livelihoods and recover from extreme weather events can never be ignored.



support agriculture's contribution to economic growth in line with the Africa Union Agenda 2063, the 2014 Malabo Declaration and the United Nations' Sustainable Development Goals (SDGs).

Equally, it is an institutional consideration that a collaborative approach across sectors is highly advocated to ensure an integrated approach to investments, including alignment with National Adaptation Programmes of Action (NAPAs). Therefore, adaptation and resilience will be at the heart of Corporation strategy going forward.

Aware of the smallholder farmers being the most vulnerable, a provision for social safety nets to cushion them against extreme

*Dennis Mulongo is a Risk Officer
at Agricultural Finance Corporation*

Which way for Development Finance Institutions (DFIs)?

By Eurry Mabonga

Development Finance Institutions (DFIs) in Kenya were set up to provide long term finance to prioritized sectors as part of the industrialization strategy. Most of these institutions were incorporated in the 1960s and 1970s. The intentions were brilliant. Kenya had just attained independence and the republic needed to accelerate development. We started in the spirit. About 60 years later, there is a conspicuous and glaring development gap.

It is settled that most if not all DFIs have relied substantially on external financing, besides government financing. Reputable financial institutions like East African Development Bank, World Bank and European Bank have made tremendous contribution to the financial support of DFIs. AFC for instance, enjoyed Government funding through loans and grants but the funds fluctuated over a period of time and the same was suspended at some point then resumed.

It is expected that for AFC to make a meaningful contribution to development, it should have the capacity to make long term investments at rates that are below the market rates. It would have made a lot of commercial sense if the Corporation took advantage of private sector's risk averse attitude towards such investment risks.

However, it is now an almost concluded fact that there exists a major conflict between investment for profit and development. Studies show that DFIs are unable to surmount the challenge of balancing between the two. It is considered that balancing social and financial returns can be complex, time consuming and sometimes a contradictory affair for DFIs, especially in light of difficulties

in measuring projects' social impact. This is a constraint that has limited the growth of AFC and other DFIs and unless it is addressed now, then the future looks oblique. Agricultural Finance Corporation needs to refocus its objectives to its catalytic role through Public Private Partnerships (PPP) and share financial risk while maintaining its strong commitment to promoting best practice in their invested funds and projects.

Development Financial Institutions face several constraints that must be addressed now and not any other day. They include legal constraints, political interferences, limited resources (Finance, human and technology), climate vagaries, pandemics (Covid), and ownership structure. These are common issues affecting DFIs and AFC is not an exception. The Corporation (AFC) is by law allowed to borrow money or obtain credit from local and international financial institutions to realize its strategic objectives. This is however subject to the Treasury's approval. It should not be lost on us that AFC offers below the market statutory interest rate that is supposed to observe when advancing credit. The internally generated funds from loan collection is not sufficient to sustain its operations. An aggressive approach must be formulated to meet its strategic objectives.

From the foregoing constraints, it is apparent that DFIs in Kenya have either stagnated, collapsed or are at the verge of collapse. Most of these institutions are not self sustaining and an urgent action plan is needed. I wish to recommend that the government takes deliberate economic

recovery strategies to resuscitate DFIs. Three suggestions are hereby shared:

a. What is the DFIs structure:

Most of these institutions are government owned either wholly or partially. How free can the Development Finance Institutions operate from political interferences? Is it possible for the government to divest from these institutions? Is it possible to give autonomy to DFIs? Is it proper to allow management operate without government control? In the event that the foregoing happens, to what extent can DFIs operate and sustain their activities? It is my suggestion that ownership of DFIs be co-owned between government and private sector. Such partnership will bring efficient management and onboard commercial orientation a culture well established in the private sector hence enhancing performance that will meet the strategic objectives of the DFIs.

b. Source of Funds: These appears to be the turning point of all DFIs. How can Agricultural Finance Corporation contribute significantly to the the long term development process without compromising the short term development process? Striking this balance needs a potential source of long-term capital. The main challenge has been that due to the elongated period of this kind of investment, investors demand higher expected

returns, which would make the DFIs loans very expensive. I will suggest the DFIs be allowed through legislation to float shares through the stock exchange. This will be a cheaper form of capital that will require proper scrutiny and thus efficient management of public funds. The government should also have serious budgetary allocation to bridge the gap.

c. Contractual Saving: Is it possible for DFIs to partner with government departments and agencies like NSSF and NHIF? These departments hold money for a considerable period that I will regard as long term. If the funds are diverted to projects being undertaken by DFIs, then coupled with strict and proper management there will be cheap and sufficient capital to sustain activities of DFIs.

In conclusion, there must be clearly brought out development plans to cater for short to medium term and long-term development goals to accommodate the role of DFIs. It is also recommended that the government should complements the activities of DFIs by providing a favourable environment for businesses to flourish.

*Eurry Mabonga is a Lawyer
at Agricultural Finance Corporation*

The FARMER'S NOTEBOOK



Banana production: Critical success factors

Banana are the third most important food crops in Kenya after maize and potatoes and the main staple in parts of Uganda.

Banana is a plant that belongs to the Musaceae family. There are many species of banana in the world. From time to time, the banana is still one of the most popular crops in the worlds based on the Food and Agriculture Organization statistical database.

Globally, It is number four on the list of staple foods and was one of the first tropical crops to be exported to the supermarket chains in North America and Europe, hence its importance in world trade and food security. In Central America countries like Ecuador, the world's largest exporter, banana exports have a great influence on the economy. The term “banana republic” was coined here to refer to countries that relied so much on the crop for labour and income, but which

had been manipulated by leading exporters of the fruit to the point of getting very little from the trade, such as Honduras and Guatemala.

According to the Food and Agriculture Organisation, bananas are among the most produced, traded and consumed fruits globally. More than 1 000 varieties of bananas exist in the world, which provide vital nutrients to populations in producing and importing countries alike. The most traded variety is the Cavendish banana, which accounts for just under half of global production at an estimated annual production volume of 50 million tonnes. Bananas are particularly significant in some of the least developed and low-income, food-deficit countries, where they can contribute not only to household food security as a staple but also to income generation as a cash crop.

India is the world's leading producer of banana producing 30.8 million tonnes out of the 139 million tonnes produced around the world in 2019. China 11.6m tonnes, Indonesia 7.2m tonnes with African countries in the top ten: Angola, 4m tonnes Tanzania 3.4m tonnes and Colombia 2.9m tonnes.

Varieties

Majority of our local farmers grow a number of local varieties like Muraru, Kiganda, Bogoyo, Sukari and others which are adapted to various agro ecological zones. These varieties can be eaten as a dessert or cooked.

The improved cultivators are: Apple, Gross Michael, Kampala, Dwarf Cavendish, Giant Cavendish, Williams, Grand Nain, Valery, Paz, Poyo and Lacatan.

There are also new varieties in the market such as the PHIA varieties which are adaptable to various ecological zones

ranging from lowlands to high altitude areas.

Ecological requirements

Bananas grow from sea level to elevations of up to 1800m above sea level with temperatures averaging 20 to 30°C. Below 10 – 20°C the plant's growth is severely retarded.

For rain fed production of bananas, the minimum annual rainfall of 1400mm which is fairly distributed is needed because bananas need constant supply of moisture. However, it is recommended that for optimum production, one should invest in an irrigation system for proper commercial production. The soils should also be well drained, deep and rich in humus.

Planting materials

Suckers are commonly used but with advances in technology, tissue culture seedlings are readily available from



Tissue culture bananas placed in containers for germination in regulated room temperature for growth and development

various sources. The tissue culture seedlings are gaining popularity because they are considered to be disease free. When selecting seedlings for planting, ask for the variety that suits your geographical location.

The use of tissue culture plantlets in Kenya is the most recommended method of propagation because of the following advantages:

1. Rapid seed multiplication
2. Healthy planting materials free of disease and pests
3. Minimal replacement after planting and immediate continuation of growth
4. Early bearing/maturity and higher yields
5. However, if one chooses to use suckers, consider the following when selecting suckers;
6. Select from a health mother plant, without and symptoms of banana weevils, nematodes, or other pests and diseases.
7. Possibly use suckers from certified mother trees.
8. Suckers should originate from heavy bearing mother plants.
9. The mother plant should have all desirable characters such as typical appearance and shape
10. The suckers should be 1 to 2 m tall (except for peeper suckers)
11. The diameter of the sucker at the bottom should be 15 to 25 cm
12. The suckers should have well developed strong roots

Planting Bananas

Size of planting hole (length x width x depth)

- Under dry conditions:
90 x 90 x 60 cm (3 x 3 x 2 feet)
- Under wet conditions
60 x 60 x 60 cm (2 x 2 x 2 feet)

The bigger the planting hole, the better the production of bananas

Common spacing

1. For all varieties: 5 x 5 m (plant to plant x row to row)
2. For dwarf varieties: 3 x 3 m (plant to plant x row to row)

If possible, plant bananas in at the beginning of the long rains to give the suckers adequate time to establish roots and soon benefit from a second short rain season.

After digging the planting hole, fill the planting hole only up to 2/3 with a mixture of 2 to 4 bucketful of farm yard manure. Fertile top soil or compost. To avoid nematode problems, add nematode to the soil mixture. Mix well with all the soil media. Plant the banana seedlings in the middle of the hole. Leave the upper part of the hole empty. Water with 4 to 5 bucketful of water for each seedling. Cover the upper 1/3 of the seedling hole with mulch and organic matter slowly in the next 3 to 4 months.

Bananas need permanent water supply but cannot withstand water logging over a long period. If planting bananas in dry conditions, micro water catchments are favorable. Bananas are easily damaged by wind. If your farm is affected by strong winds, establish a windbreak before planting the bananas.

Managing and maintaining the banana stools

Recently planted seedlings need regular watering and mulching. Shallow weeding is key as bananas have shallow root system. Use a fork hoe. Do not disturb the roots. Just scratch the surface. Ring weeding is done according to the size of the banana stool at a bout 2ft around the stool. Leave the depression in the planting hole, then fill it slowly with organic matter or compost over 3 to 4 months after planting.

Allow one flowering or fruiting stem and 3



suckers of different size for continuous banana production. With more suckers, the stool will produce stems and leaves but fewer fruits. Discard suckers exceeding weaker suckers. Prop the plant as the fruits develop and weight of the bunch increases.

Fertilizer application

Apply 2 to 4 buckets of manure per stem per year. Manure is preferable to inorganic fertilizers. Apply the manure at the drip line of the outer diameter of the canopy instead of to the stem. Use a fork to incorporate manure in the topsoil, shallowly and carefully.

Harvesting

Banana fruits are ready for harvesting 90 to 150 days after the fingers begin to develop. The fingers are considered mature for harvesting when they are $\frac{3}{4}$ round and still green. Avoid bruising the fingers during harvesting. Cut off the stem with a clean cut at ground level after harvesting the bunch. Cover the cut with soil so that the banana weevils cannot easily enter the stem and infect the crop.

Treatment for nematodes and weevils

Nematodes are very harmful to bananas, therefore, combining chemical and physical treatment is highly recommended for their control.

Pairing – Slice off the outer part of the bottom. Remove all

roots and some parts of the stem with a sharp knife. In case of slight nematodes infection, discard the sucker immediately.

Dipping- Dip the banana suckers in a nematode solution, which will kill the nematodes.

Hot water treatment- Dip the bottom and roots of the suckers in warm water (50°C) for 10 minutes. This treatment does not harm the sucker but reduces the danger of nematode infection.

Application of nematodes- A number of nematodes products are available that are used at planting and then applied 2-3 times a year around the stem of the banana.

Pest management

Banana silvery thrips

The adults are dark brown with 2 pairs of wings. Thrips feed on the skin of the fruit producing silvery patches which later turn brown and cover the whole fruit. Young fruits may crack and do not get yellow when ripe. The damage to the fruit is of little importance for local market but serious for export market. Chemical control should be done as soon as insect numbers increase or plant damage is observed.

Banana weevil

The adult beetle is dark brown to black, hard shelled and can be recognized by the snout. The adults are sluggish and look dead when touched, and tend to hide during the day and come out at night to feed and lay eggs. They feed on dead banana plants, newly cut stems and other decaying plant materials near the base of banana plants.

Affected leaves of attacked plant turn yellow, wither and die prematurely. Heavy infestations may kill young plants while older plants are easily blown over by the winds. This pest is distributed mostly by infested corns and causes major damage in neglected plants.

To manage this pest, use clean uninfected material must be used. Prepared planting material must not be left out in the field overnight since the beetles may lay eggs in them.

During harvesting, cut stems close to the ground and cover the cut face with layer of soil to prevent the weevil from entering the stem. Harvested stems should be cut in small pieces to enable them to rot as soon as possible. It is important to keep the base of the stems clear at all times.

Trap the weevils by placing old stem pieces facing down between the plants. Trapped beetles can be collected by hand from the pieces or the traps can be also treated with insecticides.

Disease management

Panama disease (Fusarium wilt)

This disease is a serious threat to bananas in Africa, having caused untold suffering to banana plantations in Central Americas and Asia. Infected leaves turn yellow from the margins, dry up and later collapse leaving a skirt of dead leaves draped around the plant. Stems of affected plants split longitudinally and when cut across the vessels exhibit purplish stains and smell of rotten fish when cut. Corms when cut down show brown or black lines running through the tissues, while the roots of diseased plants turn black and rot.

The panama disease has no known cure and the causative fungus is poorly understood. Despite efforts, no known cure has been found. Clean planting material and good agricultural practices remain the only option to managing the disease. These include the use of plenty of manure when planting in well drained soils avoidance of water stress and uprooting and burning of diseased plant.

Cigar end rot

This disease is characterized by a dry rot with an ashy grey appearance resembling a burnt – out cigar affecting a few centimeters of the tip. The pulp eventually undergoes a dry rot and becomes fibrous.

Cigar end rot is managed by removing by hand or brushing dried floral parts from fruit tips 8-11 days after bunch emergence. It is also controlled by removing and burning all excess dried leaves and other dead plant tissue from the field and maintaining proper spacing between plants by pruning excess suckers.

Xanthomonas wilt of bananas

Better known as BXW and to a lesser extent as BBW (for banana bacterial wilt) this is a lethal bacterial disease present only in Eastern Africa. Easy to confuse with the panama disease. Bacterial – laden exudates provide the means of transmission to new plants by insects and contaminated tools like machete/pangas. Infected, but symptomless, suckers can also spread the disease.



The disease can be controlled by adopting management practices that have been shown to be effective in preventing transmission and in reducing inoculum levels in infested fields. In particular, early removal of the male bud to prevent transmission by insects and strict sanitation on the farm to avoid transmission through contaminated tools are very useful. In areas where the disease is present, the practice of using banana plant material as mulch is also discouraged as it may contribute to the spread of the disease.

Banana value addition

Food- The banana is well known for food security functions. However, the potential of the fruit in terms of economic potential is just starting to be exploited through

conversation into several products.

Banana is an important source of a number of foods including flours, chips and crisps and beverages. Dried banana can be processed into flours to be used in porridge and meals. The flour can also be used to manufacture cakes, biscuits, jam and bread products.

Banana chips and crisps are also fairly common these days in supermarkets around the region. In terms of beverages, banana juice is common in some areas, while banana wine and other alcoholic beverages is big business in Tanzania, Rwanda and Uganda.

Textile and paper- The banana stem has been used in a number of countries including Japan as a textile material for various types of clothing. The fibers are also used to make paper products in many countries.



source: Fao.org

Priscilla Angwenyi is a Communications Officer at Agricultural Finance Corporation





Millet and Sorghum: Forgotten foods for the future

Millet and sorghum are grains that are nutrient rich, drought tolerant and can support communities around the world. The International Crop Research Institute for the Semi-Arid Tropics (ICRISAT) estimates that more than 90 million people in Africa and Asia depend on millet in their diets, and 500 million people in more than 30 countries depend on sorghums as a staple food. However, in the past 50 years, these grains have largely been abandoned in favor of developing more popular crops like maize, wheat, rice, and soybeans.

The Smart Food initiative at ICRISAT, in partnership with Feed the Future's Accelerated Value Chain Development

(AVCD) Program, is developing innovative methods to make these grains attractive again in the semi-arid tropics of Africa and India. At the same time, the project is hoping to educate consumers, farmers, food processors, health workers, and government leaders about the various benefits and uses of millet, sorghum, and grain legumes.

Building awareness of these grains can support the diet diversity, well-being, and livelihoods of rural communities and farmers in Africa and India, where undernutrition, malnutrition, obesity, and anemia are common.

Millet is gluten-free high in protein and antioxidants, and has low glycemic index, which can help prevent or manage

diabetes. Pearl millet, in particular, is very high in iron—one of the most common micronutrient deficiencies worldwide—and has twice the protein of milk. Finger millet has three times more calcium than milk. Kodo millet includes three times the dietary fiber of wheat and maize, and ten times that of rice. Sorghum, also used as a sweetener syrup, is rich in vitamins, minerals, protein, and fiber, and is also gluten-free.

This cereal grain can help reduce the risk of certain cancers, as well as aid in diabetes control and prevention.

Despite being highly nutritious, these crops have suffered a loss of popularity and poorly developed value chains, according to Joanna Kane-Potaka, the Director of Strategic Marketing and Communication at ICRISAT.

“Millets and sorghum were the traditional crops across many parts of Africa and India, but are now seen as old fashioned or food for the poor,” says Kane-Potaka. “There has been much less investment in these foods. The value chain is less developed, from the seed system being set up through to modern convenience products being developed.”

The current lack of development of millets and sorghum crops allows for substantial potential in growth and innovation. ICRISAT hopes to develop the crops' value chains from farming to food products. “We are working with food processors to incorporate millets in ready-to-eat snacks and foods such as breakfast cereals, malt drinks, etc.” says Dr. David Bergvinson, the Director General of ICRISAT.

Some of ICRISAT's other Smart Food projects include healthy cooking demonstrations and training programs for Kenyan women and families; a Smart Food reality TV show, which challenges contestants to incorporate millets, sorghum, and grain legumes into meals; and a program that adds millets into mid-day school meals in India.

Millets are multi-purpose—their stalks can be used not only as grains for human consumption, but also as animal fodder, as a biofuel, and in brewing. Other major crops like maize may see reducing yields or reach a yield plateau over the coming decade. However, ICRISAT reports that some millets and sorghum varieties could increase their yields up to three times their current potential. Millets and sorghum can be more reliable crops for farmers in spite of dry, hot conditions because they are usually the last crops standing in droughts.

Not only can millet grow in about half the time of wheat, using few or no fertilizers and pesticides, but they also require 30 percent less water than maize and 70 percent less water than rice.

In the face of global climate change, water scarcity, and longer periods of drought, millet and sorghum may be valuable, nutritious, and hardy alternatives to provide sustainable food security for people living in increasingly dry climates. According to Kane-Potaka, a return to millet and sorghum means a return to food that is good for you, good for the planet, and good for the farmer.

Source: www.icrisat.org



Huge potential for e-commerce growth in African markets - PayU



While South Africa, Nigeria and Kenya have the highest internet penetration in the continent, e-commerce penetration was at less than 40 percent, a report by PayU, a Netherlands-based payment service provider to online merchants.

Among the three African countries included in the report, South Africa had the highest internet penetration at 56 percent, with Nigeria and Kenya at 46 percent and 31 percent respectively.

However, the report shows that e-commerce penetration was at 37 percent in both Nigeria and South Africa and at 25 percent in Kenya.

The report by PayU and fintech business of Prosus, said this highlighted significant potential for growth in e-commerce in these markets.

The data found that Nigeria was by far the largest e-commerce market in Africa in terms of the number of shoppers and revenue, with predicted consumer spend expected to be several times those of South Africa and Kenya combined.

Kenya was primed for a boom in e-commerce, with the digital goods sector forecast to expand by 94 percent from 2019 levels by the end of this year, and the fashion and gallantry sector expected to grow by a massive 160 percent over the same time.

In South Africa, the market was embracing digitalization and e-commerce, and there were abundant opportunities across every sector, but particularly for specialist merchants in beauty, cosmetics, and fashion and gallantry.

Karen Nadasen, the chief executive of PayU South Africa, said 2020 was a year that lit a fire beneath online payments in South Africa, transforming e-commerce while creating immense economic pressure.

“There is growing attention on our continent, increased investment from large international brands and payment platforms. Retailers adapted quickly in 2020, and despite early bans on non-essential purchases, we saw significant growth in e-commerce, with more and more transactions being completed on mobile devices – up 35 percent on 2019 levels in South Africa as an example,” said Nadasen.

Online and omnichannel merchants were said to be realizing more opportunities, as multiple factors combined to bring African countries to an e-commerce adoption tipping point. This was particularly the case for merchants in fashion, beauty, education and digital goods.

According to PayU data, year-on-year online spend in the beauty and cosmetics category in South Africa grew by 140 percent between 2019 and 2020 with spending particularly ramping up in last year's third quarter, increasing by 229 percent compared to the same period in 2019, and was expected to grow by 69 percent to US\$169 million by the end of 2021.

In Nigeria, it was expected to grow to US\$255 million by the end of 2021, and to US\$29 million in Kenya in the same time frame.

South African consumer spend on fashion and gallantry through PayU's platform rose by 180 percent between 2019 and 2020, with the average transaction value increasing by US\$11.

In Nigeria, spending in this sector was expected to grow to US\$2.27 billion by the end of 2021, while in Kenya it was expected to reach US\$504m, a projected 160 percent increase compared to 2019's results.

E-commerce spending on digital goods in South Africa was projected to grow by 46 percent between 2019 and the end of 2021, reaching US\$336 million in total spend.

This has been bolstered significantly by strong growth of 69 percent in 2020, with people consuming more digital media while spending time at home.

In Nigeria, this sector was expected to grow to US\$811 million by the end of 2021 and to US\$70 million in Kenya being a 94 percent increase on both markets

compared to 2019 results.

Online spend on education was also said to have boomed across South Africa in 2020 as people sought to up skill themselves during a prolonged time at home.

PayU data showed a year-on-year increase in spending of 67 percent last year with the average transaction value growing by US\$136 to US\$404.

The majority of the growth was in the third quarter of last year, when spending rose 134 percent.

This evolution was said to have seen the emergence of more digitally savvy shoppers with strong demand for globally sourced goods and services in regions where parts of the population had access to increasing disposable income.

These factors made Nigeria, Kenya and South Africa particularly interesting for emerging e-commerce leaders from outside these markets.

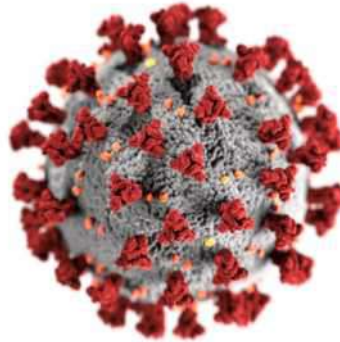
The United Nations Conference on Trade and Development said e-commerce's share of global retail trade grew from 14 percent in 2019 to about 17 percent in 2020.



kenya.payu.com



What Covid-19 pandemic has taught me



By Harun Njago

For the last two years, the novel corona virus has changed not just the way we live and work but also how we think and behave. Every part of the world has been affected, and every aspect of life has been impacted. Our routines were brought to a stop, and any sense of normalcy was lost. As we look around to appreciate what the world has become, I cannot help but think of what I used to take for granted. If nothing else, perhaps there are some life lessons to take away from this pandemic.

Having multiple sources of income is important

So many people are suffering pay cuts or losing their jobs during this time. Unemployment horrors! A common theme to address this that I have noticed is advocating for multiple income streams or starting a side hustle. Multiple sources of income are one way to cushion yourself in the future. This crisis has shown us that you never know what can happen. We all should have an idea of what else we could do with our skills or what areas we would be willing to learn so that if we are forced to, we can pivot.

Times are changing, and more change is coming. We must adapt to these life-changing events and be prepared for any possibility

We are all equal

Illness and natural disasters are great equalizers, and they also highlight the disparities in our society.

Money, status, fame and looks have no bearing on what happens to you, nor does it protect you in any way. At the end of the day, we are all susceptible to the same human vices, illnesses and consequences.

Agriculture is Key

Corona has taught me that agriculture will always remain a top priority, everybody is going to need something to eat.

When the cessation of movement in and out of Nairobi was announced, none of us rushed to buy cars or land most of us rushed to buy flour, rice, wheat flour, milk, tissue paper, vegetables and sugar. Indeed farmers are the soul of the nation. Let's support them.

Strengthening health systems to provide equitable access is important. Age, race, class, and ethnicity continues to serve as determinants to death from this disease. It is more obvious than ever before that if even one person lacks access to



comprehensive care, it undermines the stability and safety of an entire community.

Family and friends come first

Before the coronavirus dominated our lives, many of us may have taken human interaction for granted. Spending time with our immediate loved ones has now taken centre stage. Despite the frustrations the daily confinement may naturally bring, it's important to reflect on what our family and friends truly mean to us. As restrictions begin to lift, seeing those we haven't been able to connect with face-to-face will feel that much more special. Maybe we'll even share more smiles and hellos with those we don't know.

Humans are social creatures, and we need social interaction

The COVID-19 pandemic has highlighted the importance of social interaction and human contact within almost every aspect of our lives, including education, employment, entertainment, and recreation. Efforts

to reduce the spread of the virus, including physical distancing, quarantine, and stay-at-home orders prompted and exacerbated social isolation and loneliness. This pandemic has made me realize how much I miss the social interaction and things as simple as a hug or handshake or even family visits.

Humans are adaptive, and life is more flexible than we think

The pandemic has been a time of extraordinary change, and we have had to rapidly change and adapt to the evolving situation. Many individuals have lost jobs and have been forced to find creative ways to pay the bills. Many others began working from home. Schools turned online with virtual learning. Many physicians started offering telemedicine. This pandemic has been a testament to just how resilient we are as humans and our ability to be flexible and creative in the face of uncertainty.

Life is precious. Be grateful for what you have.

With over 3,396 lives lost to the pandemic in Kenya as of 13th June 2021, this pandemic has made me re-think my priorities and remember how precious life is. It has been a reminder to appreciate the smaller things in life, the things I often take for granted. With so many deaths each day, I am grateful for my family and friends, even if it means video calls and text messages while we cannot see each other in person. With so many people falling ill, I am grateful for my health. With so many people losing jobs and becoming homeless, I am grateful for the food in my fridge and a place to call home.

The importance of good health and wellness

I hope everyone who once took their health and their access to medications for granted now realizes how lucky we have been thus far. I also hope everyone says, "OK, time to make health a priority."

Until you are taking care of yourself, you will not be able to fight not just COVID but any illness.

Covid-19 has taught me to take steps now to redefine my view of fitness and health. I'm not saying you need to become a bodybuilder, but pay attention to your food and activity levels, and work on developing healthy habits and build a healthy lifestyle. Think of food as medicine and use it to work for you and keep you fit. Indeed if you take care of yourself now, your body and mind will fight for you later.

This pandemic has made me re-evaluate my life and assess my priorities. It has served as a reminder of how precious life is and helped me appreciate the little things in life.

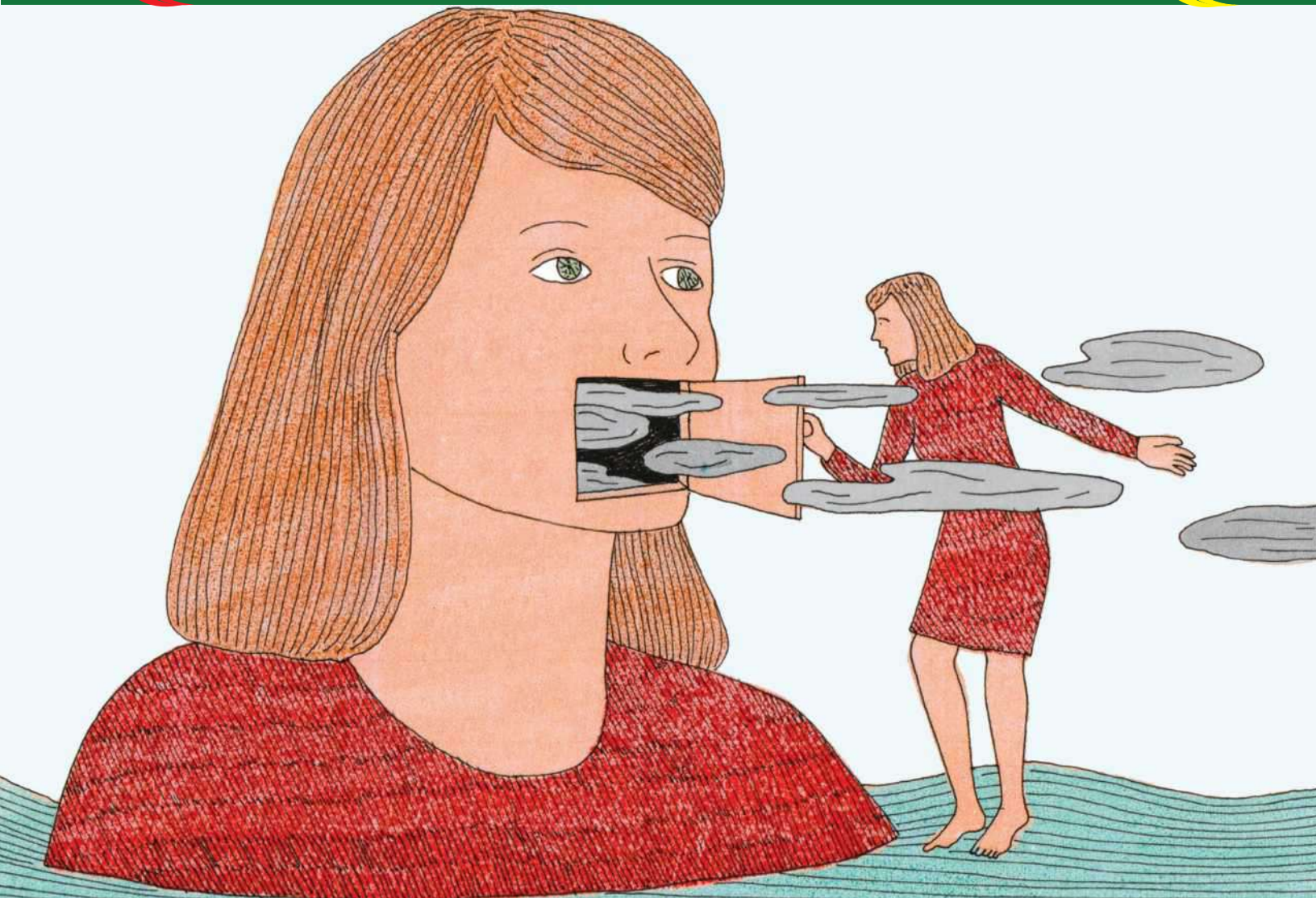
In conclusion, the situation, hopefully, is helping you to reprioritize your time and your life purpose. I hope you can use this time to find yourself and realize what truly matters to you and allows you to live your best life.

Let's carry these lessons with us as we move forward so that we, as a society, are better as a whole because of this experience.



Receiving an injection

Harun Njago is a Corporate Communications Officer at Agricultural Finance Corporation



If you must speak your mind

You must mind how you speak

By: Richard Singa

Nothing is more frequently “opened by mistake” than the mouth. In the mouth there is a small organ called the tongue which can light forest fires in terms of the trouble it causes when used wrongly. It can also give out sweet words that uplift the downhearted.

“Lord watch my ways and keep my tongue from sinning.” Psalm 39 says, “let my mouth be filled with worthwhile words, words that come to edify, that encourage, that praise, that share you

with others, let my tongue be the stuff that brings sunshine in other people's lives.”

Like a fountain, so is the tongue continuously pouring out. Thanks be to the good Lord that we have only one tongue for if we had two or more, the world could not contain the ill spoken words.

We should be quick to listen, slow to speak and become angry as we are warned in James chapter 1:19. Our prayer should be:

“Hold my tongue Lord and know when I have said enough. Help me to know when

to speak and when to say but little. For out of the abundance of words, sin is not lacking”

I overheard a friend praying the other day in church “I talk too much Lord, help me hold back the words that pour out of a heart that is not right with you”. My friend prayed. I tried to concentrate on my prayers but I realized I may as well pray alongside with him, for he was taking words out of my mouth.

Vain words flow from our tongues more easily than words of love. That is why when we are angry we speak fast and loud and non stop. But when we meet a friend we are at loss of words of what to say to comfort them.

The reason for this is not difficult to find. We say so little in encouraging words to those who need them but say unpalatable things about them in private.

It is like our prayers to the Lord. We pray so little and chat so much with our friends because we are used to chatting. I cannot fathom why people should rush through 30 minutes of prayer and chat away an entire hour soon after the hurried prayers. I, being part of the people who are prone to do that, I always pray “Lord teach me to converse more with you even in my thoughts”.

People's tongues have often led them into trouble. Even religious men especially the clergy have made their churches battle grounds or war zones because what the tongue proclaims on the pulpit sometimes incite the followers against their rivals. James 1: 26 however warns us that, if anyone considers himself religious and does not keep a tight reign on his tongue, he deceives himself and his religion is worthless.

For sure, there is a difference between having to say something and having

something to say. The former is usually undesirable. Another golden rule; say something only if you have to say it. This way you avoid a lot of vain talk.

Of course we must never be silent when we ought to speak but we must never speak either when we ought to be silent.

As a man grows wiser, he talks less and says more. Weightless words are usually heavy with falsehoods. Whenever we are angry, we love to speak our minds. But if you must speak your mind, you must mind how you speak!

“Lord teach me to converse more with you even in my thoughts”



AGRICULTURAL FINANCE CORPORATION

The Co-operative Ride-on Access Window (CRAW)

CRAW aims at enhancing financial access of small holder farmers, women and youth through co-operative societies.



Horticulture



Livestock Development



Value Chain



Cereal Trade

GENERAL LOAN REQUIREMENTS

- Sacco should be agricultural based
- Sacco should have a membership of **3,000** and above
- Regulated by **SASRA**
- Credit should be extended to Cereals, Livestock, Dairy, Horticulture Value Chains
- Undergo a comprehensive appraisal by the Corporation

LOAN FEATURES

- Interest rate of 10% per annum
- Loan amount 50 million to 100 million
- Grace period - 6 months
- Installment frequency- Quarterly
- Loan period is 36 - 60 months
- Collateral (Bank guarantees, Debentures, Title deeds or Lien on fixed deposits)

CONTACT US:

- 📍 Agricultural Finance Corporation
Development Hse, Moi Avenue, Nairobi
P.O. Box 30367-00100-Nairobi-Kenya
- ☎ +254-020-3272000/3317199
- 📠 +245-788 524 998/704 153 773
- ✉ customerservice@agrifinance.org
- 🌐 www.agrifinance.org
- 📘 <http://www.facebook.com/AgriculturalFinanceCorporation>
- 🐦 https://twitter.com/Agri_FinanceKe
- 📺 <http://www.youtube.com/user/AgriculturalFinance>



ISO: 9001:2015 CERTIFIED



**AGRICULTURAL FINANCE CORPORATION
DEVELOPMENT HOUSE - MOI AVENUE
P.O BOX 30367 - 00100
NAIROBI
TEL: +254-020-3317199
MOBILE: 0724253522 / 0725-579769**



Stimulating investment through agriculture