LEVERAGING CHAMPION FARMERS' ENTREPRENEURIAL KNOW-HOW TO REACH THE LAST MILE

Lilian Waithaka , Berber Kramer , Benjamin Kivuva , Carol Waweru , Joseph Chegeh , Samson Dejene , Jean Eyase

Lilian Waithaka , Berber Kramer , Benjamin Kivuva , Carol Waweru , Joseph Chegeh , Samson Dejene , Jean Eyase

IDRC GRANT / SUBVENTION DU CRDI : - IMPROVING AGRICULTURAL PRODUCTIVITY AND RESILIENCE WITH SATELLITE AND CELLPHONE IMAGERY TO SCALE CLIMATE-SMART CROP INSURANCE (CULTIAF-2)

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
IFPRI

PROJECT NOTE JULY 2021

A new model for inclusive seed delivery: Lessons from a pilot study in Kenya

Leveraging champion farmers' entrepreneurial know-how to reach the last mile

Berber Kramer, Carol Waweru, Lilian Waithaka, Jean Eyase, Joseph Chegeh, Benjamin Kivuva, and Francesco Cecchi

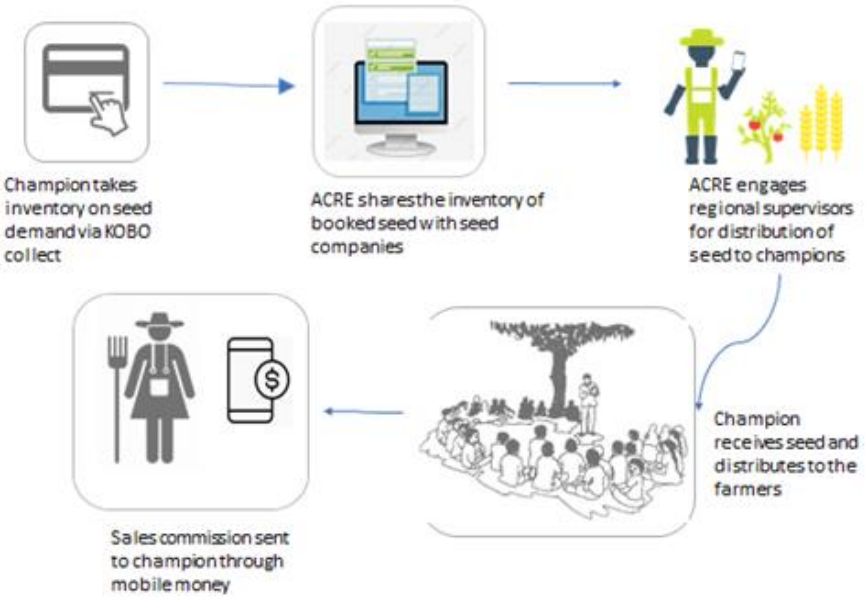
Climate change has exacerbated the frequency and severity of extreme weather events affecting the livelihoods of millions of smallholder farmers across Sub-Saharan Africa. Risks such as increased droughts, pests, floods, and heatwaves are projected to increase significantly in future years. The formal seed sector is an important entry point to help farmers better manage these risks, as it provides access to high-quality certified seeds of improved stress-tolerant varieties, selected and bred to maximize productivity in good years, whilst reducing the impact of climate change risks in bad years. The challenge, however, is that the formal market is not always inclusive and is more accessible to middle- or large-scale (and often male) farmers. Smaller farmers (often female) are more likely to obtain seeds from informal sources (friends or peers) or collect their own seeds from the crops they grow. This creates social inequities in distribution channels for quality seeds; and in qualitative research, farmers informed us that the COVID-19 pandemic has further restricted their access to inputs.

ACRE Africa provides agricultural insurance products as part of a wholistic integrated risk management approach, with the aim of de-risking the farmer at all stages of production. To deliver their products, ACRE works through village extension service providers, also called champion farmers: key opinion shapers with substantial knowledge of agricultural practices in the villages where they reside, with the ability to promote gender inclusivity and diversity. Champion farmers are trained on various aspects of the projects (at the beginning of every season), branded, equipped with smartphones, and incentivised to carry out specific project tasks. The primary objective for this champion farmer model is not only to institute an agent network that can sell and distribute agricultural insurance products, but also train farmers on integrated risk management; create awareness/sensitization on different types of risk management products; facilitate output market linkages; and participate in the formal input sector to distribute and sell agricultural inputs. ACRE engages champion farmers in these activities as part of their efforts to

increase farmers' access to quality seeds, and to diversify champion farmer revenue streams. Using their social networks, champions can form a bridge between informal, semi-formal and formal systems, providing both women and men with better access to quality seeds.

The model works as follows (see Figure 1). At the start of the season, champions take an inventory of demand for different types of seeds within their community. Then ACRE places orders with seed companies through local regional distributors and engage regional supervisors to distribute these seeds to the champion farmers, based on the original inventory of demand in their community. Champions receive these seeds at convenient points where they can easily meet the farmers, for instance at market centers, where the farmers can finalize their purchase of the seed. As motivation, champions earn a commission per bag of seed sold. This commission is marked as the difference between the wholesale price negotiated with regional distributors and the retail price at which the champion farmers sell the seeds.

Figure 1: Seed distribution and sales channel through champion farmers



This champion farmer model introduces an innovative dimension to inclusive seed distribution, but the model needed to be tested and refined. In previous seasons, ACRE had worked together with two seed companies, Drylands and United Phosphorus Limited (UPL), to distribute small demo packs of stress-tolerant varieties of maize (Sawa) and sorghum (Advanta) to 190 champion farmers and close to 3,000 farmers that they had registered in seven counties spread across Kenya (Busia and Bungoma in the western region; Embu, Meru and Tharaka Nithi in the upper eastern region; and Machakos and Makueni in the lower eastern region). ACRE did this to make sure that farmers would have knowledge of and experience with (and would want to purchase) the varieties that the project was planning to distribute in future seasons. At the start of the short rains season of 2020/202, champions in Meru and Tharaka Nithi started booking demand for seeds using KOBO Collect (an open data kit (ODK) digital platform).

The seed booking and sales program was initially limited to fewer counties and later, based on lessons learnt, rolled out in all seven counties. In the first season, despite high demand in the original demand inventory (champions collectively booked 2,091 bags of maize and beans) only 4 champion farmers were able to actually sell seeds; combined, they sold 54 bags of sorghum and 15 bags of maize seeds to their

farmers. The large gap between the original seed demand inventory and the actual sales was largely attributed to:

- A lack of trust from farmers. They demanded to see the seeds before buying and did not want to pay for seeds upfront. To overcome this challenge, ACRE had to acquire financing for the champion farmers, which delayed the actual delivery of seeds.
- Competition from other seed systems programs. For instance, the Kenya Cereal Enhancement Programme (KCEP), implemented in partnership with the Ministry of Agriculture in Kenya, already provided farmers with improved agricultural inputs and technical support to enhance productivity.
- A late start of the season's seed demand booking activities. This, combined with delays in the delivery of seeds, resulted in most farmers buying seeds from other vendors.
- Low margins. A small difference between negotiated wholesale prices versus retail prices at which farmers would normally buy seeds translated in low commissions for the champion famers (per bag sold the champion farmer would receive at most KES 20, or 20 cents in US dollars).

To mitigate and address these challenges in the next season, the Long Rains of 2021, ACRE ensured that the season activities were implemented early enough to reach farmers before they would have purchased their seeds elsewhere. The seeds were delivered to the champions as soon as demand was booked, in order to promote trust among their farmers, and ensure that seeds were available and accessible to the farmers well before planting time. Little to no competition from the KCEP program was encountered, as the KCEP program was no longer providing inputs or technical support and was winding up in the project counties. Importantly, with support from the Netherlands-CGIAR research program for seed systems development, ACRE instituted a revolving fund from the onset of the season, through which seed purchases from regional distributors were financed. As seeds were sold to farmers, funds were restored in this revolving fund.

The results of this improved approach on seed demand booking, distribution and sales were positive. Most champions engaged their farmers and booked seeds, but there was still a mismatch between the amount booked on the KOBO Collect platform and the amount actually sold to farmers (see Figure 2). In addition, the demand for stress-tolerant varieties (STVs) promoted through the project (maize variety, Sawa and sorghum variety, Advanta) remained low; despite prior experience with these varieties from trial packs and demo plots, farmers stuck to their guns and ordered regular varieties, such as Duma-43, Western seeds, Kenya Seeds, DK 3081, Gadam and KS20.

The demand for seeds - booked versus actual sales of different varieties

What have we learnt along the way?

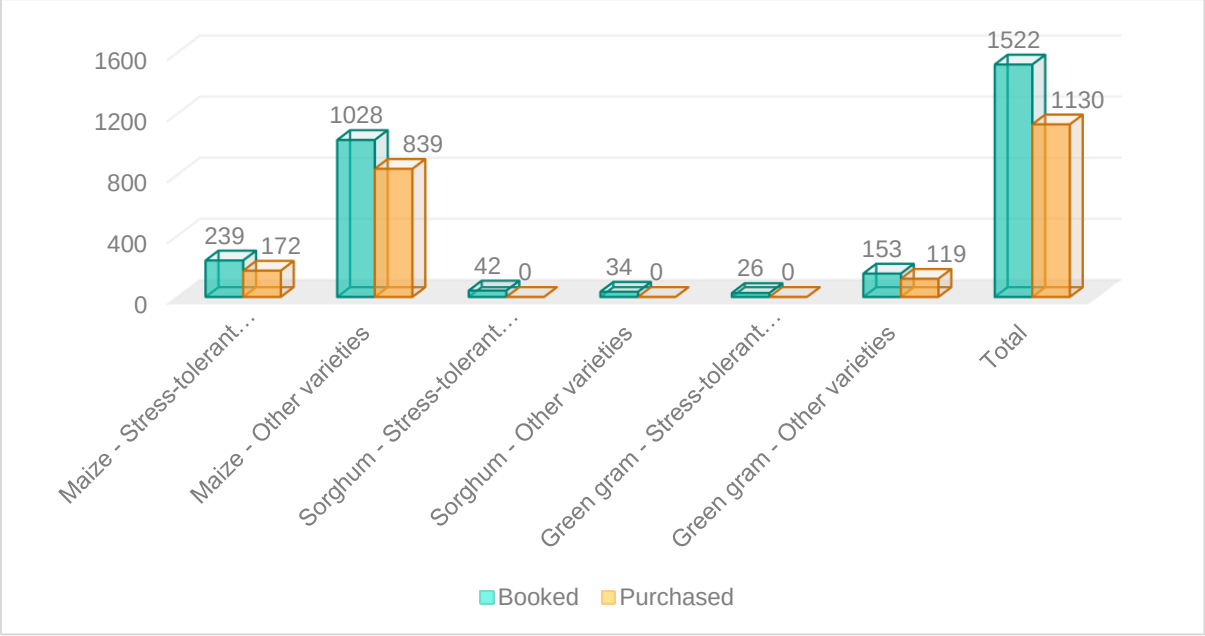
- **Margins between negotiated wholesale prices from regional distributors and retail prices are insufficient to cover distribution logistics.** In the future, ACRE Africa plans engaging with seed companies to distribute seeds to champions directly, thereby bypassing regional distributors, and increasing margins.
- **A financing mechanism needs to be in place for this model to work.** The revolving fund worked well, but restricted the scale of the operation, given that the funds available for such a facility are limited within organizations like ACRE Africa. ACRE is therefore looking to establish

strategic partnerships with financial institutions to leverage on their existing infrastructure (e.g., go downs, credit facilities) and promote sustainability.

- **Having received trial packs of new stress-tolerant varieties in the past was insufficient to generate demand at scale.** A question is whether the varieties did not perform better than farmers' common varieties, or whether farmers need to see more evidence. Champions have been (and will continue) monitoring the performance of different varieties throughout the season using smartphone images submitted via the seeitgrow App to shed light on this issue.

The experiences from this project indicate that there is hope that this model can be scaled. ACRE Africa has started adopting a similar model within other ongoing programs, and through the current project, ACRE will test together with its research partners whether its approach of improving access to seeds enhances the outreach and impacts of its insurance products; and whether this appraoch enhances the sustainability of its business model that relies on champion farmers as entrepreneurs of rural innovation to reach the last mile.

Figure 2: Certified seed demand booking and sales for various varieties in five project counties in Kenya



Source: Administrative data on booked and purchased quantities of seeds for the Long Rains season of 2021 in five target counties, as documented by regional supervisors for ACRE Africa.

ABOUT THE AUTHORS

Berber Kramer is a Senior Research Fellow and Carol Waweru a Research Associate with the Markets, Trade, and Institutions Division of the International Food Policy Research Institute (IFPRI), based in Nairobi, Kenya.

Lilian Waithaka is an Agri-Climate Risk Data Analyst, Joseph Chegeh an Agronomist, and Jean Eyase a Communication Specialist with the ACRE Africa, a private company, in Nairobi, Kenya.

Benjamin Kivuva is an Assistant Director, Crop Production and Seed System, with the Kenya Agricultural and Livestock Research Organization (KALRO) in Nairobi, Kenya.

Francesco Cecchi is a Postdoctoral Researcher with the Department of Development Economics of Wageningen University in Wageningen, the Netherlands.

ACKNOWLEDGMENTS

We are grateful to Samson Dejene Aredo and Daniël van Hemert for excellent research support, to all colleagues at KALRO and ACRE for their invaluable contributions to project activities, and to UPL Ltd. and Dryland Seeds for their dedication to testing alternative business models for seed delivery. This work is undertaken as part of the CGIAR Research Program on Policies, Institutions, and Markets (PIM) led by the International Food Policy Research Institute (IFPRI).

RELATED PUBLICATIONS

Brearley, E. and Kramer, B., 2020. "Gender and promoting quality seeds in Africa: A literature review". ISSD Africa Working Paper, December 2020.

Bulte, E., Cecchi, F., Lensink, R., Marr, A. and Van Asseldonk, M., 2020. Does bundling crop insurance with certified seeds crowd-in investments? Experimental evidence from Kenya. *Journal of Economic Behavior & Organization*, 180, pp. 744-757.

Ceballos, F., Kramer, B. and Robles, M., 2019. "The feasibility of picture-based insurance (PBI): Smartphone pictures for affordable crop insurance". *Development Engineering*: 4 (100042), pp. 1-14.

Cecchi, F., Dejene Aredo, S., Kivuva, B., Omondi, S., Chegeh, J., Tabalia, A. and Kramer, B., 2019. Promoting seed systems for stress-tolerant varieties at scale: Potential for bundling with insurance-advisory services. Project Note. Washington, DC: International Food Policy Research Institute (IFPRI).

Hufkens, K., Melaas, E.K., Mann, M.L., Foster, T., Ceballos, F., Robles, M. and Kramer, B., 2019. "Monitoring crop phenology using a smartphone based near-surface remote sensing approach". *Agricultural and Forest Meteorology*: 265, pp. 327-337.

Kramer, B. and Ceballos, F., 2018. "Enhancing adaptive capacity through climate-smart insurance: Theory and evidence from India". Paper presented and award the T.W. Schultz Prize at the International Conference for Agricultural Economists 2018, Vancouver, BC.

Kramer, B., Hellin, J., Hansen, J., Rose, A. and Braun, M., 2019. "Building resilience through climate risk insurance: Insights from agricultural research for development". CCAFS Working Paper. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

Funding for this work was provided by the NWO-WOTRO funded Netherlands-CGIAR research program for seed systems development, by the Integrated Seed Systems Development (ISSD) Africa program, and the CGIAR research program for Policies, Institutions and Markets (PIM), led by the International Food Policy Research Institute (IFPRI). This publication has been prepared as an output of the project "Promoting stress-tolerant varieties at scale: Interlinking the private seed sector and insurance-advisory services in Kenya", and has not been independently peer reviewed. Any opinions expressed here belong to the author(s) and are not necessarily representative of or endorsed by IFPRI.

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

A world free of hunger and malnutrition

IFPRI is a CGIAR Research Center

1201 Eye Street, NW, Washington, DC 20005 USA | T. +1-202-862-5600 | F. +1-202-862-5606 | Email: ifpri@cgiar.org | www.ifpri.org | www.ifpri.info