The future farmer: Disrupting Agriculture

By Ishmael Sunga
SACAU CEO

Right now, in Southern Africa, there are numerous young farmers doing extraordinary things. They are ambitious with a healthy appetite for growth, and they want to achieve this growth through the creation of profitable agribusinesses that will deliver a quality of life comparable with other professions. They are just not visible. What we see at events like the recent African Green Revolution Forum (AGRF), which took place in Abidjan, Ivory Coast, during 4-8 September 2017, is merely a microcosm of a larger pool of agripreneurs.

The next generation of farmers
So there are already a significant number of young agribusiness leaders who are driving change. However, their success stories do not often serve as examples of motivation and leadership so that they can provide strong role models for ambitious young agripreneurs in the early stages of their careers. Their stories really need to be disseminated on a larger scale so that we can catalyse more mentorship schemes and drive the agenda towards transformation in African agriculture more vigorously.

Agriculture is becoming more complex and dynamic. It is now information and knowledge intensive; it is now science and data-driven; and it is now ICT-enabled. New technology allows farmers to do much more with much less as the environment now demands. Knowledge is no longer predominantly about how to grow a crop – it is less practical and hands-on and occurs more on the mental plane, focused on strategic thinking and planning. Farming has become increasingly abstract and data-driven. This requires a different type of farmer with different aptitudes. Farmers need the right level of education that will enable them to comprehend this level of complexity. More opportunities now exist, but we really need to improve farmers’ skills and aptitudes with targeted education and training. This requires the modernisation and professionalisation of farming, as well as the opportunity for farmers to gain competitive rewards for their hard work so that ambitious and capable young entrepreneurs are attracted to working in the sector.

Innovative policy
This new generation of business-minded farmers promise excellent prospects for the future of African agriculture.
Promoting the adoption of Climate-Smart Agriculture in southern Africa

Southern African countries have joined the rest of the world in declaring their commitment to developing resilient food production systems under progressive climate change and variability. One option that has been introduced in several countries is Climate-Smart Agriculture (CSA), a concept that comprises a set of practices and technologies that can enhance the climate resilience of farming systems. CSA is gradually gaining prominence due to its capacity to sustainably increase productivity, enhance resilience to climate stress while reducing greenhouse gas emissions. Worth noting, however, is the fact that despite the continued experience of climate change-related challenges and the likely benefits linked to CSA, recent studies have indicated a considerably low level of CSA adoption by farmers in several countries.

Adoption of agricultural innovations is generally influenced by intrinsic and extrinsic factors, which may also be classified into biophysical, socio-economic and institutional factors. Among the above, institutional factors (policies, programmes, regulations, etc) are critical in creating an environment within which stakeholders make investment decisions. A conducive environment will allow, for instance, the public and private sectors’ participation through the provision of quality and affordable inputs and equipment, finance and the capacity-building of farmers. Off-takers would provide reliable markets for products, reducing the high transaction costs that smallholder farmers generally have to contend with.

In an effort to address policy-related bottlenecks, SACAU will in the next four years implement a project titled “Promoting the Adoption of Climate-Smart Agriculture on a Wide Scale in Southern Africa”. The project, which is financially supported by the Norwegian Agency for Development Cooperation (NORAD), seeks to advocate for conducive policies for wide-scale uptake of CSA in southern Africa. Its specific objectives are to (i) enhance the capacities of national farmers’ organisations (FOs) to advocate for better CSA-made policies and investments; (ii) increase the influence of SACAU in CSA policy and related processes at regional and global levels; and (iii) increase the influence of Zimbabwe Farmer’s Union (ZFU) in CSA policy and related processes in Zimbabwe. The project will commence with a baseline study to provide background information and benchmark values that will serve as the basis for monitoring progress and future evaluations that will establish the extent to which it has achieved its stated objectives.

SACAU appreciates the financial support extended by NORAD to implement this important project.

The plight of youth in the spotlight at the 2017 AGRF

The Seventh African Green Revolution Forum (AGRF), under the theme “Accelerating the Path to Prosperity – Growing Inclusive Economies and Jobs through Agriculture” was held in Abidjan, Ivory Coast, from 4-8 September 2017. The event which was attended by as many as 17,000 people provided a premier platform for individuals to highlight their successes as well as for policymakers to discuss strategies as they strive to drive significant progress across the continent for agricultural transformation and food security.

A number of high-profile dignitaries, such as presidents and former presidents of several African states like Liberia, Ghana, Nigeria and Tanzania, graced the 2017 AGRF. The SACAU delegation comprised Dr Theo de Jager, the president; Mr Ishmael Sunga, the CEO; and Mr Benito Eliasi, the Capacity Development Advisor as well as Ms Ruramiso Mashumba and Ms Maness Nhata, who represented the SACAU Young Farmer Ambassadors.

SACAU took part in four out of the more than 52 sessions that were held in various capacities, including that of organisers, key speakers, discussants and panellists. The main areas covered in these sessions included youth employment, women in agriculture, strengthening youths’ access to inputs, markets, financing and creating an enabling policy environment for youth participation in agriculture.

One of the highlights of the AGRF was the launch of the 2017 African Agriculture Status Report (AASR), titled "The Business of Smallholder Agriculture", which, among others, stressed the importance of governments working with the “free market” to drive Africa’s economic growth from food production. The report also emphasised the need to substitute imports with high value food produced in Africa for a market forecast to be worth more than US$1-trillion a year by 2030.

Delegates at the event emphasised that for Africa to achieve agricultural transformation, new models and new ways of doing business in agriculture are required and highlighted the need for all partners in the agricultural sector to regularly track progress against the agreed action plans to ensure more partners are mobilised and resources accounted for. The forum also stressed the need for governments, businesses and other partners are delivering on their commitments and financial commitments worth more than US$30-billion made at the 2016 AGRF in Nairobi, Kenya, and the impact this is having on the lives and incomes of farmers and agribusinesses.

Commensurate with this, various organisations made commitments to promote agricultural transformation on the continent. Among these were the European Union, German Federal Ministry of Economic Corporation and Development (BMZ); Yara; Rockefeller Foundation and Bill and Melinda Gates Foundation as well as the African Union.

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However, the policy environment needs to be improved as it has the greatest and most far-reaching potential for impactful change. Policymakers need to be more innovative in their approach to agricultural policy so that it really helps young farmers and facilitates all stakeholders in the sector to unleash their economic potential. Let’s take an example: just playing around with the fiscal and monetary policies will not suffice, for instance, in their effects on agricultural development. Policies can be better defined, at least, in terms of the markets and allows farmers to access more climate information will significantly improve the sector’s resilience. A particularly important role for policymakers is to subsidise investments in the expansion of mobile network infrastructure so that farmers in all corners of the continent have access to mobile phone coverage. Technology allows farmers to cross over areas where there are no roads, where there are no bridges. It is having a massive disruptive impact, and positive disruption for that matter. It is critical in creating an agricultural sector that is more business driven. But more importantly, technology allows for the democratisation of the sector because it removes information asymmetry to some extent. It connects everyone to markets and allows them to access knowledge and learning. However, without the infrastructure to connect with this technology farmers cannot exploit it. They are socially and geographically, as well as economically isolated, which limits the modernisation of the sector as well as their ability to improve their own livelihoods.

The combination of intelligent policy, an expansion of ICT infrastructure and a deliberate and pragmatic approach to agriculture will cause a massive explosion. It will trigger the revolutionary change we have all been waiting for. First published in Spore magazine: http://spore.cta.int/en/debates/opinion/the-future-farmer-disrupting-agriculture.html

By Ishmael Sunga

The SACAU flag flew high during the African Green Revolution Forum (AGRF) meeting, which was recently held in Abidjan, Ivory Coast. Our delegation included two of our Young Farmer Ambassadors – Ms Maness Nhata and Ms Ruramiso Mashumba – our President Dr Theo de Jager as well as Mr Benito Eliasi and myself from the Secretariat. The theme of this year’s forum was “Accelerating Africa’s Path to Prosperity: Growing Inclusive Economies and Jobs through Agriculture”. Among others, the forum assessed progress and forged actionable plans that will catalyse a uniquely African agricultural transformation.

We are particularly proud of the critical role that we played within the framework of the Youth Thematic Working Group. Other members of this group include the African Development Bank and the Food and Agriculture Organisation of the UN (FAO). Our presence definitely helped ensure the success of the AGRF. Of all the AGFRs that we have attended, this one was unparalleled in terms of the potential business that we generated. We are all the more determined to convert this into a meaningful reality for our organisation.

Other highlights include the signing of a project agreement with the Technical Centre for Agricultural and Rural Cooperation on climate-resilient solutions, which followed another agreement with the Norwegian Agency for Development Cooperation on climate-smart agriculture that was signed in August. We have redoubled our investments in terms of time and effort in resource mobilisation, with promising prospects. Be assured, we will continue to update you on our progress in this and other relevant areas. Till next month.

CEO’s Letter

SOUTHERN AFRICAN CONFEDERATION OF AGRICULTURAL UNIONS

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Fall Armyworm (Spodoptera frugiperda): Identification, biology and ecology

Fall armyworm (Spodoptera frugiperda) is a new pest in Africa, attacking maize, but can also feed on other crops.

**DAMAGES**
- Leaf damage is usually characterized by ragged feeding, and moist sawdust-like frass near the funnel and upper leaves. Early feeding can appear similar to other caterpillars. Deep feeding in the leaf funnel can destroy the growing points and developing tassels.
- Caterpillars often enter through the side of the ear and feed on developing kernels. This is in contrast to stem borer caterpillars that normally enter the ear from the top or the bottom.

**DESCRIPTION**
- The egg masses are cream, grey or whitish with hairy-like covering.
- The caterpillar has a dark head with an upside down pale Y-shaped marking on the front (blue circle).
- Each of the body segments has a pattern of four raised spots when seen from above (yellow circle).
- It has four dark spots forming a square on the second to last body segment (red circle).
- Its skin looks rough but is smooth to the touch. A full-sized caterpillar is slightly shorter than a match stick (4-5 cm).

**BIOLOGY**
- Eggs are laid in masses of 50-200 eggs. Larvae generally emerge 3 to 5 days following oviposition and migrate to the whorl. There are six larval instar stages. In the 2nd and 3rd instar stages, larvae are often cannibalistic, resulting in only one larva in the whorl.
- Pupation normally takes place in the soil, at a depth of 2 to 8 cm. The larva constructs a loose cocoon, oval in shape and 20 to 30 mm in length, by tying together particles of soil with silk. Pupal stage duration is 8-30 days.
- The life cycle is completed in about 30 days in optimum conditions.

**ECOLOGY**
- The adult female moth is a strong flyer, travelling up to 100 km in a night. She lays masses of eggs directly on maize leaves. In 2-3 days the young larva hatch, and can spin off onto other plants, or begin to burrow into the whorl. The FAW has many natural enemies that help control their population levels, including generalist predators (ants, earwigs, etc.), specialized parasitoids (small wasps the kill eggs or larvae), and pathogens (bacteria, virus and fungus).

**PREVENTION**
- Avoid late planting.
- Avoid staggered plantings (plots of different ages).
- Increase plant diversity – intercrop maize with cassava or yam.
- Visit and walk through fields at least once a week – twice a week when FAW populations are high.
- Look for FAW egg masses and larvae.
- Look for FAW natural enemies - ants, earwigs, small wasps, mummified (fungi) or liquefied (virus) larvae.
- Look for FAW damage on leaves – inspect 25 plants and count how many have new damage (number of plants with new damage X 4 = % plants infested in field).

**MONITOR**
- Visit and walk through fields at least once a week – twice a week when FAW populations are high.
- Look for FAW egg masses and larvae.
- Look for FAW natural enemies - ants, earwigs, small wasps, mummified (fungi) or liquefied (virus) larvae.
- Look for FAW damage on leaves – inspect 25 plants and count how many have new damage (number of plants with new damage X 4 = % plants infested in field).

**ACT**
- Handpick and destroy egg masses and young caterpillars on leaves.
- Actions to try:
  - Spray sugar water to attract and maintain populations of natural enemies.
  - If present in large numbers, larvae killed by fungus or virus can be collected, liquefied, strained, and the liquid sprayed on the plants.
  - Apply ash, sand, or soil to whorls with damaged leaves – they could kill the larva.
  - Use botanical pesticides (based on neem or other plants).
  - Use bio-pesticides based on Bacillus thuringiensis (Bt) or virus (NPV).
- Be very careful of synthetic pesticides – some are very toxic to humans and natural enemies, all are expensive and some don’t kill FAW.

For more information on fall armyworm please visit: www.fao.org/Africa

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The cooperative movement in Bongolava, one of the major maize-producing provinces in Madagascar, is taking root thanks to the Support to Farmers’ Organization in Africa Programme (SFOAP) being rolled out with support from the International Fund for Agricultural Development (IFAD). The programme has enabled farmers to get training in the basic principles of cooperatives as well as assisting them to officially register their cooperatives with the authorities.

So far, four cooperatives are in operation and four more are in the process of being created. These cooperatives are organised within the jurisdiction of a commune.

During the recent visit by the SACAU Capacity Development Advisor, Mr Benito Eliasi, it was confirmed that smallholder farmers in the area are gradually becoming aware of the importance and benefits accruing through working together in cooperatives. Due to the success of the first four cooperatives that were established in the past three years, more and more farmers in the area want to belong to organised farming structures.

Through discussions with farmers and officials on the ground, Mr Eliasi noted that farmers who are members of cooperatives have increased their productivity of maize from an average of 0.6 tonnes per hectare to an average of 1.2 tonnes per hectare. This increase is due to the technical training provided to members of the cooperatives by service providers as well as the improved seed members are provided with. "The cooperative has helped me and my colleagues to link with the company that hires tractors, and for the past two years I was able to hire a tractor to plough my land. I am also able to use improved seed and fertiliser acquired through the cooperative," said Ms Nerina, a member of Kadimundi Cooperative.

Worth noting are the steps the cooperatives are taking to be more independent. Two of the four old cooperatives have acquired land to build their offices and storage facilities. The increase in productivity of maize has resulted in high demand for storage facilities.

They have also devised a savings and credit scheme among members, who have created a village bank that enables members to make monthly contributions and access the funds as a loan during times of need at an interest rate of 2%. The scheme is also making members more financially independent.

Coalition Paysanne de Madagascar (CPM) SFOAP project coordinator Mr Navalona Francioli Andrianjanahary emphasised that the project’s main purpose in the area is to offer training and skills to farmers so that through organised agriculture they are able to profit from their farming. "We have seen that the more we organise farmers, the more the partners are willing to work with them. For instance, farmers in this region are now linked up with agricultural equipment suppliers who are able to supply their services to farmers," said Mr Andrianjanahary. He, however, identified a number of challenges that included the misunderstanding by farmers on how cooperatives work. "Most farmers will register as a member of a cooperative thinking that they are going to receive aid or gifts, and once they realise that the cooperative is not meeting their expectations, they quit," said Mr Andrianjanahary.

"We are however not worried when people leave because we know that those who remain are serious members and it is much easier to work with serious members in this endeavour," continued Mr Andrianjanahary.

The other challenge he mentioned was the issue of insecurity in the region which caused farmers to be reticent about investing in any economic activity, including farming. All in all, though, the future looks good for cooperatives in the Bongolava area in Madagascar.

Meet Noi Selepe, the September young agripreneur ambassador

Noi Paulina Selepe is a 30-year-old female agripreneur based in Maseru, Lesotho. She holds a Bachelor of Education from the National University of Lesotho which she obtained in 2010. After spending two fruitless years job hunting, she decided to start farming with four piglets she was given by a family friend and 100 chicks she bought with her own money in 2012. Having grown up in a farming family that made its livelihood from farming, including managing to educate the children, this was a natural choice of business for her to pursue.

Her love and passion for farming then grew day by day. Although she learned a lot of farming techniques from her late father, she had no knowledge of broilers and piggery. She embarked on several training programmes and is currently successful in running her enterprise. The piggery has now developed into a viable small-scale farm which is self-financing. She continues to breed and sell piglets to farmers in and around the Maseru area. She has stopped rearing broilers and has ventured into running a chicken abattoir through a company she has registered with two farmer friends, having mobilised farmers to supply the abattoir. The abattoir, in turn, supplies local hotels and supermarkets.

Noi serves on the boards of two organisations in Lesotho. She is the chairperson of the Young Lesotho Farmers Association, an organisation she founded in 2015. She also serves as the General Secretary of Lesotho National Farmers Union – LENAFU (an apex farmers’ union in Lesotho), a position she has held since 2015. She also tutors trainers at LENAFU, and is one of the young farmers’ ambassadors of SACAU.

Noi has made it to “The Post”, a local newspaper and an international publication of the Technical Centre for Agricultural and Rural Cooperation (CTA).

She has further had the opportunity to represent young farmers in a number of conferences and workshops, both locally and internationally. To mention just one, she made a presentation at the G20 conference in Berlin, Germany, earlier this year on how to improve the rural areas of Africa.

Noi is passionate about changing other people’s lives. She believes that agriculture has a great future, and that with the introduction of new technologies in the sector, agriculture will always be an intelligent endeavour and that many young people could secure a prosperous future in farming. Noi also subscribes to the motto “Be an agent of change, to see change”, which explains her involvement with the association she founded.
Facilitating farmers’ access to Weather Based Index solutions

SACAU recently signed a funding agreement with the Technical Centre for Agricultural and Rural Cooperation (CTA) for implementation of a project titled “Development of a regional framework for Weather Based Index Solutions for Southern Africa”. Working with insurance companies and farmers’ organisations amongst others, SACAU will develop a proposal for regional policy and regulatory framework for supporting the development of climate resilient solutions. This proposal will be used to engage with regional regulatory authorities to address cross-border issues on insurance, particularly the creation of an enabling environment to encourage cross-border pooling of risk by the private sector and subsequently facilitate farmers’ access to such solutions.

The focus on this was motivated by the fact that farmers, particularly smallholders, have limited access to existing adaptation solutions that could assist them in coping with acute weather patterns and climate change, which in turn affects food security, nutrition and household incomes. One particular challenge that stands out is the lack of a regulatory framework and policy at regional level which results in high insurance costs. This ultimately affects the uptake of available insurance services to mitigate against shocks emanating from adverse weather conditions.

The development of a regional framework was also considered critical by stakeholders at a meeting that CTA co-hosted with SACAU in September 2016.

The purpose of the meeting was to build partnerships and synergies with stakeholders in the implementation of the CTA flagship project that seeks to promote climate-resilient cereal and livestock farming in Southern Africa and for technical validation of the proposed scaling up-strategy. SACAU’s project is part of the CTA flagship project.