



Business as  
**UNUSUAL**  
the 2SCALE project

Highlights 2017

2SCALE consortium

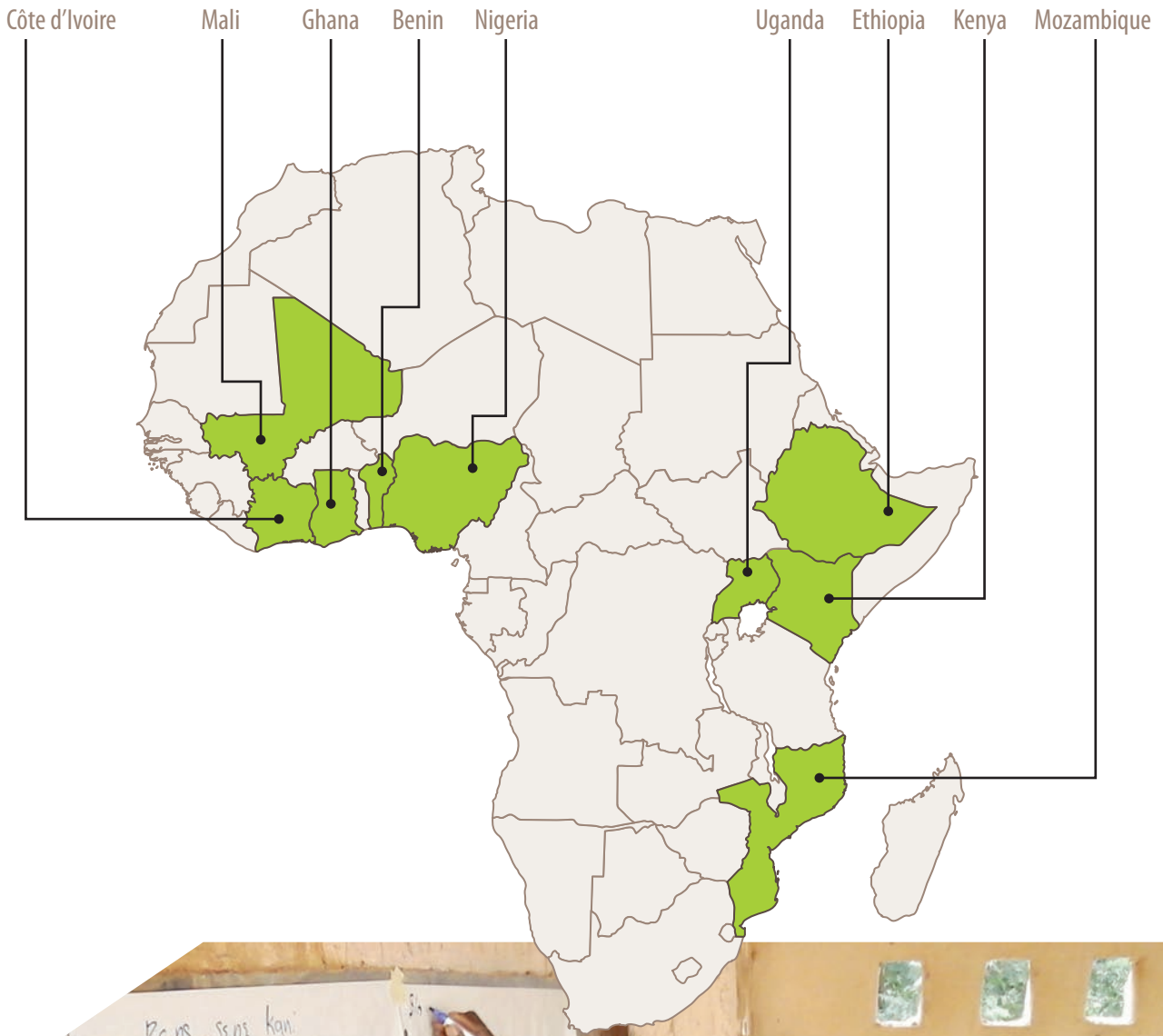
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Agribusiness coaches are teachers, mentors, and often farmers themselves

# BUILDING AGRIBUSINESS

**N**ature's food chain is often about predation – eating someone smaller than yourself, or being eaten by someone bigger. The food chain for people, from farm to food company to consumer, is not very different. Smallholder farmers and small businesses operate at the bottom of the chain, supplying to, and often being squeezed by, larger players. 2SCALE is helping to change the predator-prey relationship to one that is inclusive and mutually beneficial. We offer skill development, technology transfer and business support to small farmers and entrepreneurs, helping them become more competitive, with wider business networks and better access to markets.

2SCALE was launched in 2012. Today, we work with 585,000 farmers, 2,000 farmer cooperatives and 1,500 small businesses in nine countries. We've helped farmers transform their production methods to increase yields and profits; worked with processing firms to develop new food products; and helped women entrepreneurs access new technologies and new markets. These successes are based not on conventional 'development' but on sound business principles. Farmer cooperatives and private firms

have invested nearly \$70 million in 2SCALE partnerships, expanding their supply chains and processing factories.

## THE PARTNERS

2SCALE is funded by the Netherlands government and implemented by a three-member consortium: the International Fertilizer Development Center (IFDC), the International Centre for development oriented Research in Agriculture (ICRA) and the BoP Innovation Centre (BoPInc). Many other partners contribute. Universities and research centers offer expertise on new technologies, partnership governance and other areas. Government extension agencies provide staff and facilities for farmer training. Local NGOs offer business support. Development agencies fund add-on projects to complement 2SCALE.

## THE PROCESS

2SCALE partnerships cover nine countries – Benin, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Mali, Mozambique, Nigeria and Uganda. We focus on sectors that are important regionally (not just in one country), so that

## Reaching Out



*Achieved by December 2017*



*First time in Nigeria: low-cost mechanization options for cassava*

expertise can be shared and successes replicated across Africa. The portfolio includes multiple sectors – food staples (e.g. maize, rice, cassava), green vegetables, potatoes, oilseeds and livestock.

2SCALE builds networks that connect farmers, buyers and other value chain actors such as input retailers, transporters and banks. The aim is to create business relationships that are viable, sustainable and inclusive, with profits shared fairly and decisions taken jointly by partners, not unilaterally by the biggest player.

Every 2SCALE partnership begins with a business idea generated by partners or beneficiaries: a farmer cooperative with a product to sell, a local entrepreneur who spots a market opportunity, or sometimes a large company that wants to expand its supply chain. Project interventions vary depending on circumstances, but capacity building and market linkages are key elements in all partnerships. Many partnerships include a nutrition component – specifically, helping private firms develop and market affordable, high-quality food products to low-income consumers.

The first step is to bring stakeholders together to develop concrete plans with responsibilities, budgets and timelines specified. Where necessary, we enlist other partners to provide training and business support. Once a business

platform is created, 2SCALE provides technical assistance to increase sales and competitiveness. As the partnership becomes stronger, project support is gradually phased out, because it's no longer needed.

## MAKING A DIFFERENCE

Sounds good, but does it work in practice? The numbers speak for themselves. In different countries and different value chains – vegetables in Benin, soybeans in Ethiopia, oranges in Ghana, dairy in Kenya, sesame in Mali, oilseeds in Uganda – we've helped to build business networks that are now well established, financially stable and continue to grow.

In 2017, experts from SEO-Amsterdam Economics and the American Institutes for Research interviewed hundreds of farmers and entrepreneurs in five countries. They found evidence of substantial impacts – higher farm incomes, a wider range of food products, empowerment of women, emergence of young entrepreneurs, more ecologically sustainable food systems – even though these impacts usually take much longer to become evident. They also found that 2SCALE is becoming a model to follow: other development organizations are replicating, or planning to replicate, the 2SCALE approach in their own projects.



*Business is red-hot! New markets and bigger profits for chili farmers*

## Women and Veggies

For many years, vegetable farmers in Benin punched below their weight. Not any longer, thanks to a network that 2SCALE helped to build, and now involves 30,000 smallholder farmers and more than 200 local businesses. We began by introducing new varieties developed by another partner, East West Seeds. As production grew, the focus broadened to agribusiness development: markets, credit, business linkages... Here's how the story unfolded.

We focused on five crops: chili, onion, tomato, cabbage and cucumber. For each crop, we introduced new high-yielding, disease-tolerant varieties. We established training and demonstration plots across the country, and connected farmer groups to input suppliers. Quality and productivity improved substantially; some farmers increased yields five-fold.

In partnership with the Dutch-funded ACMA project, we established a guarantee fund that offers low-interest loans. Loans are given to individuals but guaranteed by the group;

social cohesion helps minimize default rates. More than 900 producers have received loans totaling \$1.2 million.

Another innovation was the creation of hubs, bringing together different groups producing the same crop. The hubs allow farmers to share experiences not only in production techniques but business practice as well. For example, onion farmers in Grand Popo visited their counterparts in Malanville, 1000 km away. Following the visit, the Grand Popo cluster switched from selling 'per bed' to selling per bag – slightly riskier but much more profitable.

### WOMAN POWER

Women play a major role in vegetable production and trade, which is why the partnership focuses heavily (but not exclusively) on women. Cooperatives that were managed entirely by men now have quotas for women's participation in management. New women-only cooperatives have been created. The percentage of women among loan recipients has increased from 20% in 2014 to 40% in 2017. More than half the small businesses in the partnership are headed by women. The partnership has reached at least 40,000 women producers, traders and farm laborers.

The economic benefits are obvious. But there are other benefits too, which can be even more important. Vegetable farmer Bernadette Sossou explains: "I took a loan and bought a sprinkler. My children were helping me water the field. Now I use the sprinkler, so they have more time to study." ■



*Irrigation pumps have transformed vegetable gardens*

# LINKS TO MARKETS

**2** **SCALE works with** more than 1,500 private companies, providing technical advice, business support and linkages to buyers and investors. One-third of these companies are led by women. Almost all are small firms operating in local markets and creating jobs in rural communities. We also work with 2,000 farmer organizations that operate like businesses, aggregating produce, adding value (cleaning, grading, packaging) and negotiating contracts with buyers and input suppliers.

## BUILDING THE SUPPLY CHAIN

Sometimes, the biggest challenge for entrepreneurs is not demand but supply – finding farmers who will supply consistent volumes at the right quality. We help connect companies to agribusiness ‘clusters’ that are already trained, organized and market-oriented. If no suitable cluster exists, we work with the company to build one. Once a relationship is established, we provide additional training and support, sometimes mediating between farmer groups and buyers on issues of price or quality.

In Cote d’Ivoire, we helped rice processors identify and mobilize farmers, using a novel IT platform to compile georeferenced data on 3,000 small-scale rice growers. In Ethiopia, dairy processors have expanded rapidly, thanks to 2SCALE support for farmer mobilization, training and linkages with feed suppliers. Two leading processors, Family Milk and Etete Dairies, are producing 170% more milk than they did before 2SCALE.

In Mali, maize processor SONAF purchased 22,000 tons from smallholder farmers in 2017, compared to 8,000 tons per year before 2SCALE. This growth was driven by multiple factors: farmer mobilization, production training

(higher yields), and a new incentives program, designed by 2SCALE, that includes farm inputs, higher-than-market price, 60% payment on delivery, and a formal purchase guarantee that enables farmer organizations to obtain bank loans.

## PRIVATE MONEY, PUBLIC GOOD

Does 2SCALE really make business sense? The private sector has invested nearly \$70 million in 2SCALE partnerships, with \$10.8 million in 2017 alone. Clearly, private firms believe they can benefit from these partnerships, with farmers delivering larger volumes and better quality.

In Nigeria, FrieslandCampina Wamco installed new tropicalized cooling tanks at four milk collection centers to speed up the cooling process and preserve milk quality. In Ghana, soybean processor Yedent has installed a new production line to make food blends, increasing capacity from 30 tons to 70 tons per month. In Benin, pineapple juice maker Promo Fruits is building a new factory to increase juice production and also diversifying into tomato paste. In Kenya, sorghum processor Shalem opened a new \$600,000 factory to produce fortified flour and porridge mix under its Asili Plus brand. In Uganda, the Nyakatonzi cotton cooperative has acquired a new oil press that will increase extraction rates from the current 8% to above 12%.

## SMALL CHANGES, BIG IMPACTS

Simple, seemingly minor changes can trigger large improvements in market efficiency. 2SCALE teams, with their insider’s knowledge, can identify low-cost solutions to local problems.



**Business planning: developing marketing strategies for a milk cooperative in Uganda**

Weight and moisture are often contentious issues when farmers deliver grain to a buyer. In Kenya, we helped sorghum processor Shalem introduce weighing scales and moisture meters – no more arguments! Shalem also acquired a mobile dryer that moves to different collection points during the harvest season. Sorghum with high moisture content is no longer rejected but dried, inspected and purchased. This simple intervention has dramatically improved quality as well as relationships.

Tomato farmers in Nigeria faced a different challenge: transport and handling losses were reducing profits and discouraging traders. Simple solution: replace the traditional raffia baskets with plastic crates. We're now working with private firm Agrofair to improve the logistics of transporting tomatoes from northern Nigeria to the main market in Lagos. We used the same solution in Benin, organizing community meetings where farmers and traders agreed to use weighing scales instead of visual estimates, and standard 50-kg plastic bins instead of raffia baskets of variable size.

## REACHING OUT

NGOs and the private sector have bought into the 2SCALE approach, and are coming on board as direct or indirect partners. In Ghana, fruit processor HPW launched a new initiative with German development agency GIZ, which will complement the existing outgrower scheme with 2SCALE farmers. In Benin, 2SCALE's award-winning rice program – and particularly its focus on women entrepreneurs – is attracting attention from investors; the Canadian PAEFFR program now provides support for specific components.

## GRADUATES – THE CLASS OF 2017

Many partnerships 'graduated' in December 2017; they have established themselves in the market, and no longer need technical or financial assistance from 2SCALE. Here are two examples, illustrating how the project's approach works for different crops (low-value cereal vs. high-value spice) in different ecologies and very different policy environments.

2SCALE helped develop Ethiopia's first sorghum-based beer. We worked with Diageo subsidiary Meta Beer to identify and test sorghum varieties with the right characteristics, helped mobilize and train farmer groups, and brokered contracting arrangements. Smallholder farmers have supplied nearly 2,400 tons of high-quality grain. Farmer unions, which coordinated aggregation and delivery, made net profits of \$110,000. Most importantly, smallholder farmers received as much as 77% of the final price.

PROSEMA has grown into one of the largest sesame processors in Mali. Its farmer network has expanded from 16,000 to 37,000. Yields have doubled, volumes have increased five-fold. The company buys not through intermediaries but directly from 14 cooperatives representing 184 farmer groups. This network also involves 35 small businesses that provide bagging, transport, farm inputs – and jobs.



*Agromaco's new factory: starting small, thinking big*

## Building the Dairy Chain

Mozambique relies almost entirely on imported milk. A 2SCALE partnership with dairy processor Agromaco is helping to develop the local value chain, aiming to progressively replace imports with milk produced locally by small-scale farmers. 2SCALE works with more than 30,000 dairy farmers in Ethiopia, Kenya, Nigeria and Uganda. Successes (and failures) in these countries are helping to fast-track the program in Mozambique.

**More food, more milk:** 2SCALE builds on interventions by another partner, the NGO Land O'Lakes, which is helping to introduce high-yielding Jersey crossbreeds. We focus on helping smallholder farmers get the best out of these animals, starting with better nutrition. 2SCALE clusters are experimenting with new fodder crops: sorghum, alfalfa, Napier grass, and leguminous trees that provide fodder as well as fuelwood. Agromaco has invested in silage-making equipment which they rent out to farmer groups for a nominal fee. Farmers can now process and store fodder for later use, keeping their animals well fed round the year. Agromaco technicians provide nutrition advice, as well as dairy feed to supplement grazing. Farmers receive the feed on credit, repaid through deductions from milk payments.

Simple interventions such as aluminum jerricans, locally fabricated charcoal coolers (no electricity needed) and better hygiene during transportation have significantly reduced milk spoilage. The combination of higher yields, better quality and 'clustering' of dairy farmers has changed the economics of milk collection. More than 500 farmers, organized in four clusters, are now regular suppliers to the company.

**New factory, new products:** Agromaco is betting on growth. In 2017 they installed a new factory with modern processing equipment, and signed contracts with six dairy cooperatives to supply high-quality fresh milk. The contract was developed following extensive brokering by 2SCALE. Another partner, the PUM-Netherlands program, is helping the company develop new products. Trials on yogurt and long-life milk are ongoing. Sales of pasteurized milk will begin in 2018. We've also helped design a more efficient distribution system, using street vendors, to target low-income urban buyers in Maputo, Chimoio and Beira.

The numbers are still small; Agromaco's new factory is not yet operating at full capacity, and cheap imported milk remains the benchmark. But Mozambique's dairy sector is waking up, with a little help from 2SCALE. ■



*Ghanaian waste, Dutch technology: the country's first commercial organic fertilizer*

## Soil Food

Smallholder fields, like their owners, tend to be poor. Soils are low in nutrients, fertilizer is expensive, knowledge of soil fertility management hasn't spread quickly enough. Fertilizer innovations from 2SCALE are helping farmers improve soil health, crop yields and profits.

Conventional fertilizers provide plants with the three main nutrients, nitrogen, potassium and phosphorus; but soils are often deficient in secondary or micro-nutrients such as zinc or boron. We've helped introduce blended fertilizers to overcome crop- and soil-specific nutrient deficiencies; as well as application methods that reduce fertilizer losses and improve efficiency.

In Kenya, fertilizer manufacturer Toyota Tsusho has built a new fertilizer blending plant. 2SCALE provided tech support to develop a new blend for rice, with the standard NPK enriched with zinc and boron. The new fertilizer, Baraka (Swahili for 'blessing') increased rice yields by 30%. Smallholder farmers purchased more than 10,000 bags in 2017.

In Côte d'Ivoire and Nigeria, we worked with research center IITA to analyze soil samples from hundreds of fields to identify plant-nutrition challenges in cassava, rice, sorghum, millet and soybean. The findings helped develop improved formulations, now being trialed in Nigeria in partnership with fertilizer companies.

**Deep placement:** Most farmers 'broadcast' fertilizer, sprinkling it over the soil. Rice farmers in Kenya are using a simple innovation known as deep placement, in which compacted pellets (briquettes) of fertilizer are placed into the soil, nearer the plant's root zone. Deep placement increase yields by 30% with one-third less fertilizer – reducing costs and minimizing environmental damage caused by fertilizer run-off.

Two briquetting machines have been installed in Kenya, and local technicians trained on installation, calibration and maintenance. Deep placement is labor-intensive, so we've introduced low-cost applicators to eliminate the drudgery. Farmers and local businesses have acquired more than 400 applicators.

**Organic plus:** Organic fertilizers are as old as agriculture – but there is always room for innovation. In Ghana, we helped manufacturer SafiSana develop Asase Gyefo, the country's first commercial organic fertilizer, made from human waste collected from public toilets. Asase Gyefo was officially registered in 2017 and full-scale production has begun. Other partners have similar unconventional solutions, producing organic fertilizer from wood waste (Biofertil in Côte d'Ivoire) and chicken droppings (Ferm O Feed in Nigeria and Benin). Recycling is always good, whether its plastics or plant food. ■

# BUILDING CAPACITY

**S**mall-scalers try hard, but they often lack the skills and the networks to compete with larger, more professional enterprises. That is why every 2SCALE partnership includes capacity-building and networking components. The aim is to strengthen each link in the value chain – farmers, cooperatives, aggregators, processing companies – using tools and ‘curricula’ tailored to each group. For farmers, we focus on improving technical skills, promoting new technologies and improving their ability to manage the farm as a commercial business. For cooperatives, we help streamline management, improve transparency and identify bulk buyers. For companies, we provide advice on product development, marketing and finance.

The goal is not just to strengthen each element but to bring these elements together to build an agribusiness cluster. The cluster includes the full range of actors –

farmers, buyers, extension agents, coaches, input dealers, transporters, banks and others. Together, they provide all the skills, services and support needed for cluster actors to do business with each other, and with external buyers or sellers.

It’s still unfinished business, but 2SCALE capacity building programs have led to big changes. Onion farmers in Mali are using new fungus-resistant varieties that can be grown in the off-season. Vegetable growers in Nigeria are combining mineral fertilizer with organic nutrient sources such as brewery wastes, poultry droppings and commercial organic fertilizer. Dairy farmers in Kenya have introduced a range of new fodder crops, improving animal health and nutrition. Farm cooperatives in Ethiopia have won supply contracts with high-end buyers willing to pay premium prices.

## BETTER FARMS, BETTER FARMERS

139,000 farmers (50,000 women) from nine countries participated in training programs in 2017. These ‘graduates’ are now using new seed varieties, better crop husbandry and more efficient soil and water management. Yields and quality have improved, farms are more diverse and more ecologically sustainable. The programs also included business training (accounting, marketing) and soft skills such as negotiation and managing business relationships, which are crucial for farmers looking for new buyers, or scaling up from bags of maize to truckloads.

Capacity building programs are led by coaches based in the community, providing not just short-term training but continuous, year-round support. They also involve government extension officers as well as private firms



*Diagnosing citrus diseases in Ghana*



*Know your onions: off-season production in Mali*

supplying (and providing training on) seeds, fertilizers or mechanization. One example is the rice partnership in Kenya. Demonstration plots were established in every cluster, allowing farmers to compare traditional vs improved practices. Thirteen field days, organized by the private sector, attracted more than 2,400 visitors (1,147 women), including traders and input retailers wanting to do business with rice farmers. To date, the training program has reached nearly 6,500 rice farmers. Yields have increased from about 1.5 ton to 2.5-3.5 tons per hectare. In addition, larger harvests have generated a substantial market in rice straw, sold to dairy farmers.

## NEW TOOLS, NEW IDEAS

Mechanization cuts costs and increases profits, but also requires farmers to invest. 2SCALE works with private firms to make mechanization more accessible, with design modifications and service options to reduce up-front costs. We've helped introduce rice threshers in Cote d'Ivoire, soybean threshers in Ethiopia, cassava planters in Nigeria, rice threshers and harvesters in Kenya and soybean planters in Ghana. In Nigeria, we helped roll out a mobile phone application to coordinate tractor rental services.

Building capacity is not just transferring knowledge, but empowering farmers to experiment and learn-by-doing. We launched a farmer-led research program in Benin, where pineapple farmers selected three innovations (plastic mulch, blended fertilizer, planting shoots) that had succeeded elsewhere, but required fine-tuning to suit local conditions. Farmers conducted the tests on their own fields, and adoption grew rapidly. More than 1,200 farmers now use blended fertilizers, and nearly every farmer uses



*Kenyan farmers learn the ropes*

plastic mulch. Production costs have fallen by 25%, yields have increased by 30%.

## WILL YOU PAY FOR KNOWLEDGE?

Will farmers pay for training? If not, will the project pay, and for how long? This has been a long-standing challenge for development programs worldwide. 2SCALE may have an answer. When we began work in 2012, capacity-building programs were led by 'external' coaches funded by the project. Today, more than 80% of coaches are 'internal' – their salaries are paid by the farmer cooperative or by a private firm that works with the farmer group. Training costs are thus built into the system; no external funding is required.

For example, pineapple farmers in Benin pay a levy per kilo sold, to fund training and extension. Dairy coaches in Nigeria

and sorghum coaches in Kenya are also purchasing agents, buying on behalf of a processor. In Nigeria, cassava processor Psaltry has its own extension team; farmers pay the costs as an agreed percentage of the price. This 'internalization' makes training affordable and sustainable. Equally important, it ensures that skills and experience developed during 2SCALE remain within the community long after the project ends.

## WORKING TOGETHER

Collective action has always been part of the '2SCALE package'. When the project began, we focused on building small groups of farmers who could work collectively. We're now bringing these groups together to form larger associations to expand trade, improve information sharing, lobby for more supportive policies – and most important, protect individual farmers (and small groups) from predatory buyers.

For example, the Abrobepa Union in Ghana comprises seven pineapple cooperatives with more than 4,000 members. 2SCALE helped form the union, which now coordinates extension and marketing. In Mali, we helped 90 groups of maize farmers organize themselves into 20 apex bodies based on location. The buyer (maize processor SONAF) reports that the new arrangements have substantially reduced transport costs and helped implement a new quality control system.

In Mozambique, we helped establish the Conseil de Latte or Milk Council, which negotiates prices for milk and veterinary drugs and also coordinates components of dairy development programs led by other NGOs. In Nigeria, 18 vegetable clusters have come together under a single platform, which is able to negotiate better prices for inputs (seeds, agrochemicals) as well as produce.

These 'apex bodies' have also accelerated technology adoption by offering a bulk market for specialized inputs. Companies that earlier hesitated to launch new niche products are more willing to take the risk because of the tech support and farmer linkages that 2SCALE offers. For example, soybean farmers in Uganda now have access to yield-enhancing *Rhizobium* inoculants; pineapple farmers in Benin are using new customized fertilizer blends that overcome specific nutrient deficiencies.



*New tools for milk quality control*

## STRONGER COOPERATIVES

Cooperatives or producer organizations are wonderful in theory, but often struggle in practice. Weak leadership, lack of skills, stagnant membership... 2SCALE experience shows that these challenges can be overcome. Tailored capacity building programs for managers of cooperatives have helped improve accounting and administrative skills, identify new markets, develop business plans and obtain bank loans for business expansion.

In Ethiopia, we offered financial training to the managers of more than 100 cooperatives, with dramatic results. Nearly every cooperative began publishing audited accounts, many paid the largest dividends in many years. Many cooperatives doubled their sales, because farmers who previously sold their harvest individually now sell through the cooperative. In Kenya, we worked with community organization KCSEED to broker the country's first formal contract with potato traders (previously, smallholders sold only to informal traders or on the spot market). KCSEED plowed back its profits into the community: it buys pesticides and fertilizers in bulk from manufacturers for resale to farmers. In Mali, members of 65 maize cooperatives participated in a training program on quality control. One month later, every cooperative had established a quality committee. Post-harvest losses have dropped substantially and a traceability scheme has been established to guarantee quality.



*Learning-friendly: simple, illustrated manuals in local languages*

## State of the Unions

In June 2017, Ethiopia's Minister of Agriculture and Natural Resources named 2SCALE Capacity Builder / Project of the Year. Every development program in the country aims to build capacity – what makes us special?

2SCALE helps drive change from the inside, working closely with government agencies to strengthen the existing system. Small-scale farmers in Ethiopia are organized under primary cooperatives; cooperatives are members of larger farmer unions that coordinate extension support. We work with 10 farmer unions and 130 cooperatives, training coaches in each union and then supporting the coaches to transfer this knowledge to farmers in the cooperatives.

### CATALYZING CHANGE

More than 16,000 Ethiopian farmers have been trained on agronomy, crop protection, post-harvest management and other areas. Nine production manuals have been developed, in local languages, covering a range of subjects from irrigation management to sesame agronomy. Ninety-five cooperatives have introduced storage innovations, from insect-proof bags to new warehouses. New service arrangements for crop spraying have reduced costs by 47%.

We've also helped cooperatives to improve accounting and management. Managers and accountants from 120

cooperatives participated in specialized training programs on marketing, procurement, budgeting and other areas, and put the training to good use. The Shello Balela cooperative transformed its accounting procedures, and paid dividends on schedule for the first time in many years. Maize sales increased from 192 tons in 2016 to 364 tons in 2017. The Fura Heyoma cooperative doubled its maize sales, and enrolled more than 100 new members. The Angereb cooperative paid out more than \$12,000 as dividends, its largest ever.

2SCALE brokering, connecting cooperatives and unions to large-scale buyers, has led to supply contracts. More than 14,000 tons of produce, harvested by 12,000 small-scale farmers, have been delivered, meeting strict quality standards. For example, some fruit and most vegetables you eat on Ethiopian Airlines come from the Meki Batu union. A large share of the fortified maize-soya blends consumed in poor urban areas – and distributed by agencies such as the World Food Program – was made by a 2SCALE partner (GUTS Agro) from grain supplied by farmers we helped train.

We think we've done well, and so do our partners. According to the head of Ethiopia's Federal Cooperative Agency, "2SCALE... has shown the government and development partners a better way of doing market-oriented inclusive agribusiness projects with relatively limited funding." ■

# PILOTS FOR THE POOR

**M**ost of 2SCALE's efforts focus on bringing food to market, through support for farmers, processors and intermediaries. But we also have another mandate – improving food access for the poor. 2SCALE works with the private sector to develop and market affordable, nutritious products for low-income (or base-of-the-pyramid) households. We're not talking of kale juice or quinoa, but simple everyday foods – cooking oil, fortified flour, vegetables, soy milk – that are cheaper and healthier than similar competing products, or add nutritional value to existing diets. 'Our' health foods are made from crops grown by 2SCALE farmers, and manufactured and sold by local companies.

As with other project components, we begin with the market: understanding what consumers want, matching it with what companies can produce, providing technical support to develop the right products, and designing pilot programs to test-market the new products. As many as 25 pilots have been concluded. All have established proof of concept, and most have grown into full-fledged commercial operations run by the private sector without 2SCALE support.

For example in Benin, we helped pineapple processor Promo Fruits broaden its marketing strategy from wholesalers-only to reach individual customers directly. The company has expanded its network of vendors and invested nearly \$1 million in a new factory. In Ethiopia, we worked with processor GUTS Agro to develop a distribution network for its high-protein maize-soya blend. The network uses women 'franchisees' on bicycles, selling door to door. The model is operational in five cities, with plans to expand further. In Nigeria, we worked with farmer cooperatives

producing Tom Brown, a popular cereal-based porridge mix fortified with groundnuts for extra protein. 2SCALE support helped the cooperatives obtain food safety certification for their products, strengthen marketing and distribution, and introduce rigorous budget and cost analysis to monitor profitability.

**Milk from beans.** A new initiative, launched at the request of the Oromia cooperative agency in Ethiopia, is helping to produce soya milk for low-income markets. The Hunde Chewaka union's soya milk processing equipment, which lay unused for 5 years, is now operational. 2SCALE also provided advice on pricing and distribution, based on break-even point analysis with different package size scenarios. The new soya milk was launched in 2017, in half and one liter bottles.

**Heart or liver?** In Mozambique, we helped poultry processor Novos Horizontes redesign its branding and marketing strategy: chicken cuts in smaller, more affordable packages, special high-value products (hearts, livers), branded shops, and training for wholesalers. Retailers have doubled their sales, wholesale business has increased to \$56,000 per month. To keep up with demand, the company has doubled its number of poultry suppliers.

**Cooking oil from cotton.** In Uganda, cotton cooperative Nyakatonzi will launch its own brand of cooking oil. Taste-tests are complete (it was rated better than almost any other brand), labels have been designed, the cans have been ordered, even the barcodes assigned. The market launch is planned for mid 2018. In conjunction with other 2SCALE initiatives – crop diversification, business strategy, equipment upgrades – the cooperative expects to increase revenues seven-fold, from \$57,000 to \$400,000 per year.



*The Maisoyforte partnership: supply chain, processing, marketing*

## Soaring Soya

New partnership, new product, new markets... The partnership with food processing company Yedent, barely a year old, is shaking up the soya industry in Ghana. The product is Maisoyforte, a vitamin-enriched maize-soya porridge mix targeting low-income consumers. Sales have increased four-fold in 12 months.

Yedent sought 2SCALE assistance in penetrating the 'base-of-the pyramid' (BoP) market – the millions of low-income families that need healthy food but cannot afford to pay 'health-food' prices. The partnership addressed both supply and demand – ensuring reliable supplies of soybeans and creating brand awareness among BoP customers. We began with 2SCALE farmer groups that were already trained and well established, identified aggregators whom the groups trusted, and helped broker formal supply contracts with Yedent.

### KOKO CHANNEL!

Yedent had previously focused on well-known products and bulk buyers; selling a new product to price-sensitive BoP customers isn't easy. 2SCALE helped develop a marketing strategy tailored to the BoP, with posters, pamphlets and branded sales vans. We created a network of *koko* (porridge) sellers and pushcart operators –

informal street vendors who play a big role in the economy, especially in low-income areas. The *koko* network is operational in six cities, and Yedent's marketing chain includes 160 agents, sub-retailers and supermarkets. Sales rose dramatically. By December 2017, the company had sold more than 100,000 packets of Maisoyforte.

**Healthy families, proud mothers:** this was the theme of a radio show that aired on Saturday evenings, prime time. It wasn't a conventional advertising campaign. The emphasis was on nutrition education for women, with debates and Q&A sessions on Maisoyforte ingredients, their nutritional value, children's dietary needs and cooking tips. The program reached an estimated 15,000 households and generated massive feedback: questions about health, customer enquiries, even applications for Maisoyforte dealerships.

Soybean production Ghana tends to fluctuate. Without a guaranteed market, farmers would increase or reduce the area planted, depending on the previous season's profits. But now Yedent offers formal contracts, clear quality standards and prompt payment. It purchased more than 1,000 tons last season, and wants more. Farmers are ramping up production, and Yedent is confident of tripling its sales of Maisoyforte in 2018. ■

# FINDING FINANCE

**B**anks lend to clients who will pay back – and in their view, small-scale farmers and entrepreneurs usually don't qualify. 2SCALE works with banks, microfinance agencies and other partners to unlock credit flows for agribusiness. We also work with farmers and small businesses to assess financing needs and to maximize re-investment by mobilizing savings.

For farmers and small businesses, we offer financial training, assistance in developing business plans and loan proposals – and most important, linkages to banks willing to lend. For microfinance start-ups, we provide technical support for registration and governance procedures. For larger, established institutions (for example a bank seeking to expand its agricultural portfolio), we help develop new financial products tailored to smallholders' needs. For the unbanked – those with few assets and a weak credit history – we focus on creating savings-and-loan groups as a pathway to bank loans.

2SCALE brokering led to substantial loans to farmer groups as well as companies. Disbursements in 2017 include: \$53,000 for soybean farmers in Ghana, from Bonzali Rural Bank; \$89,000 for maize farmers in Mali, from multiple lenders; and \$370,000 for cassava farmers in Nigeria, from FCM Bank through the government's Anchor Borrower Program.

Many access-to-finance initiatives focus on women. For example the IFDC guarantee fund in Benin exclusively targets women and youth. In Côte d'Ivoire, we helped broker a \$4,700 loan from financial institution CEDAICI, allowing women rice farmers to buy seeds and fertilizers. In Mali, microfinance agency Kafo Jiginew lent \$31,000 to women rice processors, enabling them to purchase raw



materials in bulk. In Kenya, sorghum processor Shalem (the founder, most staff and almost all its agents are women) received a \$600,000 loan from the Common Fund for Commodities to purchase new processing equipment. 2SCALE teams helped to negotiate the loan, and in particular, to develop a new financing model that made the loan possible.

## BUILD YOUR OWN BANK

Less than 5% of smallholder farmers in Africa have ever received a loan from a bank or a microfinance agency. We're helping to promote an alternative – Village Savings and Loans Associations (VSLAs), which enable farmers not only to save individually, but also to pool and leverage their collective savings to access bigger loans.

More than 3,000 VSLAs have been established in eight countries. In 2017 alone, nearly 1,000 farmers and small



*Trellises for tomatoes, made possible by a low-interest loan from LAPO Bank, Nigeria*

entrepreneurs (700 women) in Ghana, and more than 7,000 in Kenya, created VSLAs. Three groups of rice farmers in Ghana collectively saved \$64,000 in 6 months. VSLA savings can help convince banks that farmers are credit-worthy. For example, sorghum farmers in Kenya set up more than 200 VSLAs, with 6,000 members – and have been able to raise \$60,000 in loans. Soybean farmers in Uganda have formed more than 400 VSLAs, each with its own ‘savings box’; and then leveraged these savings to borrow \$70,000 (multiple small loans to VSLA members) from the formal market.

## FINANCIAL FOUNDATIONS

In Benin, IRA (a business platform in the pineapple sector) wanted to set up its own savings and loans cooperative. 2SCALE worked with IRA staff on feasibility studies, helped develop a constitution and by-laws and mobilize members. The cooperative was registered in November, and will serve 12,000 farmers and laborers. In Uganda, we helped the UCCCU dairy cooperative develop operating manuals, credit guidelines and a five-year business plan for its newly established financing arm. We also helped design new products – milk advances, loans for buying milk cans and high-grade semen, even for school fees – that will serve 40 primary cooperatives and more than 20,000 farmers.

Money is still tight. Interest rates are high, bank procedures are often complex, and lending criteria are invariably biased against small-scale agriculture. We’ve been able to side-step some of these challenges by designing innovative financing mechanisms for short-term loans or working capital. For example in Uganda, we helped the Masindi District Farmers Association (MADFA) develop a warehouse receipt system. Farmers store their harvest in specified

warehouses for a small fee, waiting for more favorable prices. They also use the stored grain as collateral for loans (up to 75% of the value of stored produce) to pay for household expenses or to prepare for the next season.

In Benin, we helped broker a multi-partner arrangement between juice maker Promo Fruits, a pineapple farmers’ cooperative, FECECAM bank and input wholesalers. Before the season began, the cooperative received a working capital loan from FECECAM, ‘guaranteed’ by Promo Fruits. The money was paid not to farmers but to the input dealers for fertilizers and agrochemicals. After the crop was harvested and delivered to Promo Fruits, the cooperative deducted from individual farmers’ payments and repaid the loan.



*Invest in equipment: grain dryer in Kenya*

# EMPOWERING WOMEN

**T**he best way to empower a community is to empower its women – but how? 2SCALE uses a low-key, pragmatic approach that works, even in conservative rural communities.

We have 585,000 farmer-partners; 36% are women. This figure includes only those women who ‘own’ the harvest; the actual number of women beneficiaries (spouses, family, laborers) is considerably higher. We support 1,500 local businesses; 32% are headed by women. Of the 139,000 farmers who participated in training programs in 2017, 50,000 were women. In every partnership, field teams constantly look for opportunities to involve more women in production, trade, and especially in decision-making within farmer cooperatives.

Not all interventions are targeted at women. But even in partnerships that are led by men, there is a deliberate bias (in program design, selection of beneficiaries, decision-making, even training methods) to encourage women to participate. For example in the soybean partnership in Ghana, we preferentially recruited women coaches – and the number of women farmers attending training sessions increased from thirty in 2016 to more than 700 in 2017.

## THROUGH THE GENDER LENS

Field teams use a simple pictorial toolkit to collect information on women’s roles in the household and in business relationships – who grows the vegetables, who sells them, who controls the money? The toolkit was field-tested in Côte d’Ivoire, Ghana, Kenya, Nigeria and Uganda. It’s effective because it relates to everyday experiences. This analysis, identifying gender barriers and potential solutions, is done not by 2SCALE staff but by the community, at

village meetings, under the guidance of trained facilitators. Resistance is inevitable, but we’ve learned to work around cultural barriers; and even community leaders (mostly older men) are slowly coming on board.

In Mali, onion cooperatives were led by men, even though women managed the fields. Before 2SCALE, only two women sat on the cooperatives’ executive boards. In 2017, seven out of 11 cooperatives are chaired by a woman, and 50% of all management positions are held by women.

## THE FOOD FACTOR

Small-scale food processing, mostly done by women, is a priority area. In Ghana, we partnered with processor Yedent to empower rural women entrepreneurs who make and sell soy-based food products. More than 150 women were trained in 2017; they have improved hygiene and product quality, contracted with farmer groups to purchase soybeans in bulk, and expanded their markets from the immediate community to small towns nearby. In Ethiopia, we worked with government agencies and the PUM-Netherlands program to develop a range of new snack foods – based on traditional favorites, modified to improve nutritional quality and shelf life. The new snacks were taste-tested in four towns, and will go on sale in early 2018.

2SCALE looks at things through a gender lens. And even when we don’t, we sometimes get lucky. In Benin, we introduced plastic film for mulching, aiming to improve weed control in pineapple fields. An unexpected side-effect . . . women, who do most of the weeding, said the mulch made their work easier. Fewer weeds, less time required, and fewer cuts from the thorny pineapple leaves.



*Women models lead the way – farmer at left, processor at right*

## Sorghum for Senator

Sorghum was once an orphan crop in Kenya, grown mostly by poor families for home consumption. Today, it's a full-fledged cash crop, used (among other things) as the main ingredient in the popular Senator beer.

Shalem Enterprises has been a key player in this transition. Shalem, founded by a celebrated woman entrepreneur, buys from a network of 28,000 small-scale farmers (15,000 women) across Kenya. In the past 3 years it has delivered more than 10,000 tons to the brewing industry, creating a stable and virtually unlimited market for small producers.

Shalem has also diversified into food processing. In 2017 it opened a new factory making protein-enriched flour, sold under the brand name Asili Plus. Food technologists from PUM-Netherlands provided advice on product formulation, 2SCALE helped develop a marketing strategy.

### THE INNOVATION LABORATORY

Shalem is much more than a trader or processor. It is also 2SCALE's laboratory, helping to pilot new technologies, new learning tools and new ways of doing business. Shalem farmer groups work with researchers to test new varieties and improved crop management methods. They were among the first small-scale sorghum producers in East Africa to use certified seeds, fertilizers, row-planting and mechanized equipment such as driers and threshers. Yields have increased by 55% on average, and by 200% in some areas.

How did so many farmers embrace so many innovations so quickly? Because of another innovation, the Farmer Field

School. A group of farmers cultivates a small experimental field together, and learn-by-doing. A dedicated coach provides support through the season, helping the group to master best practices at every stage from planting to harvest. The sorghum Farmer Field Schools program began in 2014 and continues to expand – more than 20,000 farmers have 'graduated'.

Ruth Kinoti, founder and CEO of Shalem, used to be a teacher. "I still am," she says. "I just have more students now, and they happen to be farmers."

Accounting can be a nightmare for a processor buying small quantities from thousands of individual farmers. We helped introduce supply chain management software developed by another 2SCALE partner. Shalem now has real-time records – deliveries, payments, advances – on more than 10,000 farmers. Farmers are paid by electronic transfer, linked to the software platform.

### TRUST ME!

Every business is based on trust between buyer and seller. Has the 2SCALE-Shalem partnership built trust among farmers? A study by Wageningen University compared two groups: 144 farmers selling to Shalem versus 96 farmers who sold to other buyers. Farmers were asked: on a scale of 1 to 5, how much do you trust your buyer? Shalem was rated 4.65, other buyers 2.18. ■

# PARTNERSHIP PORTFOLIO

**T**he 2SCALE portfolio includes 52 partnerships in nine countries, covering four sectors: staple crops, vegetables/potatoes, oilseeds and livestock. Here is a sample of what we've achieved in 2017.

## BENIN

**Soybeans | Lead partners: CTAE (processor) and women processing groups** – This partnership targets two segments of the fast-growing soya sector. We work with small-scale processors (mostly women) who produce and sell soya-based foods such as kebabs and *goussi* to low-income consumers. We also help smallholder soya farmers improve crop management and post-harvest handling. Four clusters are active in Atlantique, Zogbodomey, Glazoué and Djakotomey.

- Partnership involves 2,136 farmers (690 women) and 46 local businesses.
- Member contributions and levies established that will generate \$22,000 in 2018, sufficient to cover costs of training, governance meetings and other activities.
- Business support services assessed; capacity building and other measures in place to ensure that services will continue even after 2SCALE phase-out.

## CÔTE D'IVOIRE

**Rice | Lead partner: Gan Logis** – This partnership is helping rice processor Gan Logis strengthen its farmer network, expand its working capital base and refine its marketing and distribution strategies to target low-income buyers. It includes a comprehensive incentives program, with the company offering support for farm inputs and mechanization services to cement farmer loyalty. German



development agency GIZ also provides support for capacity building to help farmers intensify production.

- Partnership involves 1,432 farmers (408 women) and 17 producer organizations.
- Extensive farmer training, strong adoption of improved agronomic practices.
- Better access to fertilizer; farmer organizations linked to distribution network of fertilizer manufacturer OCP.
- Large private investment: Gan Logis is installing a new mill, capacity 5 tons/hour, to absorb the anticipated increase in rice production.

## ETHIOPIA

**Vegetables, potatoes | Lead partners: 3 farmer unions (Meki Batu, Robe Berga and Liben)** – The three unions have more than 10,000 members, farming in high-potential areas well connected to major markets. This partnership provides training and business support to help the unions improve production, quality control and marketing. Technology interventions include new varieties,

crop protection, soil fertility and irrigation management, crop rotations and improved storage methods.

- Partnership involves 12,546 farmers (1,383 women), 42 producer organizations and 26 local businesses.
- Meki Batu is now a recognized supplier of premium fruits and vegetables: more than 350 tons sold to Ethiopian Airlines in 2017.
- Innovative system established for crop spraying, in partnership with CropLife, serving more than 2,500 farmers. Cost of disease and pest control reduced by 47%.
- Vegetable nurseries upgraded; 400 women trained on nursery management, now using best practices.

## GHANA

**Citrus | Lead partners: Fruittiland, Pinora** – The lead firms buy from smallholder farmers to produce juice concentrate for export. This partnership is improving access to extension, market information and financial services, making farmers and the companies more competitive. Partners include Verbruggen Juice and Fair Trade Original, which supply to supermarkets in Europe. Eight clusters are active in four regions (Brong Ahafo, Central, Eastern and Western).

- Partnership involves 3,846 farmers (1,180 women) and 9 local businesses.
- Dutch supermarket chain Jumbo, in partnership with Fair Trade Original, committed to expanding investment in the partnership.
- Fair-trade-certified citrus associations were able to cover most operational costs in 2017, and plan to sustain training programs with their own funds in 2018.
- Apex organization formed with 11 member associations, strengthening business opportunities, linkages and advocacy.



*Citrus harvest, Ghana*

## KENYA

**Dairy | Lead partners: Eldoville & Feska Dairies** – This partnership is helping to improve production and yields in the smallholder dairy sector, with market linkages, new feed and fodder technologies and IT solutions for supply chain management. Other partners offer technology innovations such as biogas digesters and non-electrical milk coolers. This partnership model is now being scaled out with additional processors and dairy cooperatives. Thirty-one clusters are active in central Kenya.

- Partnership involves 23,246 farmers (5,695 women), 21 producer organizations and 50 local businesses.
- Feska Dairies increased milk collection by 50% in 2017, from an average of 8,000 liters to 12,000 liters per day.
- 1,476 farmers (835 women) trained on animal husbandry, nutrition, milk quality control, and other areas. Milk production increased by 20%, rejection rates cut by half.
- Research study with international center CIAT, evaluating fodder production potential in different crops and varieties; published in the African Journal of Range & Forage Science.

## MALI

**Sesame | Lead partner: PROSEMA** – PROSEMA is the largest sesame processor and exporter in Mali. This partnership focuses on the company's farmer-suppliers, providing training, improving access to information and financial services, and facilitating long-term production contracts. Partners include government agencies and the inter-professional body Bèné Yiriwali Bulon. Forty-five clusters are active, formed around farmer cooperatives.

- Partnership involves 36,869 farmers (10,461 women), 184 producer organizations and 35 local businesses.
- PROSEMA has moved from centralized sourcing (company agents) to decentralized sourcing with 14 farmer cooperatives, incentivized by a loyalty program.
- Broadcasts through 20 local radio stations; farmers aware of PROSEMA's requirements, pricing mechanisms, quality standards and aggregation arrangements.
- Compared to pre-2SCALE levels, the number of farmers has increased by 130%, volumes purchased by PROSEMA have increased five-fold.



Frozen chickens in Mozambique

## MOZAMBIQUE

**Soybeans | Lead partners: Agro Commercial Olinda Fundo (ACOF), Novos Horizontes** – ACOF, a soya aggregator, trader and processor, is expanding its outgrower network and its product range. This partnership is helping to mobilize and train farmers, and to identify new markets for soya products. Partners include poultry producer Novo Horizontes, fertilizer manufacturer Greenbelt, and NOSSARA, a women's cooperative that makes soya food products. Six clusters are active in Gurue, Malema, Alto Molucue and Lugela.

- Partnership involves 10,731 farmers (2,903 women), 24 producer organizations and 20 local businesses.
- ACOF bought more than 100 tons from soybean clusters in 2017. About 40 tons were exported; the rest was reserved for seed, in anticipation of rapid growth next season.
- Novos Horizontes launched the country's first line of frozen chicken cuts, targeted at low-income consumers. Retail sales have doubled.
- *Rhizobium* technology, introduced by 2SCALE, is spreading; this is a convenient, cost-effective, environment-friendly way to increase soya yields.

## NIGERIA

**Vegetables | Lead partners: East West Seed International, AACE Foods** – This partnership is helping to introduce new technologies to enhance vegetable yields, quality and value addition. The lead partners provide inputs and market; 2SCALE focuses on mobilization and capacity building. Other partners include CropLife and the European Union's COLEACP/PIP program. Eighteen clusters are active in South West and Kaduna states, selling fresh vegetables to different markets, and peppers and ginger to AACE.

- Partnership involves 22,912 farmers (7,527 women), 81 producer organizations and 80 local businesses.
- New pilot launched with supermarket chain Spar, focusing on farmer training and contract production. Farmer mobilization and field studies completed; implementation will begin in 2018.
- Following a research study by Wageningen University, pilot program launched with Agrofair (private sector) to improve transport and handling.
- Apex forum established, with 18 clusters coming together to improve business linkages and policy advocacy.

## UGANDA

**Cotton, oilseeds | Lead partner: Nyakatonzi Cooperative** – This partnership is helping cotton cooperative Nyakatonzi expand production, strengthen value addition and diversify into other oilseed crops including sunflower, soya, sesame and groundnuts. Equipment upgrades, with 2SCALE partners providing advice on technical specifications and process design, allowed the cooperative to fully capture added value from cotton produced by its members, targeting markets for cooking oil and cottonseed cake. Twenty-two clusters are active in Kasese district.

- Partnership involves 4,013 farmers (2,152 women) and 20 producer organizations.
- Nyakatonzi is launching its own brand of cooking oil, targeted at low-income consumers. Testing, regulatory approval and packaging design are complete; market launch is planned for early 2018.
- The Spray Service Provider program, in partnership with CropLife, expanded significantly, creating rural jobs while reducing crop losses. A survey conducted in September showed that the business was profitable, with service providers earning up to \$3.25 per hectare.
- Nyakatonzi installed a new oil press, increasing capacity to 20 tons per day and extraction rates to 12%.



Analyzing partnerships: process, results, factors

## Sharing Insights

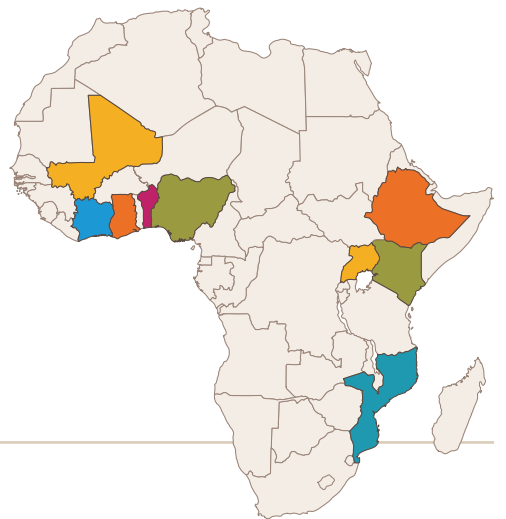
2SCALE works with 585,000 farmers, 2,000 farmer cooperatives and 1,500 small businesses in nine countries. Partnerships involve multiple sectors and multiple partners – industry, the public sector, development agencies and many others. The impacts have been substantial. How best can we share the lessons learned?

In June 2017, we launched a new initiative with the Royal Tropical Institute (KIT) in Amsterdam, analyzing a range of partnerships to understand what worked, what didn't, and why. We distilled the results into a series of 13 papers that we hope will be useful to other development projects in Africa. The papers include case-studies of specific sectors or value chains, as well as analyses of cross-cutting areas such as innovation processes, plant nutrition, BoP marketing and access to finance.

We looked at market factors, production and marketing constraints, information flows, and the web of relationships between farmers and other actors. Some of these insights relate to a particular value chain or a specific business or policy environment. Others can be applied more widely, to understand the processes and the factors contributing to (or hindering) success – including how a partnership is structured, how structures and relationships evolve during the course of implementation, and under what conditions a particular model will work. ■

### INTERESTED?

Download the papers from the 2SCALE website:  
[www.2scale.org](http://www.2scale.org)



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