

African agriculture and food systems overall

How can a balance be achieved between the competition agricultural land, feedstock, bioenergy, and protected areas?

AGRA: The integration of food systems into more significant landscapes has been happening for centuries. Most of our food systems are firmly integrated into landscapes that have multiple production uses. Striking a balance in the use of these landscapes commonly depends on many factors and drivers, such as the demand for food and other commodities. There is no agreement on an optimal balance as these factors are dynamic. For example, the spike in demand for biofuels has influenced the conversion of food products into fuels, and subsequently the increased demand for land for this purpose. Such changes in behavior and land use suggest a need for more complex and geographically-differentiated analysis. There is a need to increase crop productivity per unit area and focus on crops that ensure high nutrition such as high iron beans, and pro-vitamin A sweet potato. Crop diversity into legumes, oilcrops, fruits and vegetables brings in a balance across dietary needs.

Land availability, soil, water, climate, political, social, and technological factors determine land-use patterns. No one answer fits all in getting the right balance in land use. However, several policy-led interventions can be developed to ensure a "balance" based on existing science and community demands. In addition to agriculture and food security policies, other policies that address the primary drivers of competition for land (population growth, dietary preference, protected areas, forest policy) could be used to reduce the competition for land significantly. Technologies for increasing agricultural land productivity will also ease land-use competition and the dilemmas that most farmers face.

USEFUL READINGS

<https://www.sciencedirect.com/science/article/abs/pii/S0306919210001235>
<https://royalsocietypublishing.org/doi/10.1098/rstb.2010.0127>

https://www.researchgate.net/publication/227418954_The_new_competition_for_land_Food_energy_and_climate_change
<https://www.landscapeinstitute.org/technical-resource/landscape-planning-introduction/>

It is certain that African food systems will be transformed with greater use of standards and technologies to improve the quantity and quality of food. However we do not know how business models will change where farmers face low returns and high risks. How will AGRA work on this issue?

AGRA: AGRA invests in solutions that give farmers access to inputs (improved seeds and soil nutrient improvement solutions) structured markets and finance. AGRA supports processes that ensure farmers access seed of more resilient and diverse crop varieties. More value is being created out of their produce, allowing farmers to access finance because they can repay through off-takers. AGRA has developed various models to de-risk both farmers and SMEs in value addition and access to finance.

Re domestic and local weaning foods: which African food systems are promoting production and processing for these?

Rose Omari. If I get your question correctly, local production of weaning foods using local ingredients is widespread both at household and commercial levels. What needs to be promoted is food safety practices that will reduce aflatoxins and other hazards in these local weaning foods

Dear Dr. Kalibata, Thank you for your remarks. In addition to food security crops, what are your thoughts on national research investments or supporting the enabling environment for cash crops like coffee, where smallholders are very important?

AGRA. Research is very critical to any crop to stay on top of yield issues, pests and diseases and now climate change. There are also other reasons beyond these. The recommendation is that governments spend 1% of their GDP on R&D. This would go a long way to ensure value for farmers.

Dr Kalibata. How do you plan to mainstream agriculture insurance and agriculture mechanization in the transformation systems?

AGRA: The mechanization model promoted by AGRA is private sector-led, whereby SMEs and cooperatives are supported to invest in equipment that they can rent out to small-scale farmers. Digital technology is also being used by AGRA to link farmers to equipment owners (Trotro, Hello Tractor, Rent-to-Own). In the area of insurance, AGRA has invested in scalable outreach models to enhance the awareness of insurance at the farmer level, and to bundle insurance with other products and partners such as credit/banks, inputs/agro-dealers, and off-takers.

Seed systems in general

Isn't it important to increase yields as well as preserve current farmer seeds? In some cases old varieties hold great genetic potential, but usually production is lower than some more modern varieties. Does the government seed system look at both quality and quantity, and preservation?

AGRA: The genetic potential of farmer-saved seed has been eroded over time. This has been exacerbated by the effects of climate change to the extent that these varieties have become susceptible to new pests and diseases that have subsequently come on the scene. New varieties have been developed with either tolerance or resistance to these pests and diseases, including drought. That is why farmers are encouraged to use these new varieties for better yields to attain food security and income after-sales.

Some old varieties have good attributes that should not be overlooked, like taste, color, grain size, maturity, fast cooking time, and others. For this reason, they are used in breeding programs by incorporating other traits into those old varieties. Some of these old varieties have been kept in the national gene bank as sources of breeding material.

The Government of Rwanda is also keen on both seed quality and quantity, and that is why it supports and encourages more private seed companies to produce seed. This is in addition to setting up a standalone quality control regulatory agency called the Rwanda Inspectorate, Competition and Consumer Protection Authority (RICA), which provides oversight and ensures that the seed in the market is of good quality.

Sustainability

How do we address the problem of fragmented projects which usually cannot be scaled? The financing of programs needs to do more to encourage collaboration around sustainable solutions that can be scaled. What will be AGRA's role in the next 10 years to address this?

AGRA. This is possible through government effort to coordinate partners as provided for in the

CAADP process except it is not used a lot. We would like to double down on demonstrating the benefits of coordination, addressing capacity challenges for better coordination but also finding ways to pull partners together and work more closely with like minded partners. We have already started creating platforms to allow for better coordination, e.g. AGRF at continental level. At the country level, consortia platforms allow partners, especially private partners, to deliver together. Flagships that we help governments design allow both public and private sector partners to work together on big programs rather than separate, fragmented programs. We would like to do more of this; support countries to do more here.

Inclusion

The policy process is indeed complex and intensive, but I sure hope the farmers were involved in the process and that their views and voice have been considered in the aflatoxins policy for Ghana?

Rose Omari. They were involved throughout the process. We even started the process with them through a situational analysis.

To what degree are the Rwanda farmers involved making decisions? Are they simply being manipulated to "do the right thing" or are they full partners in designing projects and policies, meaning they could approve or veto any action?

AGRA: USAID's and AGRA's partnership puts Smallholder Farmers voice and choice ensuring they are the ultimate beneficiaries of our investment in the country or anywhere else in Africa.

Please share the approaches/interventions you used to develop the capacity of smallholder farmers (men, women) and extension workers to engage with the digital input distribution system.

AGRA: BK Techouse carried out several training sessions with district and sector agronomists on the use of the Smart Nkunganire System (SNS), a supply chain management system that has digitalized Rwanda's agri-input subsidy program. Farmer promoters and agro-dealers were trained on the use of SNS, as well as other technologies, like the Bank of Kigali's IKOFI, which aims at increasing farmers' eligibility to access credit, as well as the Mobile Ordering and Processing Application (MOPA), which allows farmers to specify the agro-dealer shops from where to get subsidized seeds or fertilizers. Some of the farmer promoters and agro-dealers that had initial capital became agents of IKOFI and SNS, and were able to register farmers through SNS to make transactions using IKOFI.

Aside from that, every planting season, AGRA disseminates information on these digital platforms through radio and TV. Drama skits and other sensitization materials are used for added clarity.

We greatly appreciate AGRA's leadership and effort in fighting hunger in AFRICA. How inclusive is the Agriculture Development Agenda given the fact that some problems that constrain agriculture development might be context specific?

AGRA: AGRA's agriculture development agenda is driven by the desire to see smallholder transformation, increased incomes, resilience, and sustainable systems. Inclusivity is at the heart of our agri-development agenda. Our work aims at reaching women and youth through initiatives such as VALUE4HER – a women in agriculture program – as well as youth empowerment platforms such as Generation Africa. This is taken into account for seed production by ensuring that women are recognized and involved in participatory breeding where they are given a chance to give views on what they want in varieties, as well as selecting what they prefer during the breeding process, seed production and distribution, marketing and sales processes.

Market systems and market actors

Middle men and women are sometimes a nuisance in Agriculture processes from planting to

harvesting and marketing of produce. How can this be sorted out in African countries?

AGRA. I don't think the issue is avoiding middlemen. They add significant value to a system of smallholder farmers. The issue is fair value sharing in the system and there are several models that can be evaluated for use in different circumstances.

Rwanda

Are farmers paying full price for this seed directly to the private sector or is it being subsidized by the government or NGOs?

USAID/Rwanda. seeds are subsidized by the Government.

The seed value chain needs more attention and intervention at least to fulfil 50% of the farmers` demand (in amount and type as well as timeliness). How much has the improved seed demand of Rwandan farmers been fulfilled by the seed producers? How does the government support the seed producers?

AGRA: Recent data shows that over 80% of the seed demand in Rwanda is met through locally-produced seeds. This is the result of sustained investments in the seed sector by the government, AGRA, private sector players, and development partners, who have made large investments in this area over the last five years. .

In 2017/18, the Government of Rwanda took a bold step to work towards achieving self-sufficiency in seed production and distribution to farmers. This was after the realization that USD 4-6 million was spent annually in importing seed. Other challenges associated with seed importation included compromised quality, and Rwandan farmers not having enough seed to meet demand, because exporting companies had to satisfy their national needs first. On several occasions, the exporters failed to deliver the desired varieties, or the seeds arrived too late into the production season; there was also a high risk of introducing seed-borne diseases into the country

Thanks to the government's support and commitment to private sector participation, Rwanda did not import seed in 2020, for the popular maize, soybean, and wheat crops because, for the first time, all of it was [locally produced](#). The government's support included:

1. Strengthening national research systems (Rwanda Agricultural Board) in the training of scientists and building the capacity to develop and release improved crop varieties that are highly nutritious, well resilient, climate smart with farmer preferred traits, well adapted to various agro-ecologies in the country.
2. Supporting the establishment of 15 local seed companies. They are now producing seed for diverse crops and varieties for farmers, thus ensuring farmers have access to high quality seed to increase their productivity.
3. Establishing the right policies that make it easy for private companies to invest in the seed sector, and operate in the country. These include easing the variety release process, allowing private companies to acquire public varieties, removing restrictions on seed markets, facilitating seed companies to acquire land on which to produce seed, and providing oversight on quality so that counterfeit seed does not come into the market.

Does USAID/Rwanda encourage training / support on farmer-based seed selection, seed management, and seed storage at farm level? An informed capacitated consumer may be a

more receptive and sustainable seed buyer.

USAID/Rwanda. USAID/Rwanda and its partners support research institutions to release and register new crop varieties for seed production. Most of these varieties are also selected with farmers' participation for their rapid adoption. USAID also supports seed companies and seed traders who are registered in Rwanda, to produce, store and commercialize more quality seed to meet farmers' demand. Farmer-based seeds often don't meet quality standards required by regulatory agencies and much efforts are made by USAID-funded programs to create awareness among farmers on the importance of using certified seeds to increase crop yields.

Does USAID/Rwanda see tension between supporting national based seed companies in Rwanda versus regional private sector?

USAID/Rwanda. The fact that the Government decided to subsidize only seeds produced locally and not imported may create problems for regional companies that commercialize imported seeds. Currently USAID and other development partners involved in agriculture have engaged government in policy dialogues and reforms to enable all private seed actors to locally produce and license their varieties, and also facilitate foreign companies to access land, and in addition, inputs subsidy reform process is going on with the support of various development partners.

My question is for Team Rwanda, in terms of your digital supply chain & adopting the use of mobile platforms to distribute Ag inputs, do you have any capabilities that are not dependent on the internet & high end capabilities which SHFs may not be able to adopt?

USAID/Rwanda: Smallholder farmers make their input orders and apply for loan/working capital from the bank using SMS options in their cell phones or with extension agents of agro dealers assistance if they don't possess cell phones. This SMS option doesn't require internet availability.

Aflatoxins

At which points in the supply chain will the crops be tested for aflatoxins and by which agency?

Rose Omari. I think after harvest, before and during storage, before processing

What do you suggest agricultural extension agents do in order to help farmers and food growers at grass root level to control Aflatoxin?

Rose Omari. We have proposed some strategies to strengthen research and extension systems. They need training and resources so we have developed a code of practice for aflatoxin control and have proposed the development of training manuals highlighting best practices

What can be done to track the aflatoxin in agricultural products that are already available on the market? Sometimes farmers handle their food products badly, which lead to contamination by aflatoxin; whether they know or not, they take their produce to the market seeking buyers!

Rose Omari. The policy proposes the development of tracking and traceability systems and resourcing of regulators to intensify pre- and post-market monitoring. We also propose the provision of cheaper devices to farmers for rapid testing.

Finance

I didn't see the role of finance as part of the value chain in transforming the agri-business.

Rose Omari. We involved the ministry of finance and the agricultural development banks in

the process

Agroecology/Organics

Do you/AGRA consider agroecology as one of major elements/components for agricultural transformation in Africa? If not, why not?

AGRA: Agroecology recognizes the unique ecological challenges and opportunities of farming landscapes. More than ever now we need to recognise the suitability of farming systems and need to stay within planetary boundaries or we too will start contributing to serious ecosystem degradation and the very climate change we want to avoid

How are you ensuring that the private sector is also involved in promoting organic inputs, seeing that trends are pointing towards an increased demand for organic agricultural products?

AGRA: Overall, though, the current African agriculture set-up is largely organic, with an average fertilizer use of about 17 kg/ha, compared to the average European use of 250 kg/ha. From where we stand, there is a high potential to expand organic agriculture if the appropriate quality assurance infrastructure, and sustainable market incentives are in place. We are continually supporting the private sector's critical role in sustainable farming across the food value chains, which includes creating market linkages for organic products, availing critical organic inputs, and serving in the aggregation of organic produce.