On Africa's Farms

Mail & Guardian Africa

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Transforming African agriculture is of pressing concern from the highest levels of government to the thousands of farmers who tend their fields. Connecting the two—policymakers and farmers' advocates—has been a key focus of TrustAfrica's work. Our aim is to help smallholder farmers reach their great potential—and to spur economic growth that is widely shared. These stories bear witness to the value of policies that invest in Africa's farmers. We hope they will inspire others to share their stories as well.

- Tendai Murisa, Executive Director, TrustAfrica

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Between 1984 and 1985, a horrific famine killed thousands in Korem, northern Ethiopia. Today Korem is a model of agricultural productivity. The people in Korem remained the same. Their story suggests that to achieve food security, the things we need to change are the easier ones -governments, policy, incentives, and technology. Not the people. It's their stories of overcoming odds that Mail & Guardian Africa feels privileged to share.

- Charles Onyango-Obbo, Editor, Mail & Guardian Africa

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Malawi's smallholder farmer experience shows us that the middle-income farmer has nowhere to go

The country gets so much right, but so much wrong at the same time

by Samantha Spooner

Malawi is clearly a country of agriculturalists. This is the place that policy-makers dreamed of when they discussed their plans for smallholder farmer led economic growth. Everywhere you look something is being deliberately and carefully grown.

Crops are lined up in rows, and in most fields there is evidence of DIY irrigation, intercropping and tree-planting that demonstrates that these farmers know what they're doing. A crucial factor considering the sector supports over 80% of the rural population and, on average, contributes about 30% of the country's GDP.

So imagine the shock when you walk into "Shoprite", one of the country's more pricey shopping establishments, only to discover that pretty much every single fruit and vegetable is being imported, mostly from South Africa. Something clearly went wrong along the way and, when talking to the country's farmers, it soon becomes clear as to what it is.

Daniel Kampani is a farmer who shows that a transition from the subsistence, low-income farmer to a middle-income farmer is possible, evidence that agriculture is a valid foundation for pro-poor economic growth. He explains that he started farming groundnuts in 1997 as a source of income. But while groundnuts grew well in the area, the farmers were not motivated to grow them because of problems accessing markets. When the markets were available they were usually far away and the farmers would have to deal with middlemen who gave them low prices and used weighing scales that had been tampered with. But they had no choice, so went ahead with poor deals.

Unable to carry on in this manner, in 2001 Daniel joined the National Smallholder Farmers' Association of Malawi (NASFAM), an association that offers commercial and development support to over 100,000 farmers and which had initially started off as a USAID project but has since become virtually independent.

A farmer who did well

NASFAM linked Daniel and other farmers to markets. Today 40% of the groundnuts they produce go to a fair trade organisation called Twin Trading, while 60% gets sold to the South African market and locally. In just 13 years Daniel has moved past subsistence farming into farming as a business and he's done well. Because of his sales he can to afford to support his family, sending all four of his children to school and has even been able to invest in livestock, now the proud owner of pigs, chickens and goats.

But this is where the fairytale gets complicated. Farmers like Daniel have managed to attain a sort of middle-income status, but moving past that is proving very difficult. This is because the continued growth of farmers is hampered by government policies on market liberalisation, taxes and a lack of support for crop diversification.

For example, Shoprite are unable to rely on Malawi's farmers for fruits because it is not a sure source of supply as a result of low fruit production. This is because the government has just focused on the bigger cash crops such as tobacco, maize and tea, with good reason. A strong recovery in tobacco output boosted the overall agriculture sector growth to 5.7% from a 2.3% contraction in 2012.

Fixing the problem

It's clearly a crucial product, but this should not come at the sacrifice of all other agricultural produce and the diversification into different sectors which would support an even wider base of farmers, reduce the need for importation, improve food security, and ensure increased growth. The support from the government should come in the form of increased accessibility to seeds, capacity building and crucially, research.

Another issue holding back Malawi's SHFs and the development of the industry in general, is that while the government is making noises about a national export strategy which aims to enhance export competitiveness and promote exports of processed agro-products to feed into regional and global value chains, they are not creating a sufficiently supportive environment for agro-processing or for exports.

NASFAM for example have set up a range of agro-processing centres to support the industry, from rice centres to sunflower oil and a chilli paste factory, but they are handicapped by poor infrastructure, specifically energy.

When electricity is available, the costs are high (due to the domination of the Electricity Supply Corporation of Malawi (ESCOM)) and there is a serious lack of electricity with only 25% of urban areas connected to the grid, and 1% in rural areas – not a conducive environment for SHFs or associations that would want to move into processing.

There is hope

But there is hope. The Malawi government after all did sign the CAADP (Comprehensive Africa Agriculture Development Programme endorsed at the African Union Heads of State Summit in July 2003) compact in 2010, which demonstrates its commitment to agriculture. Thanks to advocacy work by associations like NASFAM, often supported by African philanthropic groups such as TrustAfrica, there has been evidence that the government is listening to SHFs.

For example, Malawi used to import eggs from Zimbabwe but these were being sold at a cheaper price than eggs produced by Malawians because of exemptions on duty. Following an outcry, the government is now imposing duties on foodstuffs that can be produced locally.

Currently NASFAM is also advocating for the government to be more consultative on trade bans. John Chipeta, an advocacy officer with NASFAM, argues that whilst he understands the government's logic in imposing an export ban on certain foodstuffs in order to ensure domestic food security, it needs to be done in a consultative manner and not as a blanket ban. For groups like NASFAM who are pushing for bigger and better markets for SHF, they have signed contracts which they are then forced to back-track on and the impact of this can be detrimental for the future.

Malawi has a long way to go but despite the hurdles facing it's agricultural industry, there are signs of encouraging brilliance. With a deeper commitment from government there's no reason why this small southern African nation cannot move the middle-income farmer forward and turn its fortunes around.

For ages agriculture in Africa was done the old way, but times are a changing

In parts of the continent, youth are back in force on the farming agenda

by Katherine MacMahon

It's a scene not many in the small village outside Embu county, in Kenya, have seen. Cameras, sound systems and lights are being set up in one corner of a shamba (farm in Kiswahili). In another corner, stand Tonny Njuguna and Naomi Kamau, the presenters of the hit make-over style reality TV show Shamba Shape Up, running lines together.

But, this isn't the unusual thing, it's Kioko and Peter, the two brothers who own and farm this land, and the recipients of the TV show's "make-over", who stand out. These brothers are both under 30, and have left their jobs in the city to come back to their home and make money from farming. In a country where the average age of a farmer is sixty, these brothers are making an unusual choice; one that many of their peers see as a step backwards.

"Kioko came back first", Peter tells the Shamba Shape Up cameras. "I was working as a mechanic in Nairobi after finishing university, yet he was the brother making the money in the family!"

The two brothers are a great find for the production team of Shamba Shape Up. Too often they can't find a young farmer to film in an area, and instead use older couples. Kioko laughs when the presenters ask him how easy it was to change from businessman to cattle expert. "The farming is easy!", he said, "It was convincing my parents to let me take over the shamba that was the problem!"

Kioko highlights one of the biggest problems facing young farmers, both in Kenya and all over the African continent. To the older generation of farmers who still own and farm the land, it provides them not only with a homestead, but also a food source, a business and a livelihood. Some do not trust their children to take it over from them. Others want their children to, but the young ones are unwilling.

Food needs rising

The Food & Agriculture Organisation says that by 2050, the world will need a third more food to feed itself, and Africa must rise to the challenge to provide it. With three growing seasons every year (in comparison to Europe's one) and 70% of Africa's workforce made up by farmers, it could be seen as an achievable goal.

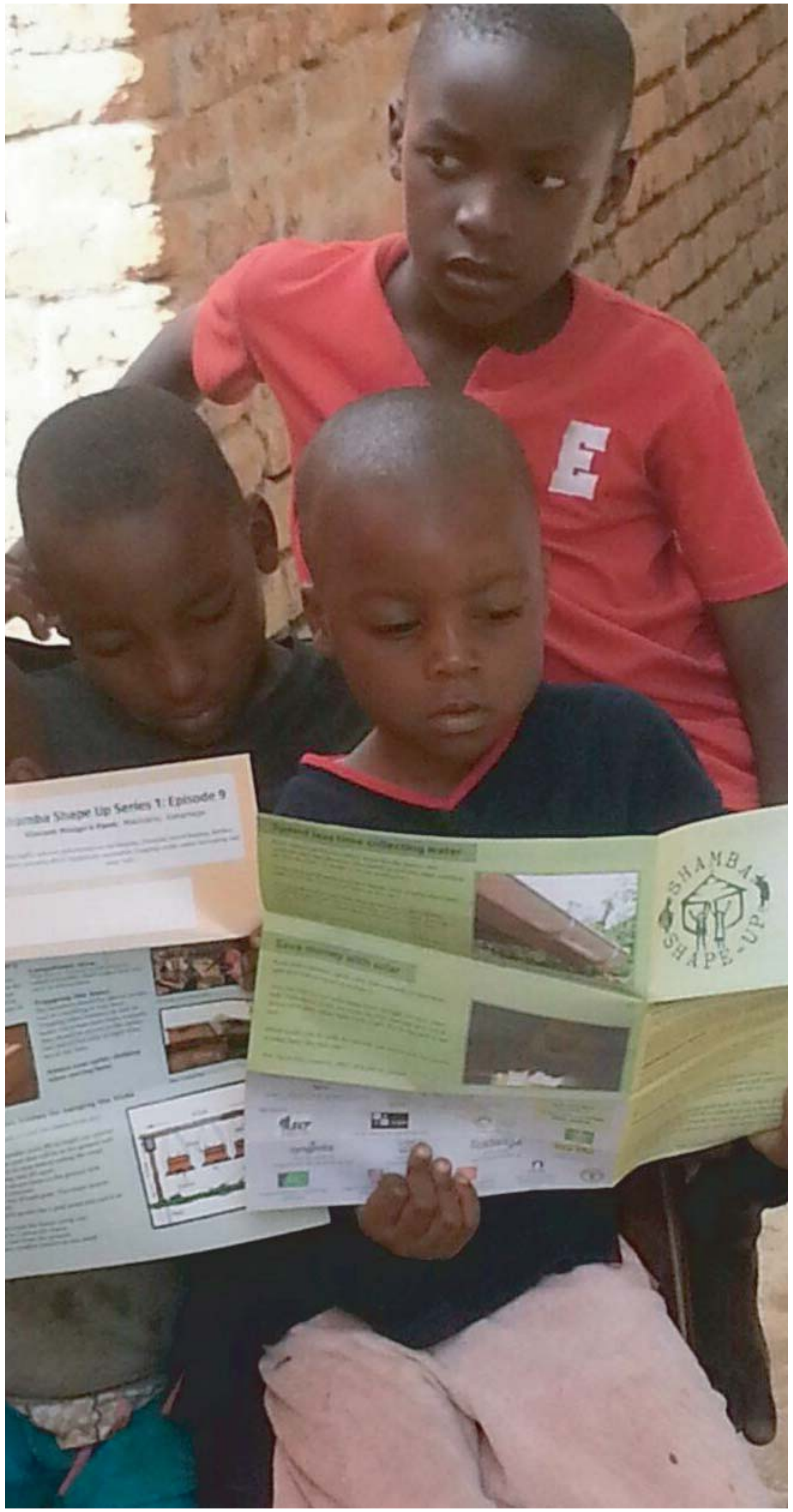
Yet, with farms getting smaller as families divide up land between their children, their problems get bigger. A lack of steady information mean farmers rarely hear of new developments in vaccines, and fake fertilisers sold at high prices hinder farmers instead of helping them and soil which is exhausted of nutrients; these setbacks only add to the already pathetic picture.

When success is finally reached and a farmer harvests a healthy crop it is often too small a yield to sell to any large buyer. Farmers who band together in groups often have more luck at finding a better price. Yet this again leads to issues with finding suitable transport, navigating pot-holed roads and avoiding dodgy deals.

In most cases, youths are put off returning to the farm by the image that farming has acquired; dirty, ragged, underpaid and most of all, boring. In Ghana, local extension officers say that young people have seen their aging parents go through the traumatic experience of farming using basic equipment, only encouraging them to opt to settle in urban areas in search of employment.

Change is coming

Despite the negative connotations surrounding farming, it is clear that times are changing. As 10 million East African tune in weekly to watch Shamba Shape Up, you only need to look at their 42,000 strong Facebook page to realise that youth engagement is on the up.



Time and time again young, interested farmers ask the same question: “how can I get the funds to start my own farming business?” But with only nine of Africa’s 54 counties to date investing 10% of their national budgets in agriculture, monetary help from governments isn’t something to be relied on.

And it isn’t just money that young farmers are seeking, it is information too. When agriculture was taken off the Kenyan curriculum for primary aged children and made only an optional subject in secondary school over ten years ago, many viewed this move as playing down the importance of agriculture in the country’s future.

Many urban children, who 15 years ago were learning how to keep, breed and then slaughter an animal as part of their education, are now less likely to even see livestock such as this. In West African schools, the Farmers of the Future project aims to tackle the similar problems of a lack of agriculture in schools by developing an after school class for children to join.

To make up for the lagging momentum offered by Africa’s governments, international aid agencies and foundations have become increasingly interested in agricultural investment, with a doubling of funds in the sector in the last 10 years. African philanthropic foundation TrustAfrica has been actively supporting an advocacy movement across the continent to ensure sustainable and equitable agricultural development.

The Bill & Melinda Gates Foundation introduced the “Green Revolution” to Africa with the hope of increasing agricultural productivity over the continent as a whole. The FAO named 2014 the “International Year of the Family Farmer” with goals made to raise the profile of family farming. African Enterprise Challenge Fund has been conducting competitions for funding for for-profit start-ups, mainly directed at youths, in the field of agriculture.

Projects like the Young Professionals of Agricultural Development and Farm Africa, both Africa-wide groups, are providing youths with loans to help turn their dreams into a business. While social media keeps up with Facebook pages like “Mkulima Young” to dish out advice from one young farmer to another, connecting youths often from different countries, yet all facing the same problems.

Kofi Annan, former UN Secretary General, recently wrote a nine-point plan to make Africa more food-secure and profitable. He asks the question “how [can] a continent, with 60% of the world’s uncultivated arable land, still suffers from malnutrition and hunger, yet spends $35 billion every year importing food?” When a continent has both the highest rate of unemployment in young people and also a farming industry in need of a stronger, fitter and younger workforce, it is clear that something must change.

You wouldn't think it, but seeds are the new big challenge for Africa's female farmers

Farmers adopting hybrid seeds realise a potential income deficit of $133.22

by Samantha Spooner

Rosemary Kadzitche is one of the luckier female farmers in Malawi. The former teacher turned farmer joined the National Association for Smallholder Farmers (NASFAM) in Malawi and was given a position of authority that gave her a voice.

This is extremely valuable in a sector where, even though women dominate, it's the men who usually make the rules. Rosemary alleges that they even actively try to force women out of decision-making roles, which is made easier by the fact that literacy levels among women is low, at 67.3% in comparison to 76.5% for men.

For Rosemary, being in an association has made all the difference since NASFAM has a new policy that makes decisions by farmers non-binding if women haven't been involved or consulted in the process.

Seed wrinkle

But there's an issue which, despite the support of the association, has not been addressed and that Rosemary says affects female farmers everywhere - seeds. In Malawi, like many other African countries, women are traditionally the custodians of seeds.

Rosemary explains that women developed this role as they preserved seeds from current crops for the planting season the following year. She says that this occurred because women invested more time "planning the farming, while the men do not consider or prioritise the seeds, they don't think that far ahead."

It essentially reveals the varying gender roles within the household. While the women smoke dried the corn cobbs in the kitchen to preserve them for the next year, the men were looking for ways to diversify or for inputs for lucrative tobacco farming.

But the women's role is being compromised and the women are increasingly concerned about new hybrid seeds that are flooding the markets. At the ground level the hybrid seeds are presenting a new set of challenges. According to agronomist, Jacopo Parigiani, the nature of the hybrid seed is that it is developed to have low fertility, decreasing ability to germinate, in the preceding generations. "They do this because it's a business", he says, "they need to ensure people keep buying to sustain the industry."

This means that women are not able to preserve or exchange seeds and are instead compelled to buy hybrid seeds every year. This comes at a high cost. To maintain the hybrid seeds expensive fertilisers are needed, as are pesticides, to preserve certain strains when the harvest is in storage.

In fact research conducted by the African Centre for Biosafety in 2014, found that when increased input costs are taken into account, farmers adopting these technologies "realise a potential income deficit of K55,954 (US$133.22)." Even if the women did find this hard to maintain, they do not have much of an option to revert to their traditional seeds because of rising soil infertility due to a reliance on the synthetic fertiliser used to support the hybrid varieties.

Climate change

The situation is a bit of a Catch-22. One of the biggest concerns of farmers in the area, is climate change and the associated changing weather patterns. Already this year Malawi has experienced the worst flooding the country has ever seen, whilst other changing weather patterns include droughts. Both the droughts and the floods are damaging agricultural production, particularly for maize, the dominant staple.

Dry spells are increasingly common and can cause losses of 20-30% of total yield per hectare. Between 2001 - 2010 the number of districts classified as flood-prone rose from

9 to 14.

As a reaction, the hybrid seeds are being produced to meet the changing needs. Some seeds for example are coated with fertiliser or chemicals which give them a higher chance of survival after germination, a potential food security life-saver for households.

Then there are drought tolerant maize varieties which have been developed by the Drought Tolerant Maize for Africa (DTMA) project specifically for Malawi's drought-prone areas.

Another reason for the adoption of these new seeds is driven by Malawi's strategy to realise improved productivity in the agricultural sector. As a result the government started a Farmer Input Subsidy Programme that allows increased access to seeds. This has been an essential element in the expansion of hybrid seeds in Malawi even though, according to the African Centre for Biosafety report, most of the grains are limited to relatively minor yield increases.

Working for the smallholder

Nevertheless the government is seeking to streamline it's seed policy and a new strategy is being formed to operationalise a National Seed Policy. The formal seed system comprises local and multinational seed companies, most of which have their own breeding, production and distribution programmes which the government has recognised need to operate within a strict protocol for the protection of the sector and smallholder farmers as a whole.

A draft of the strategy shows that the government is seeking to establish an agricultural bank or fund to promote activities such as seed production and marketing. It was encouraging to note that in the draft are plans to ban misleading adverts on improved seeds, imposing penalties for any misleading and false adverts and messages on seeds.

As the policy is still in it's infancy, it can only be hoped that the advocacy work by associations, such as NASFAM, on behalf of smallholder farmers will ensure that their needs are truly met.

Long walk to food freedom: African countries grapple to meet Maputo targets, but all is not lost

Non-prioritisation of agriculture, poor planning and low political will conspire to leave the region off-balance, but smallholder farmers may hold the key

by Benon Herbert Oluka

In June 2014, an epidemic of the foot-and-mouth disease ravaged a third of Uganda, exposing the handicap the East African country faces when dealing with agricultural emergencies.

The country's agriculture ministry was reduced to a mere bystander as the viral disease, which targets cloven-hoofed animals such a cows, goats and pigs, hit nearly 30 districts in the east and north.

The ministry's efforts to coordinate the fight against the epidemic were hampered from the start. First, it imposed a quarantine on the movement of animals, but was unable to monitor it effectively, resulting in the continued transportation of infected animals after bribes were paid.

Then there was a half-hearted vaccination programme of animals in the affected areas, which left already angry farmers complaining of perceived discrimination.

Eventually, as pressure from farmers and politicians intensified, the commissioner for livestock health and entomology, Dr Chris Rutebarika, admitted that the ministry did not have the funds to buy sufficient vaccination doses. In fact, he did not have funds to fight many other livestock diseases.
"I actually need vaccines but I don't see anybody giving us enough money very, very soon because we are not talking about only one disease; how about others?" Dr Rutebarika asked in an interview with the Mail & Guardian Africa.

"There is a ceiling as to what you can spend; you wouldn't have so much money to play around with," he added. "It is a country problem, not a ministry problem."

Perennial underfunding

On July 12, 2003, Uganda was among the African Union (AU) member countries that signed onto what came to be known as the 'Maputo declaration target.' Signatory heads of states and government pledged to allocate 10% of their country's national budget to agriculture, and to achieve at least 6% annual growth, as part of the Comprehensive Africa Agriculture Development Programme (CAADP).

That year, Uganda allocated 4.1% of its budget to agriculture. More than 10 years later, the country is yet to meet that target. In its latest national budget, for the 2014/15 financial year, it set aside 3.9% of its budget to the sector.

Its highest allocation since 2003 has been 5.7% of the budget in 2005/06; yet it directly employs at least 75% of the population.

Several other countries that signed the declaration have also fallen short of meeting its targets. According to recent studies, only 14 African countries have met or exceeded the 10% threshold.

The countries include Burundi, Burkina Faso, the Democratic Republic of Congo, Ethiopia, Ghana, and Guinea. The others are Madagascar, Malawi, Mali, Niger, Senegal, Rwanda, Zambia, and Zimbabwe.

Of those 14 countries, only Burkina Faso, Ethiopia, Guinea, Malawi, Mali, Niger, and Senegal have exceeded the target.

A study by the Regional Strategic Analyses and Knowledge Support System (ReSAKSS), the Africa-wide agricultural data network, to coincide with the 10th anniversary of the declaration's signing, says while even the countries that have not met the targets have made progress by increasing their allocations to agriculture, the amounts invested have not been enough to bring about substantial changes.

"The amount of PAE [public agricultural expenditure] in Africa as a whole increased rapidly in 2003–2010 (7.4% per year on average), but as this growth rate was slower than the growth in total expenditures, the share of PAE in total expenditures declined," says the report, which was released in 2012 and is titled, "Complying with the Maputo Declaration Target."

Several reasons are advanced by studies to explain why the majority of the African countries have failed to meet the agreed targets. They include the prioritisation of areas such as defence spending and administration spending, poor planning to harness the vast agricultural potential, and a limited interest in agriculture due to an abundance of natural resources that bring in foreign exchange.

There is also the smallholder nature of most African farmers which limits their influence, and a basic lack of political will which often has a ripple effect on many of the other factors.

"In political systems characterised by generally low accountability, it is, of course, fairly easy to sign up to a commitment such as the Maputo declaration (to gain peer approval)," says a February 2014 working paper by Futures Agriculture, an Africa-based alliance of research organisations.

"This does not necessarily convey full political commitment when there are urgent competing priorities or where there are collective action problems within national political leaderships."

The result is that African countries have hitherto not been able to realise the agricultural potential of an otherwise naturally-endowed continent, resulting in the persistence of food shortages and, in some cases, famine.

Way forward

Even for countries that have met the Maputo declaration target, critics say the bigger worry is now on the focus of spending, which sometimes locks out crucial segments of society such as smallholder farmers, and women.

"CAADP is promoting a farming model associated with the Green Revolution, which promotes the use of expensive external inputs such as chemical fertilisers, pesticides and improved and/or hybrid seeds bought from agribusiness companies; this comes at the expense of promoting sustainable agriculture approaches that are likely to benefit poor farmers much more," says a May 2013 report by Action Aid titled, "Fair shares: is CAADP working?"

This assessment is backed by the Futures Agriculture report, which notes that countries such as Ethiopia and Rwanda, which increased the agriculture share of their budgets and have reaped dividends from the move, invested in smallholder agriculture from the get-go – largely due to the strong domestic politics incentives of such a decision.

"In both cases a combination of history plus current internal and external opposition (including an armed component) means that the government knows it has to deliver broad-based benefits to the population, and perhaps especially the rural population, in order to justify its hold on power. Attention to smallholder agriculture is the most obvious way to do this," says the report.

Where such conditions are not prevalent, governments will have to undertake comprehensive research and crunch the numbers in order to ensure efficient use of the resources allocated to the agriculture sector, says the ReSAKSS report.

"Investing in public accounts systems that provide these types of information, and making the data publicly available, will enhance the political accountability of governments to their citizens and promote mutual accountability of state and non-state actors in agricultural development, key to achieving an optimal allocation of resources," says the report.

Experts also lay considerable emphasis on the importance of agricultural research. On October 10, 2013, while delivering a speech on strengthening agricultural public expenditure in sub-Saharan Africa, the World Bank Vice President for Africa, Makhtar Diop, noted that shrewd usage of the increased funding in agriculture, such as investing more money on high returns yielding programmes, pays dividends.

"We know from global studies that for example investments in research to develop and disseminate technological innovations in agriculture yield very high rates of return," he said. "For sub-Saharan Africa, on average each $100 invested (a one-time expenditure) in agricultural research produces future benefits each year estimated at around $35. That is a huge rate of return."

Four months earlier, African heads of states and government had made a fresh pledge; to use a unified approach to end poverty on the continent by 2025 within the CAADP framework.

While this renews hope and offers another avenue for African leaders to meet the targets set in the Maputo declaration, the experience of the previous 12 years show that they need to have all hands on the deck.

Putting more food on Africa's table -- with a little help from science and other clever things

Africa is rising, what about its food?

by Samantha Spooner

Last year Africa's richest man, Aliko Dangote, invested $1 billion into rice production in Nigeria. This new investment is in support of the Nigerian Government's plan to attain food sufficiency and become a net-exporter of rice by 2015. Rice is crucial to Nigeria's food security - 84% of Nigerian households consume rice yet the country has a rice import bill currently exceeding $2 billion, which has the potential to deplete the country's foreign currency reserves.

Today the country is not too far behind its 2015 target and Dangote's investment will serve to bolster these efforts. Nigeria has currently achieved 80% self-sufficiency in paddy rice production and, in 2013, added seven million metric tonnes of paddy rice to the domestic food supply.

Food production is a very real concern in Africa. The average annual growth in food demand is projected at 2.83% per year from 2000 - 2030, due to rapid population growth. By 2030 the continent will need to feed 1.5 billion people and 2 billion by 2050.

While there have been significant increases in agricultural productivity globally, current productivity growth in sub-Saharan Africa is not enough. At the rate it's going today, only 13% of total food demand will be met in 2050.

North Africa will however, fare better with the Middle East and Northern Africa region able to satisfy 83% of total food demand, at its current total factor productivity rate. Sub-Saharan Africa's huge gap will need to be closed through investments in productivity improvements, selective expansion, intensification, and trade.

Government policies

In the case of Nigeria's rice achievements, it is largely attributed to the introduction of a number of key policies and investment strategies by the government. At the macro level, rice import tariffs are being increased leading to a complete embargo by 2015 when the goal of rice self-sufficiency is supposed to be met. The federal government also reached six million rice farmers across the country through the provision of fertilisers and high quality seeds and implemented reforms which deregulated seed and fertiliser markets, potentially bringing cheaper prices and more choices of suppliers.

This is just on one of Nigeria's cereals, sub-Saharan African countries whose agricultural production indices on a whole, have shown steady increases Kenya, Ghana, Mali, Tanzania, Uganda and Zambia. Ethiopia should also be mentioned since it doubled its grain production from 8 million metric tons in 2000 to 15.6 million metric tons in 2010, making it sub-Saharan Africa's second largest grain producer behind Nigeria.

Use of fertiliser

The increased use of fertiliser was a major factor behind Ethiopia's increases in cereal production. In 2010, the government embarked on a new policy initiative, the Growth and Transformation Program - which aimed to double yields by 2015. In line with the objectives of this program, the government increased fertiliser imports from 440,000 tons in 2008 to about 890,000 thousand in 2012.

Unfortunately, fertiliser availability far exceeded total consumption resulting in large carryover stocks reaching almost half a million tons, worth roughly $350 million, sitting in the cooperative warehouses throughout the country in 2012. In order to deal with this, in 2013 the government launched a new national fertiliser blending program which created Ethiopia's first in-country blended fertiliser. By blending fertilisers locally smallholder famers not only had access to an expanded range of soil nutrients, but they were also able to request custom blended formulas tailored to their specific soil needs. To raise awareness, the effectiveness of the blended fertilisers was demonstrated at 5,000 farmer training centres and on 50,000 farmer's plots. Other groups such as the International Fertiliser Industry Association and the African Fertiliser and Agribusiness Partnership also sought to raise awareness of the importance of fertiliser use in Ethiopia.

Zambia's alternative approaches

For some African countries the issue is fertile, nutrient-rich soils that are submerged underwater, as is the case for Zambia. Zambia contains 40% of Southern Africa's surface freshwater and seasonally almost 20% of the country is inundated. Traditionally Zambians living in floodplains developed a network of man-made canals that delivered water to homes and farmlands during drier months for irrigation and reduced the severity of flooding during the wet season by carrying floodwater away from villages and farms. These practices were lost over time, but have been recently revived by local and international organisations.

Zambia is a success story as a country that has attained self-sufficiency in wheat and soybean production, greatly attributed to protectionist government policies, high demand and conservation farming practices. The Conservation Farming Unit (CFU), initiated by the Zambia National Farmers Union, spent five years advocating the use of conservation farming techniques and in the early 2000s their efforts paid off when small-scale farmers began to report record productivity. One conservation farming technique is that plant residue from the previous crop is left on the land to minimise erosion and provide organic material, reducing the need for expensive chemical fertilisers.

Investing in research

Innovative practices such as CFU come about because of agricultural research. An imperative factor in achieving future sustainable food production is good agricultural research policy and implementation. Unfortunately, the vast majority of African countries spend less than 2% GDP on agricultural research, with only Botswana and Mauritius allocating over 4%. In Botswana this was reflected in a big spike in the number of researchers holding PhD degrees, which between 2000–2011 saw the number of researchers qualified to the BSc-degree level tripled.

Good storage

Even if innovative practices that increase production are adopted another immense hurdle faced is inadequate post-harvest storage. For example, in sub-Saharan Africa farmers suffer between 20-30% post-harvest maize losses due to inadequate storage techniques. In 2011 the government of Rwanda sought to address this issue through the establishment of the National Post-harvest Staple Crop Strategy. The strategy included the creation of bulk storage facilities around the country and post-harvest training for farmers. A survey conducted in Rwanda last year indicated a loss of 18.9% of maize production compared to 30% in 2009, in the same period, rice post-harvest loss was reduced from 24.8% to 15.2%.

Images provided by: Samantha Spooner, Shamba Shape-Up, CGIAR, CIFOR

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