

ICT Update

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**Next-generation
ACP agriculture –
innovations that work**

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Leveraging innovation and actionable knowledge for next-generation ACP agriculture

Peter Ballantyne and Jorge Chavez-Tafur

Digital as well as other technical and institutional innovations underpin the success of agriculture in developing countries in Africa, the Caribbean and the Pacific (ACP). Such innovations are encouraging a new generation of young 'agripreneurs' to tackle agri-food challenges, explore ways to build resilience to climate change, and improve the incomes and livelihoods of people in agriculture.

This issue of *ICT Update* brings together selected experiences of agricultural practitioners working close to the 'front line', bringing innovation and next-generation ideas to agriculture for development projects, and helping them reach, benefit and empower smallholder producers, leading to sustainable change.

The individual stories were produced through four CTA-led 'experience capitalisation' processes designed to identify and document actionable knowledge on practices that work for ACP agriculture. At the heart of each process was a workshop with CTA staff, partners and collaborators, focusing on insights and lessons around each of CTA's four strategic intervention areas:

1. Enhancing next-generation ACP agribusiness through digitalisation
2. Facilitating next-generation ACP agriculture through youth entrepreneurship and job creation
3. Making next-generation ACP agriculture work for women
4. Implementing climate-smart solutions for next-generation ACP agriculture

Participants in the first workshop on digital agribusiness identified five drivers that help explain what farmer-oriented agribusiness expect to achieve by investing in digitalisation: reducing risk, raising productivity, increasing efficiency, improving decisions, and enhancing

market access. A critical factor underpinning what works in all of these areas is the economic sustainability of the business models used to deliver value and services.

In his interview, CTA director Michael Hailu makes the case for digitalisation to help transform agriculture by enabling farmers to increase their production and incomes. He argues that partnerships and multi-sectoral investment are key to scale out successful interventions that benefit farmers.

Three further articles explore some specific challenges faced by African initiatives and start-ups seeking to make agribusiness work for farmers and producers.

The article by Pierre Ricau, Hermann Tossou, Ossen Senou and Marc Bappa Se shows how an agricultural market information system in Senegal is empowering farmers – improving their decisions and raising their incomes. This business model benefits customers and non-customers as the negotiating positions of all farmers are reinforced by accessible market information.

Finding appropriate business models for digital agribusiness start-ups is the main focus of the article by Hamza Rkha Chaham, Brian Bosire and Pierre Ricau. Drawing on their own experience, they argue that agribusiness start-ups in Africa must develop different 'diversified' business models suited to the varying needs of their customers and investors.

The importance of the 'user' in successful digital business models is also highlighted by Samwel Rutto. He argues that online agricultural marketing platforms can substantially improve the performance of agribusinesses, but the key to such a business model is understanding target customers and users – farmers and their representatives – so the services meet their actual requirements, capabilities, financial possibilities and production systems.

Participants in the youth entrepreneurship workshop identified seven critical success factors for successful rural entrepreneurship and job creation: access by youth to investment and finance, scalable approaches and models that can be taken up, enabling policy environments for youth, agriculture that is attractive to youth, access by youth to markets, business models that work, and access to a pool of appropriate skills, capacities and knowledge and ways to grow these.

Drawing on the 'start-up' focus of the articles from the first workshop, the article by Clare Pedrick explains the important roles that mentoring plays to help build up the essential business knowledge and skills of agripreneurs. She introduces lessons from individual entrepreneurs who have been mentored and how they benefit from such efforts.

Participants in the workshop on women in agriculture also identified seven critical success factors to enable women to truly benefit from agriculture: access by women to investment and finance, access to markets, skills support, networking and capacity development, access to information, knowledge and technology, access to land, overcoming socio-cultural factors, and appropriate recognition of women (in society, in policies, through targeted delivery of services).

Several cases from the workshop zoomed in on ways women can maximise the 'niche' characteristics of agri-food products to develop sustainable businesses that really benefit and empower women. The first article by Busani Bafana and Nawsheen Hosenally introduces two organic projects from Samoa and Jamaica whose products are attracting global markets while empowering women agripreneurs to change local practices so they benefit livelihoods and the environment.

Participants to the workshop on delivering climate-smart agriculture (CSA) solutions identified four fundamental challenges: to increase uptake and adoption of interventions and solutions; make more convincing cases for climate-smart interventions to farmers; promote appropriate policy frameworks and processes; and, improve information, communication and feedback flows that enhance awareness and better connect actors and interventions.

Ensuring the uptake and sustained adoption of solutions and practices that already work was a recurring theme in the CSA discussions. In Southern Africa, smart partnerships among like-minded organisations, as well as innovative product marketing and delivery, were identified as approaches that work.

In the same vein, the article by Jemima Afari-Kwarteng and Oluwaseun Adedeji argues that implementing CSA requires farmers to be able to access 'bundles' of products suited to their different requirements. Examples from different CTA projects show this approach in action.

Innovative bundles often involve different organisations joining together to sell complementary products and services. Increasingly, access to finance is part of this approach. The second article by Busani Bafana and Nawsheen Hosenally in this issue introduces a novel investment approach that mobilises private-sector funds for CSA. Such 'impact investing' aims to produce positive financial and societal results, including for farmers seeking to enhance their resilience to climate change. ●

About the authors



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Video recordings with participants give personal perspectives on the issues shared in the workshops:

<https://www.youtube.com/playlist?list=PLv8yRTnf9h7hM3CD0gtgJatMrw56sKFri>

Products of the workshops can be

downloaded at: <https://cgspace.cgiar.org/handle/10568/97710>





Digitalisation to transform farmers' productivity and profits

Q&A with Michael Hailu,
Director – CTA

Busani Bafana



Partnerships and multi-sectoral investment are key in scaling out successful technologies for smallholder farmers and achieving the Sustainable Development Goals, says CTA director, **Michael Hailu**.

Q What does digitalisation mean for the work of CTA?

CTA has been using ICTs for many years to bring technologies for application in agricultural operations at different levels of the value chain. For more than 20 years, we have been testing and introducing different technologies in ICTs, starting from CD-ROMs and evolving onwards with new technologies, like mobile technologies and satellite data. We have been testing the technologies with farmers and seeing how they can be useful in improving productivity and profitability. We have been doing some of this on a small scale but now there is a great deal of interest from the private sector and governments in harnessing ICTs for agricultural development. A key issue is: how do we take these technologies to scale? We hope our experience capitalisation activities

will help us find answers to this question – our role is catalytic. CTA has been making these technologies accessible to farmers, but to scale up we need to work with the big players, like the private sector, governments and other development partners.

Q Can digitalisation help scale out technologies of use to farmers?

Absolutely. I think there is much that digitalisation can offer in terms of connecting farmers to markets, for example, and in strengthening the processes of improving productivity and creating resilience. Farmers can tell, for instance, how much fertiliser they should use and, as a result, are able to reduce inputs whilst increasing yields and returns. There are so many possibilities where you can apply digitalisation. We need to make the strategic investment in digital innovations, so we can make them available to a large number of farmers.

Q In your view, is there political will in the ACP region to support digitalisation as an opportunity for farmers and farming?

When you talk about the ACP region, it is of course a very large region, made up of 79 countries. Policies differ

from one country to another but, overall, there is global recognition that digitalisation is a disruptive technology. The top five companies in the world are technology companies, and this tells us the importance of this technology to development and investment, so we cannot ignore it. We are saying that if you bring technology to agriculture, it can create huge opportunities for inclusivity and for many farmers to benefit by making agriculture profitable. There is strong recognition from many countries about the importance of agriculture – digitalisation is a game changer in this sector.

I attended the Alliance for a Green Revolution in Africa (AGRA) Forum in Kigali recently, and the whole issue of digitalisation was high on the agenda, highlighting that we need proper data about production so that decision-makers have easy access to different kinds of data on agriculture. There is the need to leverage technology to make data available to different kinds of users, and there is a very strong appreciation for what technology can bring to agriculture.



There is much that digitalisation can offer in terms of connecting farmers to markets, for example, and in strengthening the processes of improving productivity and creating resilience.

Q *Given CTA's interest in ICTs for agriculture, has anything not worked?*

When you test a new technology, it is always the case that there are more failures than successes. We have had a lot of failure for different reasons; either the technology was not appropriate, or there were no supporting mechanisms when we deployed it. There are things that continuously fail, but when you succeed, there is significant potential. For example, we have been working with partners in Uganda profiling tea farmers in cooperatives and we have been able to capture details about their farms and cooperatives using drones. Farmers have doubled their productivity and profits because of technological interventions. We can scale up these successes.

Q *How do you see CTA's new strategies strengthening your work with ICTs?*

Our current strategy has three key intervention areas: one is promoting youth entrepreneurship and creating employment for young people; the second is the agenda of digitalisation to improve agricultural productivity and profitability; and, the third is promoting climate-smart agriculture

innovations. There is a lot of interaction among these different priorities; for example, when you talk about using entrepreneurship in agriculture, technology is critical because young people are attracted to technology. To be engaged in agriculture, technology can play a key role to do that. A lot of our work on entrepreneurship is around technology and digital innovation and how these can help start-ups by young people. ●

About the author



Busani Bafana is a freelance journalist and a communications consultant. His interest is on development journalism, storytelling, documenting, knowledge seeking and sharing, communication training and public speaking. busani.bafana@gmail.com

Market information to mobiles promotes transparency within Senegal's value chains

Pierre Ricau, Hermann Tossou, Osseni Senou and Marc Ghislain Bappa Se

Digital agribusiness, N'kalô, is empowering Senegal's smallholders through the provision of reliable and objective market information to their phones. Using this data, farmers are able to negotiate to achieve the best prices for their produce.

Lamine Sagna, a cashew farmer in the Sedhiou region of southern Senegal, has learned first-hand that knowledge is power. "The key thing is to have negotiating power," he says. "With these text messages, we feel better equipped, more confident. When I see the information on my mobile phone, and a *bana-bana* (middleman) arrives offering a lower price, I tell all the other farmers not to sell. I let the *bana-bana* talk and when he finishes, I tell him I know the true price."

Sagna is one of a growing number of farmers who have subscribed to N'kalô, a market information service operating in Burkina Faso, Côte d'Ivoire, Mali and Senegal, which was supported by CTA during a scaling-up phase.

The service delivers weekly bulletins to farmers and their organisations by mobile phone, supplying valuable information about the market situation and trends for a particular crop, including the prices it may be expected to fetch.

An information gathering network

Each week, the N'kalô team collects information by telephoning and emailing a large network of private players – farmers, traders, processors – at local, but also international level, as well as communicating with them on WhatsApp. After analysing the market situation and prospects, the team sends advisory messages to thousands of farmers, mainly through mobile phone SMS messages. "When I receive messages, I feel stronger. I tell the middlemen: 'Take it or leave it. Someone else will come and buy it', and they are forced to take my product," says André Sadio, a farmer in Senegal's Ziguinchor region, who is a N'kalô user.

A knock-on effect of N'kalô has been better business for all farmers, including those who have not signed up for the bulletins. This is because traders have no way of knowing which producers receive the text messages, and those who do not. As a result, they are reluctant to offer prices that are too low, for fear of compromising their credibility. "Before, we would only receive information from middlemen, who fixed prices between each other," explains Karamouko Toure, a cashew farmer in Senegal's Kolda region. "Now," he adds, "the simple fact that the *bana-bana*, who come here on a regular basis, know that we receive information via N'kalô helps to ensure that the price they offer is fairer throughout the whole village."



Image: Pierre Ricau



Image: Nitidae

N'kalô's message service includes advice and forecasts based on price trends, which help farmers to refine their short- and mid-term marketing strategies, and decide exactly when it is worthwhile selling their produce.

Better market information helps to save time and transport costs, since negotiations are easier and are more likely to reach a successful conclusion. "It helps things to go faster," says Bacary Mangdien, coordinator of the AJAC Cooperative of sesame farmers in Sedhiou region. "We negotiate less, and discussions take place on a healthier basis."

Shall I sell, or should I wait?

Messages sent through N'kalô include advice and forecasts based on price trends, which help farmers and farmer organisations to refine their short – and mid-term marketing strategies, and decide whether it is worth waiting before selling their produce.

A case in point was a recent decision by maize farmer Ibrahima Diop to delay sales amid forecasts of increasing price trends. "This year we had a small stock of maize that we held for longer, because the text messages warned us of a possible increase," says Diop, who is treasurer of the Yachalal Cooperative in Sokone region. Diop revealed that they "sold in April at a good price (210 FCFA/kg or €0.32/kg), which enabled the cooperative to make a profit." The Senegalese Federation of Sesame Farmers recently signed a contract for the 2018/2019 season with a foreign exporter on the understanding that the prices used for each transaction will be based on N'kalô figures.

Many N'kalô users report having improved relationships with clients throughout the value chain due to the widespread availability of reliable and objective market information. Leaders of farmers organisations say the service is helping to build trust and discussion within their membership. Overall, farmers in Senegal agree that the market information service has led to a better business climate. "N'kalô reminds me of the Chinese proverb that: if someone is in need, rather than giving him fish to eat, it is better to teach him how to fish," observes Amath Diouf, a cashew farmer and trader in Sokone region. "That's because people learn to understand markets. But, in addition, N'kalô also provides fish, because farmers often earn higher prices just by mentioning the messages to buyers." ●

Market information sent to mobiles in Senegal is helping farmers negotiate better prices for their produce

SMS messages sent through the N'kalô mobile app include market advice and forecasts based on price trends

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Agribusiness diversification into digitalisation: a marketing risk or a strategy for survival?

Hamza Rkha Chaham, Brian Bosire and Pierre Ricau

African agribusiness start-ups are developing business models that deliver multiple tech-driven solutions to address the varying needs of smallholder farmers. Whilst this can be key for the financial sustainability of new businesses, according to agri-entrepreneurs **Hamza Rkha Chaham, Brian Bosire and Pierre Ricau**, there are pitfalls to avoid along the way.

In developed countries, markets are generally well researched and documented, so start-ups will have accurate data on which to build their market strategy, without having to spend too much time on testing and analysis. That is far from the case in Africa; here, start-ups have to do their own market research, which adds to the costs, and makes it difficult to develop a single value proposition and business model from the outset. Consequently, dealing with potential investors is often a challenge, as they expect to be presented with detailed business plans that focus on a single product or service. Our experience suggests that this does not work well for African start-ups, and that diversification is a good way to gain efficiency and explore new segments.



Creating derivative products based on the same core technology, and which contribute to the company's value proposition, makes it possible to increase business efficiency whilst exploring connected market pools. For example, if you are using remote-sensing technologies to advise wheat farmers on fertiliser use, why not use the same technologies to help fertiliser companies assess the impact of the fertiliser they sell?

While this multi-sided business model may allow African start-ups to survive and even develop, it carries with it certain marketing and communication risks, which digital entrepreneurs would do well to heed. Using experience from running our own digital start-ups, we offer some advice on branching out – highlighting some of the potential pitfalls along the way:

Diversification is key for African digital start-ups...

- By developing individual value propositions focused on two different types of customer – farmers and enterprises – Brian Bosire, founder of **UjuziKilimo**, a start-up developing soil sensors in Kenya, has leveraged soil analysis data acquired from farmers to generate market insights for input enterprises operating in the agricultural sector. Bosire quickly learned that, although farmers could not always pay for the soil analysis information his company supplied, they provide valuable feedback that input companies are ready to pay for.
- For Hamza Rkha Chaham, co-founder of **SOWIT** – a start-up developing remote-sensing decision support tools for farmers – diversification is not just a way to reconcile short- and long-term financial and strategic objectives; it also drives market exploration. In Morocco, cereals are cultivated on 5 million ha, with fertiliser accounting for one-third of production costs, which represents substantial scope for precision agriculture. However, seeing the need to first gauge the business potential of decision-support mechanisms for fertiliser application, Chaham made a strategic move to diversify. So while developing a drone-based decision-support tool targeting wheat producers, he started selling SOWIT's drone technology to other market segments – surveying, mining and construction – and offering drone training packages to ensure short-term income.
- **N'kalô** is a successful market advisory company operating in Burkina Faso, Côte d'Ivoire, Mali and Senegal, but founder Pierre Ricau soon saw that farmer subscriptions of €0.18 per month would not be enough to secure financial sustainability. Realising that N'kalô would need to find other sources of revenue, he chose to diversify. The current strategy includes selling the company's market expertise through consultancy projects, and Ricau is exploring solutions such as advertising input companies' products.

In our experience, diversification has mitigated the income risk, increased returns on investment by maximising assets, and allowed us to explore new market segments. However, diversification has also brought with it a number of challenges.

...but it can also muddy the waters

Diversification is not only confusing for investors, who tend to interpret it as an inability to address a core market, but it may also confuse customers. Addressing different market segments presents a communication challenge. As a start-up with limited resources, it is not always wise to spread a marketing budget over several segments, since it is already hard enough to drive awareness for just one.



Images: UjuziKilimo

For us, technology is a means to deliver what the farmer expects in the most scalable way to solve their most pressing challenges linked to inefficiencies.

UjuziKilimo, a start-up developing soil sensors in Kenya, has leveraged soil analysis data acquired from farmers to generate market insights for input enterprises

African agribusinesses are developing multi-sided business models to deliver multiple tech-driven solutions to smallholders

Most investors we met preferred to put their capital into simple business models, for which they could establish a clear correspondence with equivalent models in more advanced economies. In addition, many investors tended to back the trending technologies, rather than the solutions. Even donors and institutions wanted to hear more about artificial intelligence, drones or blockchain than about providing farmers with a way to reduce their fertiliser costs. For us, technology is a means to deliver what the farmer expects in the most scalable way to solve their most pressing challenges linked to inefficiencies. We address investors' concerns by establishing strong management, mitigating the unintended confusion that could result from diversification; by making sure that any product we develop still leverages our core technology or know-how, and directly contributes to our main value proposition. Then, when communicating with a specific market, we translate our main value proposition into an individually-adapted one, to ensure we are speaking the market language and avoiding confusion. Finally, we set up time and budget management processes to allocate company resources to the different market segments, and avoid ambiguity.

As entrepreneurs, implementing a strong discipline of resource allocation is crucial. Likewise, developing communication and management skills is essential, not only to prove the benefits of 'controlled' diversification to investors, but also to preserve the value proposition of the company over time. ●

About the authors



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Agricultural marketing platforms must demonstrate value to end users

Samwel Rutto

For online agricultural trading platforms to be scaled and sustained, they need to overcome an array of challenges relating to system design, revenue traction and uptake. Here, **Samwel Rutto**, regional manager for structured trading systems at the Eastern Africa Grain Council (EAGC), highlights the common pitfalls and key considerations for agribusiness when trying to grow their online client base.

Investment in digital solutions related to agribusiness for the Eastern Africa region has grown substantially in the past decade. However, few have proved sustainable beyond the pilot stage, or brought about lasting impact. Many continue to face key barriers that impede growth. My experience in designing and managing an electronic grain trading system – GSoko, which is owned by the EAGC – has taught me much about the pitfalls likely to be encountered in attempts to sustain and scale up online marketing platforms in the agribusiness sector.

“The grain hub [part of the GSoko system] is supporting the farmer through increased service delivery. For instance, for a farmer to access a market, they need to understand what the requirements are. So we work with the grain buyers to understand what they want in terms of the crop variety, the quantity they want to buy, and then we communicate back to the farmer, telling the farmer this is what the market wants,” explains Rutto. “So the farmers now can prepare to buy the right seed, knowing that they are going to supply a certain market,” Rutto summarises.

Pitfalls in scaling up online marketing platforms

Software design

To start with, the software design and development phase is often lengthy, and funding therefore must be staggered over a period of about 5 years. For instance, developing GSoko took 4 years, mainly due to the need for continuous consultation with the end users, ensuring that the solution was user-friendly and addressed their marketing needs. Time and again, the system had to be redesigned and

upgraded and, not surprisingly, this process ends up becoming costly – affecting the scaling of platforms.

Uptake and adoption rates

The uptake of digital solutions in agribusiness plays a crucial role in determining scalability and sustainability. But, adoption rates are adversely affected by unintended and undesired technical difficulties, which include ICT illiteracy, especially at the farmer level. During the deployment of GSoko, I discovered that some smallholder farmers have never used an android mobile phone, so they are puzzled as to how to use the system. Furthermore, poor internet access affects the operation of web-based systems. For example, the Katine Farmers’ Cooperative in Uganda has been exporting grains to Kenya through the GSoko platform, but limited internet connectivity has prevented members from participating in some online trading sessions.

Climate, environment and government

While operating the GSoko platform, I learned that regional online marketing platforms must be commercially viable and sustainable. This requires a bankable business model that generates revenue to meet cost obligations. On the other hand, revenue generation is determined by system throughput/value and volumes of commodities traded in the system for each season. Based on my experience and a review of other platforms in the region, the volumes traded are sometimes too small and erratic, while the costs of developing and maintaining systems are extremely high, often exceeding their benefits. Some of the main causes of low traded volumes in online platforms that I have witnessed first-hand have included bad weather and drought causing low yields; a lack of warehouses linked to farmers for aggregation; and quality issues, such as high levels of aflatoxins, mixed varieties, and rotten, diseased and broken harvests, etc. I also observed that crop seasonality affects systems throughput, especially those dealing with annual crops, such as maize. In addition, governments and bureaucracies in Eastern African countries often obstruct online platforms by imposing import regulations, tariffs and taxes.

Basic appeal

Promotion and marketing play an increasingly critical role in scaling online marketing platforms, since they help to grow the client base and volume of traded commodities. I believe that the spectrum of services offered and the fees charged to users should be affordable, since most users are either unable or unwilling to pay large sums. For this reason, it is important to do a profitability analysis with extensive stakeholder consultation to come up with reasonable fees.

consider creating business models that demonstrate value to users. By the same token, it is crucial to engage potential users in the design process for user-friendly solutions and diversify the scope of agricultural commodities covered by the platform. Failure to take any of these aspects into account risks compromising the long-term future of the online marketing platform itself, and the potential benefits to anyone who may use it. ●

For an online marketing platform to succeed, emphasises Samwel, it is crucial to engage potential users in the design process for user-friendly solutions and to diversify the scope of agricultural commodities.

The challenge is that farmers have become used to free services offered by NGOs and donors and are therefore reluctant to put their hands in their own pockets. Farmers and traders may also resist using an online platform if they feel that it is too sophisticated to use. Finally, the existence of various competing platforms targeting the same users – especially farmers – can affect the uptake of digital solutions.

The way forward

There is no doubt in my mind that online marketing platforms can make a valuable contribution to improve the performance, competitiveness and profitability of agribusinesses. However, challenges in system design, revenue traction and uptake have a negative effect on their scalability and sustainability. For this reason, it is essential when investing in agriculture-related digital solutions to

About the author



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“You have to be trained to start a business, then have regular guidance”

Clare Pedrick



For young agricultural entrepreneurs with ideas, cross-generational or intra-generational mentorship and training can help to validate initial business concepts and avoid early mis-steps for start-ups.

Mentoring by a business professional, or someone else with first-hand experience of the potential pitfalls of launching a start-up, can make all the difference between success and failure for young agricultural entrepreneurs – often referred to as ‘agripreneurs’ – particularly in the early days.

Participants at a CTA workshop to explore youth entrepreneurship and job creation in agriculture have described how supervision and guidance can help to equip young people with the skills needed to set up and manage a profitable agribusiness which, in turn, may create jobs for others. Support may cover a range of areas, including drawing up a business plan, product development, finance and market access.

“Starting a business can be difficult, and many young people have good ideas, but to have that transformed into a viable business you need certain skills,” says Tony Nsanganira, who works in Ghana for FAO’s Reducing Rural Poverty programme, with a special focus on promoting the creation of decent jobs for rural youth in Africa through agribusiness. “You have to be trained to start a business, then have regular guidance. You need to be helped to manage the finance and business management, but you also need incubation, to give you practical exposure, so you can continue on your own,” Nsanganira continues.

Practical advice brings concrete results

Kenya

In Kenya, a group of young women entrepreneurs who have received support from professional mentors as part of the FAO programme have been helped to develop and revise business plans and access finance and markets for their agri-processing start-up. Advice on issues, ranging from adding value to packaging and labelling their fruit-based products, has helped them to develop a successful small agribusiness.

Fiji

Ideally, support should be ongoing, and involve meeting regular targets, say those who have benefited from such backing. Litia Kirwin has been the recipient of a number of mentorship initiatives, which have been instrumental in helping her to launch her sustainable development start-up, *Loving Islands* in Fiji, which specialises in securing market access for local island communities and their products, including organic virgin coconut oil, cosmetics, candles and woven homewares.

“Personally, I found mentorship really important, especially at the beginning of the business, when it helped to validate my ideas. It’s extremely valuable to have confirmation of what you are doing,” says Kirwin. Now in its second year, the business has already taken on three members of staff, all of them young, and Kirwin is mentoring a fellow Fijian agripreneur, a university student, who is trying to set up a small-scale forestry nursery in Suva. The Loving Islands Farmer Enterprise Network, a producer network linked to the start-up, provides organic farm training, business development support and market access to rural island communities.

Mentoring and training in drawing up a business plan, product development, finance and market access can help to equip young people with the skills needed to set up and manage a profitable agribusiness.

Shadowing agripreneurs to offer support

Kenya

At Kenya’s **Ustadi Foundation**, which takes its name from the Swahili for ‘skilful’, head of programmes, Lilian Mabonga, makes a clear distinction between training and mentoring. This Nairobi-based NGO, which supplies capacity development to rural youth and women across a range of agricultural value chains, offers mentoring in four key areas: business planning, finance, marketing and customer care.

“Many businesses started by young people fail because their owners have received training but not mentorship,” says Mabonga. “Training alone is never enough. You need to have practical follow-up as well.” Mabonga makes a point of visiting young agripreneurs in their shops or other retail outlets, and sitting in to monitor their engagement with customers. She also shadows them as they develop their products, from start to finish. As a result, several thousand young entrepreneurs have managed to secure finance for their agribusiness initiatives, which span 23 counties in Kenya and sectors that include cassava, cashew, pineapple and poultry value chains, as well as waste-to-energy.

Global African Agribusiness Accelerator Platform (GAAAP)

Although a mentor may be an older person with long experience in business, young entrepreneurs can have valuable knowledge to pass on to each other, says Michael Sudarkasa, founder of **GAAAP**, an initiative that is helping to drive business development for youth agripreneurs in four African countries.

“I believe in both cross-generational exchange, but also intra-generational knowledge transfer,” Sudarkasa says. “That may involve bringing together young agripreneurs from different parts of Africa, whether it be through Snapchat, Instagram or WhatsApp, to share solutions that have been proved to work,” he added. ●



Image: CTA

About the author



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(left) Mentoring by a business professional can make all the difference for young agribusinesses (right) Participants at a CTA workshop explore youth entrepreneurship and job creation in agriculture

Organic farming: offering women entrepreneurs access to high-value niche markets

By Busani Bafana and Nawsheen Hosenally



Organic agriculture in ACP regions is improving the livelihoods of women farmers, who are selling high value products to global niche markets. Two examples, from Jamaica and Samoa, illustrate the scope for organic agriculture to empower women agripreneurs to change local practices to benefit livelihoods and the environment.

The production of organic virgin coconut oil has given women farmers in Samoa a lifeline in a country where land is limited for extensive agriculture. [Women in Business Development Inc.](#) (WIBDI), a business development organisation in Samoa that has been supported by CTA, helps women – and other family members – to run income-generating projects. In particular, WIBDI provides skills and leadership training in organic farming, and links farmers to global markets for high-end organic products. Working across 183 villages in Samoa, WIBDI has promoted and supported organic certification of agricultural enterprises, helping to put more than €200,000 in the hands of farmers annually.

Going global

By empowering women with the skills to grow and process virgin coconut oil, and by helping them to obtain certification as organic producer, Taaloga Apa, WIBDI senior programme manager, says her organisation has helped to tap the potential of women practising organic farming. “We have taken the virgin coconut oil to global markets like The Body Shop in the UK, which is one of our major sources of income for virgin coconut oil,” says Apa. The British-based cosmetics, skincare and perfume company has been buying the oil from Samoa since 2008 and farmers receive 80% of the proceeds. WIBDI has also formed a marketing partnership with a top-end coffee café chain, C1Espresso in New Zealand.

“The Body Shop has realised that, by buying the virgin oil from Samoa, they are helping smallholder farmers whose lives have been changed through organic farming,” states Apa. “The Body Shop has looked at the quality of the oil, since our oil is quite expensive, but they chose quality and are interested in supporting our work with the farmers.”

Quality, not quantity

WIBDI – a business association – is transforming into a social enterprise to generate profits from development programmes that include promoting other organic products, such as fresh fruit and vegetables, and coffee. With support from CTA, the organisation has participated in business fairs and policy meetings around the world to promote its work on organic agriculture.

“WIBDI’s work with farmers is all organic and, for small islands, this is happening in a strong way, given the competition in organic farming from Australia and New Zealand,” emphasises Isolina Boto, the CTA lead on agribusiness development. “If you cannot compete on quantity, you compete on quality and value addition, and this is what WIBDI has done successfully, and integrated the community in the process,” she adds. “They have also diversified their product range and markets from local to global, offering value added products including dried bananas, fresh fruit and vegetables, and coffee, as well as artefacts and soaps.”

Organic virgin oil from Samoa in the Pacific and organic coffee from Jamaican farmers is helping to empower women agripreneurs and improve income through exports of their high-value products to niche markets.

Certified Caribbean coffee

Organic coffee for global markets is also being produced by Jamaican farmers, which is helping to create jobs and improve income. One such producer is Doriene Rowan-Campbell, owner and chief executive officer of [Rowan’s Royale Coffee](#). Rowan-Campbell produces and exports the famous Jamaican Blue Mountain coffee from seed to cup to international markets in Europe, Japan and North America.

“Organic farming is the only type of farming that is led by principles about equity, fairness and working with the environment... and, for me, that is the most important thing in farming, because it says you are building a sustainable future,” says Rowan-Campbell, a trained organic inspector and certification coordinator for the Jamaica Organic Agriculture Movement established in 2001. The Movement has since trained 150 Caribbean women farmers in organic farming. “Globally, we are finding that people want organic, and the interest in organic coffee shows entrepreneurs are prepared to follow the standards. In Jamaica, women self-select to go into organic farming saying they want to secure the health of their communities, while men see it as a good business proposition. Organic works.” She continues, “So I have started with coffee but very soon, I will have ginger and turmeric because I feel, with climate change, I have to plant so that when a hurricane hits my coffee, I have something below ground I can also rely on. I am encouraging the farmers around me to be more innovative, to diversify and not to cut down almost every tree. Coffee is a forest product, it needs shade, and it needs shade more and more as the days get hotter with less rain.” ●



Images: CTA/WIBDI



About the authors



Originally from Mauritius, **Nawsheen Hosenally** has over 7 years of experience in the agricultural sector, specifically focusing on the engagement of youth in agriculture through the use of ICTs. Currently, Nawsheen is the co-founder of Agribusiness TV (a web TV that features success stories of young agricultural entrepreneurs in Africa), and managing director of Agribusiness Shop (a shop commercialising transformed agricultural products from young entrepreneurs and women associations), based in Burkina Faso. nawsheen@agence-mediaprod.com



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Working across 183 villages in Samoa, WIBDI has promoted and supported organic certification of agricultural enterprises

A WIBDI member desiccates coconuts for processing into coconut virgin oil

Bundled green services drive farmer adoption of climate-smart agriculture

Jemima Afari-Kwarteng and Oluwaseun Adedeji

Experience with climate-smart agriculture (CSA) initiatives increasingly shows that delivering green services in isolation is an ineffective approach that produces disappointing outcomes. The provision of 'bundled' products which are suited to farmers' requirements is far more likely to promote CSA uptake, increasing sustainability and resilience to climate change as a result. Examples from different CTA projects show this approach in action.

Fatima is a farmer who grows crops and rears animals in Ayigbe rural community in Wenchi, Ghana to sell on the open market. She practises rainfed agriculture but complains that rainfall patterns are unpredictable or late, which makes it difficult for her to decide when to plant her crops and avoid losing them to drought.



Cocoa farmer Manti experiences similar challenges so has turned to producing charcoal as a way of supplementing his income. Due to the lack of electricity and high price of gas, charcoal is a popular and affordable energy source for many in his rural community. But charcoal production involves felling trees, resulting in deforestation, environmental degradation and global warming.

Not just technical knowledge

These stories paint a picture that matches the experiences of many rural farmers in ACP countries severely affected by climate change. FAO predicts that the global population is likely to increase to 9.8 billion by 2050, with most people located in developing countries, and vulnerable to climate change. But how do farmers view CSA, and what can enhance their capacity to adopt CSA solutions to ensure sustainable production and income?

Increasingly, it appears that technical knowledge alone may not be sufficient to increase farmer uptake of CSA practices. An approach based on making single green services available fails to consider other needs and circumstances. For example, helping Fatima to introduce good agronomic practices might increase crop yields, but she is also likely to need financial assistance and a good telecommunication network to enhance extension services. Most importantly, the services need to be market led, to ensure sustainability, and farmers need better access to markets, to secure adequate returns for their climate-smart efforts.

Bundled services in action

Bundled CSA services can come in different forms, but they must be designed to complement each other, if they are to provide the intended results. That may mean combining the public and private sectors. A case in point is promoting competitiveness of agriculture value in the Dominican Republic, a CTA-led project that partners with a private microfinance institute (ADOPEM) to provide micro-credits to farmers to implement good agricultural practices. Participating farmers are trained in sustainable agriculture and provided with services along the value chain for tuber crops, including marketing, storage, and handling of produce during transportation. As a result of this training, yields improved, with banana rejection rates falling from 40% to 30% and exports of banana boxes rising from 1,080 to 5,200.

The scaling-up CSA solutions for cereals and livestock farmers in Southern Africa project offers farmers a bundled package that includes access to credit facilities, provision of extension services via SMS, and information about CSA practices in local languages. In Zimbabwe, the services are provided through the country's farmers' union, with information dissemination and digital registration of farmers handled by private telecommunications provider Econet. Overall, the project will increase the uptake of weather-based insurance by smallholder farmers; improve farmer's access to weather information through the use of ICTs; improve access to technical interventions that increase crop productivity; and reduce risks under a changing climate.

Another example of a bundling service is CTA's CLI-MARK project, which is working with private and public sector actors to scale up market mechanisms that increase the adaptive capacity of pastoralists in northern Kenya and southern Ethiopia. CTA has teamed up with the International Institute of Rural Reconstruction, the International Livestock Research Institute, private livestock insurers, Takaful Insurance in Kenya, Oromia Insurance in Ethiopia, and weather data company aWhere, to facilitate the following:



Bundled green services must be market-led and designed to complement each other, if they are to ensure sustainability and for farmers to secure adequate returns for their climate-smart efforts.

- design and delivery of a blended weather information system that incorporates the best of scientific and indigenous weather knowledge systems;
- develop and implement mechanisms to scale up livestock insurance among pastoralists;
- boost markets, trade and enterprises for women and youth to increase incomes and sustainable practices.

Through CLI-MARK, women's producer groups have been able to increase fodder production, which has enabled livestock keepers to purchase bales of hay at much cheaper prices. All of the indications are that a mix of blended interventions involving public and private sector players have a far better chance of producing long-term behaviour change that can lead to sustainable impact. ●

About the authors



Jemima Afari-Kwarteng is currently working with CTA as an agribusiness administrative and communication intern. Originally from Ghana she is passionate about agriculture. After studying agribusiness at the University of Ghana she studied Management, Economics and Consumer studies for her Masters at Wageningen University in the Netherlands. As part of her Masters, she also completed an internship with Agriterria where she worked with farmer cooperatives in Zambia. jemima26kwarteng@gmail.com

Oluwaseun Adedeji has a strong passion for youth and women engagement in agribusiness. She joined IITA in 2012 and worked in various capacities especially with the Youth in Agribusiness Office where she facilitated private sector collaborations, developed new agri-enterprises, provided agribusiness mentorships and established strategic business alliances. She recently joined CTA as an intern for Agribusiness Technical Support. seunadedeji92@gmail.com

Climate-smart impact investing doing good and doing business

By Busani Bafana and Nawsheen Hosenally

Private sector climate-smart investments are bridging the gap for agricultural development funding in a bid to help realise the Sustainable Development Goals through impact investing, a novel way of creating and sharing wealth.

“Climate-smart agriculture is an opportunity for private sector investment to bolster sustainable agricultural development,” says Viktoria Popova, technical assistance manager at Incofin Investment Management, a global impact investment management company, which has its headquarters in Belgium. Incofin manages investments and capacity-building support in emerging countries to promote inclusive progress.

In the context of climate change and its increasingly negative impacts – and the trend for discerning consumers to support a cleaner environment and fair, ethical products – many companies are changing their investment strategies. Investors are screening their portfolios to assess environmental, social and governance risks and there is a shift away from what can be viewed as more harmful industries; investors are looking to invest in ways that do more good than harm. The International Finance Corporation says such ‘impact investing’ is about making investments in companies, organisations, vehicles and funds with the aim of contributing to measurable positive, social, economic and environmental impact, alongside financial returns.

“We believe that investing in sustainable business models makes good business sense, and we truly believe that agriculture is key in addressing the need for doubling output to feed a growing population. Given both its potential to generate negative effects for the environment and its vulnerability to climate, agriculture should become more sustainable from an environmental point of view,” observes Popova. Engaging with microfinance institutions, producer organisations and other actors along the value chain, Incofin helps to unlock the potential of agriculture in the markets where it can make a change.

Climate-smart investment

“We speak about climate-smart investment, as we understand that it is not only the productivity that needs to be improved,



but also the resilience of farmers, so the challenges they face are addressed,” says Popova. In Colombia, for example, Incofin has supported a coffee cooperative to be more climate-smart by financing the construction of a centralised wet mill, which enables centralised processing of what the farmers produce. “This unit has a very strict water system and, through this, we have managed to reduce the amount of water from 40 kg to 4 kg per kilo of coffee produced. In addition, the water does not contaminate the source water as it would have done plus the coffee husks, pulp and all the waste which is there is used to feed this mill as well. So this is something which has proved to be environmentally and socially positive but also has enabled good financial returns, whilst improving the wellbeing of farmers,” she explains.

To improve productivity, produce quality and incomes, Incofin is also helping small producer organisations in developing countries to diversify crops and introduce best agricultural practices. Incofin also works with local microfinance institutions to enhance local resilience to weather shocks. In Nicaragua, this collaboration has led to an agricultural weather index-insurance product in which the local microfinance institutions act as policyholders and risk aggregators for, and with, their agricultural clients.



“We are also raising awareness about climate change, to support those measures that help farmers to be more resilient and make their businesses more climate-smart,” she adds.

Since 2001, Incofin has invested more than €1.7 billion in 65 countries working with over 300 clients, including financial institutions, small producer organisations and small and medium-sized agricultural enterprises. Incofin currently has four active funds and a number of advice facilities, with more than €881 million committed assets under management. On the technical assistance side, since 2010, Incofin has deployed over €6 million to support around 90 projects in more than 35 countries across all regions, including Africa, Asia, the Caribbean, Eastern Europe, Latin America and the Middle East.

In the context of climate change and the trend for consumers to support a cleaner environment and ethical products – many companies are screening their portfolios and changing their investment strategies.

“The challenges of the rural entrepreneur and smallholder farmer are at the centre of what needs to be addressed to achieve development goals which, in the end, affects all of us. As an impact investor, I believe that it is our role to engage with those institutions that can go one step further and go into those areas which are perceived risky. Incofin is there to support this through combining the provision of financing with technical assistance,” says Popova. ●

About the authors



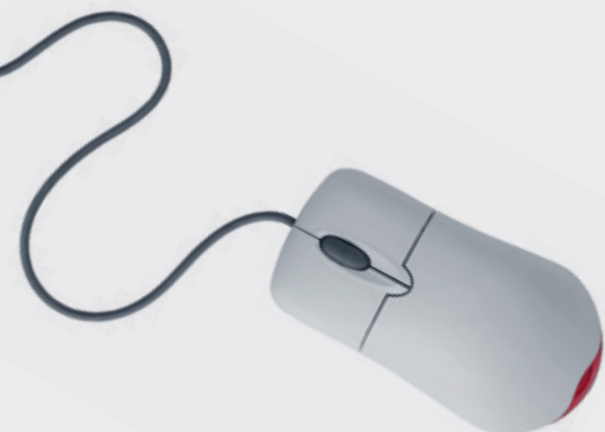
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In Colombia, Incofin has supported a coffee cooperative to be more climate-smart by financing the construction of a centralised wet mill, enabling centralised processing

Resources



Enhancing next-generation ACP agribusiness through digitalisation

Digitalisation in its many forms is fast spreading across all aspects of agriculture in developing countries, transforming and disrupting the ways food is produced, traded and consumed. However, do innovative digital solutions improve the performance, competitiveness and profitability of farmer-oriented agribusinesses in ACP countries? Thirty practitioners attending a CTA workshop zoomed in on real cases to test this question, assessing what works, how and why and drawing out insights and lessons – actionable knowledge – for wider application which are detailed in this CTA technical brief.

<https://bit.ly/2ILqun0>

Overcoming challenges to digital agribusiness start-ups

The CTA workshop on ‘catalysing actionable knowledge to enhance next-generation ACP agribusiness through digitalisation’ identified five intersecting drivers that explain what farmer-oriented agribusinesses expect to achieve by investing in digitalisation: reduced risk, raised productivity, increased efficiency, improved decisions, and enhanced market access. Participants argued that digital interventions all serve one or more of these, depending on specific local needs and situations. A critical factor underpinning what works in all of these areas is the economic sustainability of the business models used to deliver value and services as further outlined in this brief.

<https://bit.ly/2Dp4ivd>

Making agriculture attractive to young people

Drawing from current practice, this CTA brief proposes several ways to make agriculture more attractive to young people, including: promoting farming in schools; having young farmers act as demonstrators and role models for other young farmers; encouraging and supporting youth champions and proactively communicating positive perceptions of agriculture as a career; seeking out and promoting attractive and profitable modern farm technologies as well as emerging opportunities along the entire value chain; and using digital technologies as entry points that match the interests of the next generation. Critical in all of this is to encourage the shift from subsistence to business, so young people see and can experience brighter futures in agri-food chains.

<https://bit.ly/21R2eje>

Creating jobs for rural youth in agricultural value chains

This CTA brief argues that youth-inclusive investments to modernise the agricultural sector will unleash its huge potential, offer attractive employment opportunities and create a level playing field for rural girls and boys. It sets out several youth-inclusive approaches that will help agricultural value chain development programmes meet the needs of young people. These include different approaches for different classes of youth; helping young people understand and respond to markets; making youth aware of job opportunities in agriculture; building the capacities of young people; facilitating their access to finance and land; and building social capital and networks. <https://bit.ly/2W2Y0ZM>

Engaging youth in policy processes on agriculture and agribusiness

This brief argues that policymakers in ACP countries must engage with young people to ensure that the policy environment reflects their interests and makes the sector attractive to them. Policies that work for and with youth are more likely to attract young people to the sector, injecting dynamism, growth and transformation. Key actions include: setting up platforms and mechanisms for youth to engage in policy-making and to access employment opportunities; extend and improve consultative processes in rural areas; review existing policies with youth;

proactively strengthen participation of young women in rural organisations and institutions; and strengthen the capacities of youth organisations to make their voices heard.

<https://bit.ly/2vh9BZ1>

Women and digitalisation in agriculture

Research and statistics state that women constitute around 40% of the agricultural labour force in the ACP region and while they make essential contributions to rural economies and the growing advancements in digitalisation – the gender gap in access to ICTs continue to widen. This means women farmers, particularly in rural areas, experience difficulties accessing information, financial products and services and markets. They also often do not participate in relevant policymaking. See the latest issue of *ICT Update* for further resources on women and digitalisation in agriculture.

<http://bit.ly/2DtZLw1>

Making climate-smart agriculture work for women farmer and entrepreneurs

Participants at the CTA workshop on delivering climate-smart agriculture were introduced to a ‘Reach, Benefit, and Empower’ framework that classifies interventions according to the extent they are able to increase the participation of women (REACH), strengthen the returns they get from their efforts (BENEFIT), and/or strengthen women’s ability to make strategic life choices, and put those choices into action (EMPOWER).

<https://bit.ly/2Mp0Yns>

French version at:

<https://bit.ly/2Zu9F5J>

Digitalisation in climate-smart agriculture

Using innovative ICT tools and working through key partnerships, CTA’s climate-smart agricultural (CSA) solutions project for cereal and livestock farmers in Southern Africa aims to provide small-scale farmers at risk from climate change with greater access to information and strengthened capacity in order to effectively adopt CSA solutions. <http://bit.ly/2UAdVNE>