



Dr David Amudavi (second, right) with newly elected Board members of the IFOAM Organics International in New Delhi, India. Biovision Foundation President Dr. Hans Herren (fourth, left) was also elected to the board. Dr Amudavi will represent Africa in The General Assembly for next three years

Dear farmer,

Every New Year comes with great challenges for farmers. The new year 2018 will not be any different as farmers deal with challenges of buying inputs and land preparation after paying school fees, medical bills and meeting many other financial commitments that come after the Christmas and new year festivities.

However, proper planning will enable you overcome most of the hardships that come with the New Year. We are sure that most of you have already planned well. One piece of advice we would like to share with farmers is to try and avoid most of the mistakes you made last year. If you made the wrong choice of seeds, try and get the right ones this time round. If you planted late, try and plant as early as possible this year. Follow the weather forecast as given by the Meteorological Department regarding onset of the long rains.

Most farmers faced the invasion by a new pest in maize last year. The fall armyworm attacked maize in every part of the country, leaving many farmers helpless due to devastation to their crops. As a result the country will lose almost 30 percent of maize harvested last year due to the pest.

One strategy that farmers can adopt to reduce damage by the fall armyworm is to plant early. Early planting always give plants a headstart because they are able to grow before the pests multiply and start causing havoc to crops. Another strategy against pests is to prevent before the pests attack the crop.

Most farmers wait until they notice pest attacks on their crops before spraying which may already be too late for some pests such as the fall armyworm, thrips, whiteflies and many other pests. The Push-Pull method has also proved to be effective in control of the fall armyworm (we will feature more on this in one of the next TOF editions).

We will continue to feature more environmentally friendly methods of production. This will help to add value to your produce and make it more marketable to increase your income. We promise to be with you every step of the way as you continue to produce food for the country. We wish all of you a Happy and Prosperous New Year.

BvAT Executive Director elected to IFOAM World Board

Peter Kamau | The Executive director of Biovision Africa Trust (BvAT) Dr David Mulama Amudavi has been appointed a member of the International Federation of Organic Agriculture Movements (IFOAM Organics International) during the world body's General Assembly meeting that met in New Delhi, India recently. BvAT runs the Biovision Farmer Communication Programme (FCP) and

the Ecological Organic agriculture (EOA) initiative in eight African countries.

IFOAM is the umbrella body that advocates for adoption and application of Ecological Organic Agriculture (EOA) practices in 129 countries in the world. Dr Amudavi joins the IFOAM World Board that is composed of 10 members representing different continents. He will represent Africa in The General Assembly for three years beginning 2018 to 2020.

Dr Hans Herren, former Director-General of ICIPE and current President of Biovision Foundation was also elected a member of the board. Dr. Herren is a recipient of the World Food Prize (1995) and the Right Livelihood Award (2013).

In an Interview published in this issue (See page 3 and 7) and *Seeds of Gold* magazine of (*Saturday Nation*, December 30, 2017) Dr Amudavi says his appointment will strengthen BvAT's activities in the current eight countries with expected growth in more countries in Africa where it is already promoting Ecological Organic Agriculture. He says BvAT will seek funding to expand the project to six other countries in Southern Africa. BvAT currently operates in two clusters—the East African cluster that covers Kenya, Uganda, Tanzania and Ethiopia and the West African cluster

that includes Nigeria, Senegal, Benin and Mali.

TOFRadio producer bags International film award

Musdalafa Lyaga, the TOFRadio Assistant Producer has won an International Film Award. Musdalafa (*below*) won the Food Sustainability Media Award sponsored by Thomas Reuters and Barrila Centre



for Food and Nutrition (BFCN). Musdalafa's film titled "Unpeeling the rot in Mango Value Chains" was rated the best from among 500 entries from across the world. The award recognizes excellent Agriculture Journalists from around the world who focus on topics relating to food security, sustainable agriculture, and nutrition Mr. Lyaga received the award in Milan, Italy last month. He will also travel to London in January 2018 for one week training on film production in Agriculture sponsored by Thomas Reuters Foundation.

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Use water efficiently to boost productivity

A lot of water is wasted in many farms due to lack of knowledge on how it can be harnessed and properly utilised for crop production and for other domestic uses.

Amina Day Ojijo | According to weather forecasts, most of the parts of Kenya are headed for a long dry spell as the rainy season comes to an end.

The dry weather is expected to begin from this month. It is important for farmers to practice efficient water management practices in their farms.

The modern farmer should be ready to respond to the challenge of over-spilling of water in farming while increasing food production for the rapidly growing population. This means that farmers need to simultaneously increase yields while using water sustainably.

Use water prudently

Agriculture is the largest consumer of water; accounting for over 70% of the world's freshwater diversion. Within the agricultural sector, water has a number of uses including irrigation, spraying, for livestock and domestic use among other uses. Sadly, only a small portion of this water is used in the production of high value crops, with plenty of it getting lost mainly through evaporation, transpiration and taken up by weeds.

In both irrigated and rainfed cropping systems, water productivity can be improved by choosing well-adapted crop types, reducing wasteful water losses and maintaining healthy, vigorously growing crops through optimized water, nutrient and agronomic management.

Adopt smart farming

Increasing water productivity is an important element in improved water management for sustainable agriculture, food security and a healthy ecosystem.



Farmers irrigate their land in Miti-iri, South Kinangop. Farmers should choose the right irrigation technologies such as drip irrigation that use water more efficiently and help to reduce wastage

Farmers are encouraged to practise smart agriculture in the wake of climate change witnessed by increased variation in rainfall distribution. Agriculture is also facing increasing competition from non-agricultural users such as industries.

The main challenge confronting water management in agriculture is improper water use. This can be overcome by conversion to crops with higher economic value, adoption of alternate drought-tolerant crops, better soil and water management practices such as mulching, which lead to an increase in soil water storage within the plant root zone.

Practise sustainable farming methods

Farmers can also take advantage of Ecological Organic Agriculture (EOA) practices such as conservation tillage, intercropping, relay cropping, crop rotation. Farmers can also grow crops with low water demand to optimise water usage.

Pressure of water scarcity is a constant and ever growing problem for arid and semi-arid areas. To produce food, many

farmers from these areas are now using drip irrigation as one of the strategies of efficient water management. Irrigation has the potential of boosting farming in communities' living in these dry areas.

Drip irrigation uses water efficiently

Improved irrigation systems enable farmers to be more efficient in their overall operations and more competitive. It is certainly advantageous to use drip irrigation. The method has been known to transform dry areas into lush green fields thus increasing incomes and providing many new opportunities for economic advancement in these regions.

However, farmers need to consider the returns they get when they use irrigation, as



A drip irrigation system

part of sustainable water management. This requires the right choice of crops and the growing period. For example, it is advisable to grow a high value crop that takes shorter time rather than a late maturing such as maize that has low returns. Flood irrigation should be reduced due to high water usage and even wastage.

Choice of crop for irrigation is important

Water use efficiency must also be considered in terms of replacing high water consuming crops with low-consuming ones. This also includes reallocation of water from low-value crops to higher-value crops.

Therefore, reducing agricultural water use and making water resources more sustainable is very important. It is a question that requires combined agronomic practices, skills, knowledge and efficiency. Farmers should use appropriate agronomic techniques to grow crops best suited to their environment, with least use of water, whether in irrigation or rain-fed production.

For more information on water management, go to http://www.infonet-biovision.org/water_management

The Organic Farmer is an independent magazine produced monthly for the East African farming community. It promotes organic farming and supports discussions on all aspects of sustainable development. The articles in the *The Organic Farmer* do not necessarily reflect the views of ICIPE nor Biovision Foundation or Biovision Africa Trust (BvAT).

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Organic farming can offer solutions to food insecurity

Dr David Mulama Amudavi, the Executive Director of Biovision Africa Trust (BvAT), has been elected to the World Board of the International Federation of Organic Agriculture Movements (IFOAM), also called IFOAM Organics International to represent Africa in the global body. He was elected by the General Assembly that took place in New Delhi, India, recently. IFOAM Organics International promotes adoption of organic agriculture in 129 countries. Dr Amudavi was interviewed by Peter Kamau on the implication of his new appointment to BvAT, Kenya and global organic farming. Below are excerpts:



Certainly attention will need to be shifted to how we produce and consume our food to avert these deaths.

Biodiversity loss poses a big problem worldwide. How can organic agriculture address this problem?

Biodiversity is the foundation of agriculture as we know it. That means having a balance of organisms and plants (flora and fauna) that are in harmony with nature. There are certain cycles in the environment such as the carbon and nitrogen cycles. All these cycles are very well-balanced in organic agricultural production systems.

Organic agriculture is promoted because it is one of those agricultural systems that are able to maintain and preserve biodiversity of our environment. This means that you end up preserving very important processes that support life, for example ecological services. One example of ecological services is pollination. Pollination cannot take place without insects such as bees. Regrettably, bees are reducing worldwide because of high level use of harmful pesticides in industrial agriculture. Yet, we need these useful and friendly insects. These beneficial insects, animals and plants provide important ecological services to mankind.

What is the position of IFOAM regarding GMOs?

One of the major issues affecting the environment a lot in changing the processes of life beyond what nature can cope with is genetic engineering.

Among the key principles of organic agriculture is that no GMOs should be allowed in farming and food systems. Proponents of organic agriculture promote technologies that are in line with processes of nature. We support the development of biotechnologies that are in line with related species such as selective breeding. Organic agriculture supports research that enhances vitality within similar or related species of either plants or animals for genetic improvement and genetic adaptation.

What is IFOAM?

IFOAM stands for the International Federation of Organic Agriculture Movements (IFOAM). However, in 2014 the organization changed its name to IFOAM Organics International (IFOAM OI). Basically, it is an umbrella body that advocates for promotion and application of organic agriculture in the world.

What principles does IFOAM advocate for in organic agriculture?

IFOAM stands for agriculture that promotes the health of people, animals, plant and the environmental as one and indivisible. Health is a very important principle for IFOAM. The umbrella body is also driven by the principle of ecology such that we should care about what we do to the environment and how we can protect it to sustain life. With this principle organic agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them. IFOAM also promotes the principle of fairness in agriculture. This ensures that what farmers both large and small-scale do is appreciated. There has to be fairness in what farmers put into agricultural production and practices. When smallholder farmers' take an extra step in

their production systems, it is only fair that they get premium prices for their efforts. We should also ensure fairness with regard to the common environment and life opportunities. Finally, we have today and tomorrow to be conscious about and organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of everyone now and for the future generations.

Are there any other reasons IFOAM promotes organic agriculture?

Organic agriculture has been shown to contribute a lot to the nutrition and food security. One element that enhances nutrition is diversity in agricultural production and diversity in production is a very key component of organic agriculture. The second reason is that organic agriculture has been shown by emerging research to be more resilient to the effects of climate change. As you know the problem of climate change is now a very serious problem worldwide. If you look at the United Nations 2015 report on Framework Convention on Climate Change (UNFCCC), it shows how climate change has become a very critical issue. The resilience to effects of climate change comes from the fact

that agricultural systems that are based on organic agriculture pay much attention to natural cycles, issues of soil fertility and sustainability of agricultural production. As you know, climate change has affected agricultural production worldwide and continues to negatively do so. Right now, over 850 million people are in danger of starvation and hunger, and most of them are in Africa. Certified organic agriculture offers many market opportunities in domestic, regional and international markets. Farmers who are certified and linked to markets are making money from the various organic products and produce.

Everyone including most African governments promote and support conventional agriculture. What chances does organic agriculture stand to change the mindset among our policy makers?

It is now clearer that conventional agriculture or industrial agriculture with its focus on monoculture (growing only one type of crop) is no longer sustainable. It has been found that to produce enough with heavy use of chemical fertilizers and pesticides that destroy the environment is simply neither sustainable nor healthy. Organic agriculture is advocated because of its effect on protection of biodiversity. Biodiversity is the combination of the various forms of life on earth. Moreover, health, food and nutritional security are inadvertently linked. Increasingly, Non-Communicable Diseases (NCDs) are the leading causes of death in most regions except Africa and it is predicted that by 2020 the largest increases in NCD deaths will actually occur in Africa. By 2030, in Africa, deaths from NCDs are projected to exceed the combined deaths of communicable, nutritional diseases, maternal and perinatal deaths.



Photo: TOF

Labelled organic produce on display in the market

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Farmers enjoy good returns from KARI improved chickens

Kelvin Waita has specialized in KARI improved chickens that are highly productive and can survive in most climatic regions in Kenya. He has made good income from hatching eggs and selling chickens to hotels and other farmers.

Sharon Chebet | The KARI improved chicken breed is becoming popular in the country at the moment. Farmers are developing a liking for this breed of chickens because they produce more eggs and meat compared to the local *kienyeji* (indigenous) chickens. The KARI breed can thrive in areas with harsh climatic conditions such as the arid and semi-arid climatic zones. This is a resilient breed that would highly be recommended.

For farmers who prefer to rear them organically, they can be kept in the free-range system. With proper management, the improved indigenous poultry can lay between 220 to 280 eggs annually. This breed can attain weight of 1.5kg in a span of five months for the hen and the cock can weigh 2kg over the same period, if properly fed. The improved *Kienyeji* chicken has a quiet temperament; excellent feathering and fast adaptability in new environmental conditions compared to the other breeds.

Good market for *kienyeji* chickens

"The majority of Kenyans prefer eating *Kienyeji* chickens. This provides to ready market this



A KARI improved hen

breed of chickens. Farmers can sell *Kienyeji* chickens to restaurants, hotels, supermarkets, friends, functions like weddings, corporate events and so on. Unlike broilers where owners of hotels and restaurants can readily get supplies, *Kienyeji* chickens are in short supply all year round," says Mr Kelvin Waita, a poultry farmer



Mr Kelvin Waita show cases already placed eggs in his incubator for hatching

at Mumbuni Ward, Machakos County.

Mr Waita is an ambitious entrepreneur with keen interest in agribusiness. He is the Director of Benchmark Poultry Farm, a farm he started in June 2014 which, specializes in breeding the KALRO *Kienyeji* chicks. Despite being a supply chain graduate, Mr Waita has great passion for farming. Growing up, he says that he had little interest in farming. But after realizing the income potential in farming, he changed his attitude.

He developed passion for farming

Although he never took agriculture as a subject in High School, it is his passion today. He says that most people lack information about the income potential in agriculture. "Many young people still view it as an option for school drop-outs or retirees which is a very bad attitude that needs to change," he says.

He says agriculture is the future and advises young people to change their mindset. He says agriculture has an enormous potential for poverty alleviation and creating wealth if it is practised as a business.

In his 1-acre farm, Mr Waita has set apart an old house to rear his chickens, brood chicks for sale and incubate eggs. Raising day-old chicks is risky and labour intensive with a high mortality rate that can lead to serious losses. Still, Mr Waita decided to take that path. He says that with time, one learns

from their mistakes and things start to run smoothly.

Farm infrastructure

On one part of his compound he keeps chickens for home consumption, one room for hatchery and another for brooding. The following are the key components he has installed in his poultry farm:

- Manual and fountain drinkers,
- Feeders
- Infrared bulbs
- 2 incubators (the larger holds 1,056 eggs and the smaller one can hold up to 528 eggs)
- Egg washing equipment
- Charcoal stove
- Brooder space
- Feed
- Electricity connection to Kenya Power Limited (KPL)
- Environmentally friendly briquettes
- Water supply
- Ventilation fan
- Laying nests
- Foot bath and
- Egg trays

How he started

He started with one hundred layers. Each layer required Ksh 300 for feeding until maturity, which translates to Ksh 30,000 spent on feeds. For roosters; he keeps a ratio of one for every six hens.

At the beginning of the project, he had no incubators. Later he purchased two second hand incubators at Ksh 60,000

for the bigger one and Ksh 55,000 for a smaller one. The smaller incubator has a capacity of 880 eggs cost Ksh 90,000 while the bigger one that costs Ksh 100,000 has a capacity of 1,056 eggs. He advises farmers to go for second hand ones but they should ensure an expert checks it to ensure it is working properly.

To cut heating costs he makes his own briquettes using charcoal dust, molasses and some little soil, and uses an energy saving jiko for the brooder.

The agribusiness

Mr Waita buys eggs from reputable farms from Nairobi and elsewhere for the hatching and specifically eggs hatched by the KARI indigenous chickens. He says eggs meant for incubation should not last more than 7 days before they are placed in the incubator for hatching. He chooses round eggs; those with edges are not suitable for incubation because they do not turn well. Kelvin is currently running his own hatchery which has cut costs and time that he would have spent using hens to hatch.

Mr Waita cleans the eggs with water and sanitizer before placing them in the incubator to avoid contamination. The eggs are placed in the incubator for 21 days. "On the 19th day, I transfer the eggs to a hatcher with the right setting of temperature and humidity to hatch." He confesses happily.

For more information and chicks bookings, contact Kelvin Waita on kelvinwaita@yahoo.com, Phone: 0725593546 / 0736696181

The consequences of poor diet in children in Kenya

Each year, more than 70,000 children under five years in Kenya die due to poor and inadequate food. An estimated 80 per cent of these children do not receive food with enough vitamins, iodine and iron which are needed for healthy growth and development.

Linah Njoroje | Malnutrition among Kenya's children is a serious problem that exists throughout the country. Each year, more than 70,000 Kenyan children die before their 5th birthday. Malnutrition contributes to about half of these deaths. Malnutrition is a group of conditions in children and adults generally related to poor quality or insufficient quantity of nutrient intake, absorption, or utilization. An estimated 80 percent of children aged 6 to 23 months are not receiving the minimum acceptable diet including micronutrients, such as vitamin A, iodine and iron, which are necessary for healthy growth and development. There are two major types of malnutrition:

- Malnutrition resulting from deficiencies in any or all nutrients is called protein-energy malnutrition
- Malnutrition resulting from a deficiency of specific micronutrients is called Micronutrient Deficiency Diseases

Causes of chronic malnutrition

There are three types of protein-energy malnutrition in children that include acute malnutrition which is caused by inadequate nutrition leading to rapid weight loss or failure to gain weight normally. Children with acute malnutrition look wasted and thin. Chronic malnutrition is caused by inadequate nutrition over a long period of time which leads to failure to grow tall. Children with chronic malnutrition are short for their age and they are stunted. Some children may suffer from a combination of the two which are acute and chronic malnutrition. These are normally referred to as underweight. Currently about one quarter of children under 5 in Kenya are stunted today, 11 percent of children are underweight while 2 percent of children are severely underweight and 4 percent of



A malnourished child undergoes medical examination at a health centre. There are increased cases of malnutrition among children under five due to lack of balanced diet in many homes in Kenya

children are emaciated, or too thin for their height.

Wasting and stunting are very different forms of malnutrition. Stunting is chronic and thus has long-term irreversible consequences. Stunting usually does not pose an immediate threat to life and is relatively common in many populations in less-developed countries. Wasting results from an acute shortage of food, and can be reversed if the child is fed directly. However, wasting is more dangerous as it can quickly lead to death. That is why it is taken as a priority function during humanitarian emergencies.

Kwashiorkor has high death risk

One form of acute malnutrition is the acute protein-energy malnutrition is known as Kwashiorkor. Children with Kwashiorkor will generally develop oedema. This is caused by accumulation of fluid in the tissue, especially the feet and legs. Such children may not look like they are underweight because the weight of this excess oedema fluid. Yet on the contrary, they have lost fat and muscle tissue. These children may look fat or swollen. Such children have kwashiorkor which is very important to distinguish because the risk of death for children with kwashiorkor is higher than it is in children with just wasting or thinness.

Marasmus another sign of malnutrition

The other form of malnutrition is where there is no oedema instead, the child is thin. This condition is called marasmus. Sometimes the child may have signs of both kwashiorkor and marasmus and this is called marasmic-kwashi-

orkor. Both kwashiorkor and marasmus are life-threatening medical emergencies which need to be treated by sophisticated feeding programmes. Such programmes must be run by medical professionals with experience in feeding children with severe protein-energy malnutrition.

Malnutrition responsible for diseases in children

High prevalence of bacterial and parasitic diseases may also contribute to malnutrition. Similarly, malnutrition increases the children's susceptibility to infections. Malnutrition is a direct cause of more than 300,000 deaths per year and is indirectly responsible for about half of all deaths in young children.

Poverty to blame

There are other social economic factors that contribute to malnutrition such as poverty, political and economic situation, the level of education and sanitation, the season and climate conditions, food production, cultural and religious food customs, prevalence of infectious diseases, the existence and effectiveness of nutrition programs, the availability and quality of health services and breast-feeding habits.

Women and children need balanced diet

About 2 out of every 5 Kenyan children do not meet the World Health Organization's (WHO) recommendation for exclusive breastfeeding during the first 6 months of life. Malnutrition especially, protein-energy malnutrition and micronutrient deficiencies, continues to be a major health burden in developing countries. Globally it is the most important risk factor responsible for illness and death, with hun-

dreds of millions of pregnant women and young children particularly affected.

Apart from marasmus and kwashiorkor (the 2 forms of protein-energy malnutrition), deficiencies in iron, iodine, vitamin A and zinc are the main signs of malnutrition in developing countries. In these countries, a high prevalence of poor diet and infectious diseases regularly unite into a vicious circle.

Interventions to prevent protein-energy malnutrition range from promoting breastfeeding to food supplementation schemes, whereas micronutrient deficiencies would best be addressed through food-based strategies such as dietary diversification through home gardens and small livestock products such as chickens for eggs and goats for milk. Consumption of indigenous foods such as vegetables in all meals in small and frequent portions can alleviate malnutrition.

Nutrition education important

The fortification of salt with iodine and micronutrient supplementation schemes are successful interventions. Education especially on nutrition and awareness campaigns are the best interventions to combat malnutrition. Addressing the social economic factors such as poverty, which is clearly associated with the insecure supply of food and nutrition should be the first line of intervention to combat malnutrition.

Obesity a form of malnutrition

The other form of malnutrition that is becoming a big concern in children under five is overweight and obesity. This is caused by excessive intake of calories especially junk food or fast foods without fibre and lack of exercise. Most children nowadays spend a lot of time indoors with gadgets such as phones, computers or watching television.

To combat both forms of malnutrition, it is important to eat a healthy balanced diet and encourage children to play more. Avoiding of highly fatty or sweets foods or drinks can help in combating overweight and obesity. Engage children in more physical activities like games, sports both at school and at home. Instead stock healthy snacks like cassava, arrow roots, sweet potatoes and educate the children on their importance to their health.

For more information on malnutrition, go to <http://www.infonet-biovision.org/HumanHealth/Malnutrition>

Embu farmers benefit from sustainable agriculture

After reading *TOF* magazine, farmers' groups in Embu have adopted Ecological organic farming practices such as crop rotation, compost making, planting trees and controlling soil erosion; increasing farm productivity, nutrition and income.

Venter Mwongera | More than 3,000 organic farmers from Embu County are reaping the benefits of ecological organic agriculture.

Each of them has planted different types of crops and rears different types of animals and crops that provide balanced nutrition to humans and animals while increasing productivity and sustainability of the ecosystem in the region.

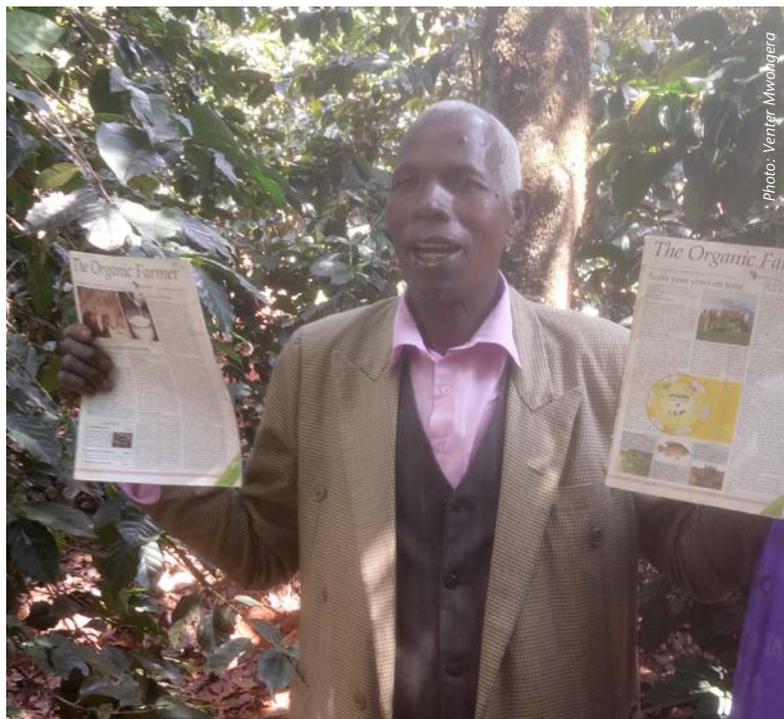
Types of biodiversity present on the farms

More than 225 farmers' groups have embraced beekeeping, dairy cows and goats rearing, poultry farming and planting of many crop species including different varieties of avocados, macadamia, bananas, lemons, oranges, yams, arrow-roots, guavas, cassava, potatoes, jacaranda, coffee, maize beans and even trees crops that improve soil fertility and biodiversity. The rich ecosystem has improved the incomes of the farmers' households, restored soil fertility, controlling soil erosion and reducing pollution which has improved production and even climatic conditions in the region.

Testimonies of organic farmers

Mrs Margaret Njeru hails from Kiriari village, Manyatta Sub-County in Embu County. She retired as a teacher eight years ago. While teaching, she also practised organic farming during the school holidays to produce healthy food. "I'm an advocate of good health. Natural foods are tasty, have a natural sweetness and fetch more income," she declares.

Her husband, Mr Samwel Njeru started organic farming many years before she was converted to this type of farming. "I enjoyed farming using manures as opposed to the use of chemical fertilizer which reduced farm



Mr Kinyua shows some of the past issues of *TOF* magazine he has kept for future reference

yields each season despite of heavy application of the inorganic fertilizers," Mr Njeru reveals.

They read *TOF* Magazine

Mr Njeru learnt land preparation, silage preparation, composting, terracing, dairy cow and goat farming, nursery bed preparations, planting of trees and biogas preparation from *The Organic Farmer* magazine. "I've read magazine for over seven years now. Every month I eagerly wait for the magazine to learn new information. I apply such technologies on my farm and teach other farmers too," he adds.

"In the past, I applied many bags of fertilizer and chemical pesticides on my crops. After learning the organic farming methods, I have more crop yields and my dairy animals have increased their milk production, I'm now able to stock their fodder throughout the year and I make biogas from their manure for home use," he says.

Crops and trees improve biodiversity

Mr Njeru works closely with his farm manager. Each month, when he receives *TOF* magazine, he reads it loudly as his farm manager listens carefully after which they discuss and implement what they have read. He also teaches other members of Mburugu Dairy Farmers Coop-

erative where he is the Chairman of the board.

Mr Fredrick Kinyua is another successful organic farmer from Ngandori West Location in Embu North Sub-County, Embu County. He is a permanent board member of 2-K Upendo Dairy Goats Farmers Group. His thirst for knowledge in agriculture started in primary school when he joined the 4 K-Club. "I would read any agricultural material that I came across. As a member of the Project Implementation Committee of Caritas in Embu, I came across *The Organic Farmer* magazine in 2005. It had rich and relevant information on many farming activities," says Mr Kinyua.

Farm productivity increased

Mr Kinyua is nick-named "Professor" due to his immense knowledge in agricultural matters. His land has rich biodiversity. He practices a wide range of farming activities on his farm.

He declined an offer of a white colour job to embark on full time farming. "With the organic farming knowledge I continue to acquire each day, I have changed an unproductive land to a very productive farm as you can see," he states with pride.

Farmers share knowledge

Due to his vast knowledge

of organic farming, Mr Kinyua trains other farmers on natural farming methods and uses *TOF* magazine as one of his training tools. "Many farmers' lives have been changed for better after embracing organic farming methods," he adds.

Soils' fertility has been restored, the climate around this region has been changed by the many trees we have planted, we are members of Dairy Goats Association of Kenya (DGAK), we keep good records of our farm inputs and soil erosion has been controlled due to the cover crops we have planted. Most of our live fences are made of native plants, trees and vegetation. Floods were a disaster in this region. Now, we have controlled them through proper farming practices learned from *TOF* magazine," declares Mr Kinyua.

Partnerships creates greater impact on projects

The Executive Director of Caritas Embu, Fr. Alex Mati observes, "Empowering the small-scale farmers with the right knowledge in farming activities is the best gift to humanity. Once they are imparted with the right knowledge, they can choose how wealthy they want to be."

Partnered with BvAT

Fr. Mati says that a partnership with Biovision Africa Trust (BvAT), which has continued to offer organic farming information through the monthly distribution of *TOF* magazine has not only empowered the community but also improved the livelihoods of the farming communities affiliated to the church's projects. "The lives of more than 3,000 smallholder farmers have been changed for the better," Fr. Mati confessed. Mr John Njoroje, Chairman of The Biovision Farmer Communication Program (BvAT) Advisory Board says, "Organic farming is the only sustainable farming practice that guarantees a healthy human, animals, plants, the environment and a restoration of soil fertility. Feasible partnerships can positively impact organic farming methods in many communities in Kenya and in Africa at large."

Organic farming can offer solutions to food insecurity

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How does IFOAM Board for which you were elected operate?

The IFOAM World Board in which I was privileged to be elected is composed of 10 members. I represent Africa in the Board. Three of the 10 members form the Executive Board which is composed of the President and two Vice Presidents. It looks at various strategic issues that give direction to IFOAM such as where it should focus its efforts on in terms of oversight and governance on issues of research and development, capacity building, advocacy and lobbying, certification and standards or fair trade. IFOAM has been crucial in the enactment of various global declarations. It is a partner to many bodies such as the United Nations where for example, it participated in the discussions on development of the Sustainable Development Goals (SDGs). Importantly all board members are supposed to act as ambassadors of organic agriculture wherever they are based.

Africa faces many challenges of promoting Ecological Organic Agriculture especially the onslaught by multinationals promoting chemicals and GMOs. As an IFOAM board member representing Africa, how do you intend to use your position to help the promotion of organic agriculture in the continent?

We are now better positioned to promote issues affecting development of Organic Agriculture. As you know Biovision Africa Trust (BvAT) for which I am the Executive Director is in charge of a very important continental initiative. This is the Ecological Organic Agriculture (EOA) Initiative, which started in 2011 following the decision of African Heads of States and Government that passed a declaration early 2011 that all African governments incorporate organic farming into their national agricultural production systems based on best practices.

Indeed, BvAT is a product of institutional strengthening that initially got support from Swedish Society for Nature Conservation (SSNC) with support



Farmers receive training on Ecological Organic farming in Arumeru Arusha, Tanzania

from the Swedish International Development Agency (Sida). Currently, BvAT coordinates a very important contribution from the Swiss Government towards this initiative in eight African countries, four in Eastern Africa namely Kenya, Uganda, Tanzania and Ethiopia. In West Africa we are implementing the programme in Nigeria, Benin, Senegal and Mali. In each country, we work with one main partner called the Country Lead Organisation (CLO); the CLO is an organization identified by partners or a national platform for EOA. The CLO gets into contracts with partners that can implement each of the six pillars of the EOA strategy.

IFOAM is represented in every part of the world. When we raise a proposal for support, it will get the attention of development partners, donors and governments. With this anticipation EOA will have been elevated to a level where we can get solid support for programme activities. Another advantage is networking and collaborations with other partners globally.

My appointment to the IFOAM OI World Board also gives us an entry point to look at which of the other areas we can seek resources to support our work in Africa. Right now we have approached organizations including GIZ to support EOA programme in some countries in Southern Africa to form a cluster. We are also looking for resources to support Burundi and Rwanda, the only two countries that are

not currently in the East African cluster. Integration of Ecological Organic Agriculture into the East African Community can only succeed when all the five countries are on board.

Most African governments are opposed to organic agriculture and even traditional seed systems due to influence from multinational companies. Indeed, the Kenyan government for example has declared an intention to phase out some of the maize seeds currently in use in the country in place of new seeds that were released recently. How will organic agriculture develop in an environment where the policy makers are pulling in the opposite direction?

The truth is that the interest of these multinationals is to expand and sustain markets for their products and therefore guarantee their profits. So they give the notion that they want to address the problem of food security. It is a fallacy for these companies to claim that they are fighting food insecurity. The problem is that most African governments including ours seem to prefer quick fixes to solving problems such as food insecurity. We need proper and inclusive discussions on what strategies, plans and

policies we should use to ensure sustainable agricultural growth and transformation of our sector and improvement of majority of the people's livelihoods.

What plans do you have in lobbying and advocacy to ensure that the importance of organic agriculture is brought into the national agenda?

We cannot say that the government should stop supporting conventional agriculture. But, what we are saying is that we need a vibrant advocacy and lobbying programme to ensure that organic agriculture is recognized as one of the most viable, sustainable and resilient agricultural production systems in the country, then over time people can see for themselves its advantages. My membership to the IFOAM World body raises the profile of our campaigns in Kenya, Africa and the World. IFOAM produces high quality publications and other material on best practices. One of the things we will begin to do under the EOA initiative is develop a data base of the best practices and also communicate these to policy makers, to the technocrats and even farmers. The Organic Agriculture policy that is under development should be finalized and approved. Under our Biovision Farmer Communication Programme we have *The Organic Farmer* magazine, radio programmes and extension services that we use to promote ecological organic agriculture in Kenya and lessons and experiences for scaling-up to other African countries.

TOF Rad answers your questions

TOFRadio is broadcast on KBC on Thursday at 8:45pm and Mbaitu FM on Friday at 8.30pm. Tune in and listen to farmer experiences and expert advice on agribusiness and eco-friendly farming methods. On this page, we respond to some of the issues raised by farmers in their correspondence to the radio program. Send your questions and comments via SMS 0715 916 136.

Sorghum becomes the new cash crop for Meru farmers

Charles Kimani | Sorghum is the fifth most important grain after maize. It is considered as the continent's food for the poor and is grown mostly by poor families for home consumption. Sorghum may, however, hold the answers to Kenya's arid and semi arid areas low returns, malnutrition and food insecurity. Traditionally, sorghum has been used in the preparation of porridge, ugali, biscuits and sausages.

Sorghum has great potential for income generation and diversification for farmers in arid and semi-arid areas which account for more than 70 per cent of Kenya's land mass. The only human activity in these regions is nomadic pastoralism.

Sorghum now a cash crop

Farmers in Meru have started to enjoy the benefits of adding value to their sorghum crop which has the potential to change their livelihoods through increased income. With the help of home grown agri-business enterprises called Shalem Investments, a sorghum purchasing and processing company based in Meru; sorghum farmers in the three Counties: Meru, Tharaka-Nithi and Kitui have begun to reap the full benefits of sorghum production.

The company with the help of partners has mobilized and organised farmers to form a trading block that is able to supply sorghum to beer manufacturer East African Malt limited, a subsidiary of East African Breweries. Sorghum is the main raw material in manufacturing the popular beer brand Senator® and Keg®. A 90kg bag goes for Ksh 3,200.

In December 2017, Shalem Investments introduced a new sorghum based product to her portfolio of products- the fortified Asili Plus® porridge flour made from sorghum. The product is currently available in retail shops in Meru. It provides sorghum farmers in the area with additional source of income.

Farmer mobilization

The company works with over 20,000 small-scale farmers, and offers competitive prices to



A packet of processed sorghum flour made by Shalem investment

encourage quality and consistency in volumes of sorghum produced. The company has bought more than 10,000 tonnes of sorghum in the last three years. To make sure that distribution of the farmer's produce is not a problem, Shalem Company helps to identify markets for farmers they work with and sells the produce at a profit while also processing to make sorghum based products.

The idea is to introduce agribusiness to farmers. The farmers are clustered together and sell their produce to the company

which would have been difficult to reach for individual farmers due to low volumes. To ensure the effectiveness of the clusters, farmers are mobilized into groups of 20 to 50 members.

The groups are formed based on business indicators such as the type of crop, the size of land and the farmers' capacity to supply the produce. The clusters are also classified according to social groups with the aim of empowering the youth and women. Currently 60% of the farmers are women.

Farming is a business

One of the biggest problems facing farmers is that they do not see farming as a business opportunity. They don't know how to structure their activities in a way that would benefit them. For the full impact of value addition to be realized, there is need for the farmer to learn entrepreneurship. Sorghum provides economic opportunities for traders and can be processed into flour for porridge, biscuits and sausages.

Working in groups

Value addition of sorghum in Meru brings to the fore the need for governments and other stakeholders to build the capacity of farmers to engage in commercial enterprise. Farmers in Meru have benefited from the International Fertilizer Development Centre (IFDC) supported project towards Sustainable Cluster in Agribusiness through Learning and Entrepreneurship (2-SCALE) Project. The 2-SCALE project seeks to improve livelihoods and food security in Africa by promoting agri-food industries through Public Private Partnerships (PPP).

Value addition provides a solution to the perennial problems of post harvesting losses and poor returns, and improve livelihoods. For value addition to work, all stakeholders in the value chain have to work together and leverage on individual strengths.

For more information on sorghum growing, go to <http://www.infonet-biovision.org/PlantHealth/Crops/Sorghum>



Gaddam sorghum in a field

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