



CGIAR
SCALING FOR
IMPACT



SUCCESS STORY

SAA's Extension Model: Scaling Sustainable Farming in Nigeria

Innovation Name

Value-Chain Based Extension (VCBE) Models

Location (Country/Region)

Nigeria



Lead centres

The Sasakawa Africa Association and International Food Policy Research Institute

Innovation Type

Practice

Current Innovation Use Level



End-Users/Beneficiaries (M)

Scaling Dimensions Achieved

Scaling Up

Challenge Addressed

- Access to Finance & Markets
 - (a) Market imperfections or failures
 - (b) Limited market access for innovations
 - (c) Limited market access for innovations
- Infrastructure & Services
 - (c) Insufficient advisory or extension services

Enabling Environment Methods

Participatory Rural Appraisal, Stakeholder Mapping, human centered design process, Value Chain Analysis

SDG Targets



CGIAR Impact Areas



In Nigeria, scaling agricultural innovations faces a major enabling environment challenge. This includes weak national extension systems, low extension officers-farmer ratios (1:1,800–1:3,000) and ineffective input-output market linkages, limiting technology adoption, and value addition for smallholders. The Sasakawa Africa Association (SAA) addressed this through its Value-Chain Based Extension (VCBE) Models, including Commodity Association Trader-Trainers and post-harvest centers, fostering public-private partnerships to build capacity, improve group dynamics, and create aggregation hubs. This innovative extension model has mobilized agricultural produce valued at approximately USD 3.9 million and delivered significant impact for smallholder farmers. The approach has doubled maize yields—from traditional levels of 2,438 kg/ha to 4,823 kg/ha—while enhancing incomes for more than 455,200 farmers. These outcomes are strengthening both food security and economic resilience across participating communities.

The Context and Ambition

Smallholder farmers in Nigeria operate within a complex agricultural landscape, facing significant barriers to scaling their operations. These challenges include limited access to markets, inadequate infrastructure, and fragmented extension services. VCBE Models, developed by SAA, directly address these systemic issues. The specific objective of the VCBE Models is to transform smallholder farming into sustainable agribusiness by fully integrating farmers into agricultural value chains through a comprehensive, participatory framework.



Members of Apashi Woza MPCs, after a practical session on Biochar and Bokashi production in Assakio, Lafia LGA, Nasarawa state, Nigeria
Photo by SAA Nigeria



Farmers using the Artificially Aerated Onion Storage Technology (AAOST), which is designed to increase the shelf life of harvests, and, ultimately, farmers' income.

Photo by SAA Nigeria

“SG 2000 Nigeria has greatly impacted my farming practice. I am now able to better support my family from the increased income I’ve gained. SAA has helped me significantly improve my farming business.”

- **Abdullahi Kau**, a smallholder farmer and maize grower, Kano State

This transformation is achieved by focusing on key strategic actions. The first is enhancing market access via aggregation centers and trader networks, such as Commodity Association Traders/Trainers (CATs). Second is promoting the adoption of post-harvest technologies to reduce losses and encouraging climate-smart practices for resilience. Finally, the models build farmer entrepreneurship capacity, particularly for women and youth, by establishing value chain centers and leveraging formal and informal training components, including programs like the Sasakawa Africa Fund for Extension Education (SAFE).

To facilitate this systemic change, the VCBE Models foster an enabling environment that integrates stakeholder collaboration and market-oriented approaches. They leverage powerful digital tools (such as mobile apps and WhatsApp) for delivering real-time market and advisory services at scale, and they utilize robust public-private partnerships to strengthen supporting infrastructure. This strategy, which incorporates continuous learning and adaptation based on real-world results, is designed to yield clear, measurable impacts, including higher farmer incomes, increased yields, reduced post-harvest losses, improved extension agent capacity, and greater climate resilience.

Creating the Enabling Environment for Scale

Practical Solutions Implemented

A key element of this strategy involved financial and market integration. For instance, a USD 12.3 million Memorandum of Understanding (MoU) with Kano State in 2024 directly supported agro-processing infrastructure and the development of market linkages. Crucially, SAA also formed strategic partnerships with input suppliers and financial institutions. These collaborations addressed access barriers by improving farmers' ability to secure quality seeds, fertilizers, and credit facilities.

To ensure effective coordination and knowledge transfer, SAA's extension model created robust mechanisms through multi-stakeholder platforms like Farmer Learning Platforms (FLPs) and aggregation centers. This network effectively connected farmers, traders, and policymakers and expanded to 1,195 operational hubs across the participating states and communities. Furthermore, SAA invested significantly in human capacity development, training over 960 extension agents—including 91 women—in essential skills such as value-chain management, post-harvest technologies, and market-oriented agricultural practices.

Recognizing the need for a supportive environment, SAA engaged in active policy dialogue to advocate for a comprehensive national extension policy. These efforts addressed coordination gaps and inconsistencies in Nigeria's decentralized extension system, ultimately influencing systemic reforms that prioritized market-oriented extension and value-chain development. This policy advocacy created an enabling environment, facilitating the adoption of SAA's model by national extension services across multiple states.

Solution Co-Design Methods

SAA utilized three main co-design methods to ensure solutions were locally relevant and effective:

- **FLPs:** During the Co-Create Phase, farmers provided crucial input on crop varieties and practices, while women and youth groups helped shape plot designs, specifically addressing gender-specific needs like labor-saving technologies. In the Co-Execute Phase, Community-Based Facilitators (CBFs) and farmers jointly implemented the 1,195 demonstration plots.
- **Multi-Stakeholder Workshops and Dialogues:** The Co-Create Phase involved stakeholders identifying barriers, such as market access and policy gaps,

and co-developing strategies like aggregation centers and tools for price transparency. The resulting action plans were then implemented through partnerships in the Co-Execute Phase.

- **Participatory Technology Development and Validation:** In the Co-Create Phase, farmers provided feedback on the suitability of technologies, ensuring tools met local needs for affordability and ease of use. The Co-Execute Phase scaled these validated technologies through the trained extension agents.

Inclusivity was a core principle in all co-design efforts. Gender-Sensitive Design used Women-Assisted Demonstrations and women's cooperative groups to ensure female voices influenced technology and market solutions, addressing norms that limited their decision-making. Youth Engagement involved young people in agribusiness training and the co-design of digital tools like market price apps, helping to counter disinterest in agriculture. Finally, Disability Inclusion ensured that persons with disabilities participated in technology trials, guaranteeing the accessibility of tools.

The Intervention and Actions

The intervention centered on co-creating VCBE to integrate fragmented extension services into a holistic approach. Key strategies included establishing demonstration plots to demonstrate intercropping, compost use, and zero tillage; training on nutrient-dense crops for balanced diets; and introducing hermetic storage to reduce losses and boost market values. Partnerships with the Nippon Foundation, Kano State Government, and community facilitators supported implementation, with local research on soil health and nutrition guiding adaptations. Inclusive methods targeted women and youth, equipping them with skills in hygiene, feeding practices, and agribusiness.

The SAA, Nigeria project expanded its VCBE models across Nigeria by tackling weak extension systems, funding shortages, and market barriers through strategic innovations. It forged public-private partnerships (PPPs) to finance agro-processing and input access. Extension agents and traders received targeted training to address skill gaps identified via research. Policy advocacy aligned with Nigeria's Agricultural Promotion Policy to advance gender-responsive frameworks. Post-harvest technologies, co-designed with women and persons with disabilities, enhanced efficiency, while cooperatives streamlined loan access for broader inclusion. These efforts successfully scaled the model and fostered systemic change.

SAA successfully scaled the VCBE model by strategically engaging a diverse set of key actors and employing robust stakeholder analysis tools to secure both political backing and social acceptability. The key partners included national and state governments (specifically Kano, Jigawa, Gombe, and Nasarawa), the private sector (such as input suppliers and banks), farmer cooperatives, and extension agents. SAA secured their engagement through policy alignment with Nigeria's Agricultural Promotion Policy, established multi-stakeholder platforms like Farmer Learning Platforms, and conducted capacity training. The scaling approach utilized specific methods, beginning with Stakeholder Mapping via Research-Extension-Farmer-Input Linkage System (REFILS) workshops to identify 31 relevant institutions. This was followed by participatory needs assessments, semi-structured interviews, and site visits, which informed capacity building efforts. Additionally, SAA used multi-stakeholder workshops to secure necessary political commitments and implemented participatory technology trials to validate innovations before wide-scale adoption.



"I partitioned the farm into four-four ridges and a good distance of sowing for both maize and soya beans in the same farm of twenty ridges and I harvested over six bags of both maize and soya beans, two for soya beans and four for maize."

- **Ignatius Alhaji**, a farmer from Gombe State

SAA Nigeria has conducted the pre-season training of trainers in Nasarawa, Gombe, Jigawa, and Kano states to prepare frontline staff and extension agents for the 2023 cropping season. Photo by SAA Nigeria



Small holder women processors trained on paddy processing for improved rice value chain activity. Photo by SAA Nigeria

“The old methods of applying fertilizer did not protect us from wastage. After applying fertilizers, most of it would be washed away by rain or get blown away by the wind, or even melt under the hot sun, leaving very little to be taken up by the crops.”

- Adamu Muhammed Hotoro, farmer, Kano State

Results and Impact

The VCBE model has profoundly transformed Nigeria’s smallholder agriculture, reaching a total of 455,200 farmers across Kano, Jigawa, Nasarawa, and Gombe, with inclusive participation including 108,558 women, 1,195 youth, and 82 persons with disabilities. This systemic change was supported by the training of over 960 extension agents (including 91 women) and the establishment of 1,195 demonstration plots. The model drove significant economic and production gains: crop yields increased substantially, specifically by 170% for rice and 150% for maize, bolstering food security. Furthermore, the adoption of post-harvest technologies, co-designed with farmers, led to a 20-30% reduction in post-harvest losses for crops like maize and soybeans, enhancing profitability. Market integration efforts through aggregation centers and 297 trained traders mobilized USD 3.9 million in produce in 2018, significantly boosting farmer incomes by improving market access. Finally, the impact was scaled through a USD 12.3 million Public-Private Partnership (PPP) MoU with Kano State in 2024 to fund agro-processing infrastructure and market linkages, demonstrating political backing and ensuring these inclusive outcomes align with Nigeria’s policies.

Reflection and Learning

Effective and sustainable agricultural extension that drives food system transformation requires robust PPPs pathways to scaling. A vital part of successful scaling is the use of inclusive approaches, which ensure the equitable adoption of agricultural innovations. Furthermore, capacity building through the continuous training of extension agents is essential for addressing the existing shortage of agents serving farmers, demanding sustained investment in skill development. Finally, co-designing solutions directly with stakeholders is critical, as this process builds trust and enhances the scalability of interventions by ensuring they accurately meet real-world needs.

Affordability for Users

The VCBE models were affordable for the end-users. Integration of cooperatives and aggregation centers reduced input and sales expenses. Financial partnerships and cooperative financing improved credit access. However, initial input costs and resistance to fee-based services posed challenges, mitigated by subsidies and group models. These strategies ensured affordability for resource-poor farmers.

Financial Sustainability

Economies of scale were achieved lowering costs for farmers. Training over 900 agents reduced per-farmer expenses. Post-harvest technologies cut losses by 20-30%, boosting income. Market revenues and cooperative financing ensured sustainability, reducing subsidy reliance. However, initial subsidies and resistance to fee-based services remained as challenges, requiring sustained partnerships.

Temporal & Environmental Sustainability

SAA institutionalized functions via university partnerships, farmer cooperatives, and policy alignment with policy makers, ensuring longevity. Input intensification and processing risked degradation and waste but were mitigated with regenerative practices (e.g., minimum tillage, biochar and Bokashi) and eco-friendly technologies. Trade-offs were acceptable, aligning with climate-smart goals.

Inclusivity and Responsible Scaling (GenderUp Framework):

Using the GenderUp framework, SAA ensured inclusive scaling of its VCBE models in Nigeria. Diversity dimensions of the model include women farmers, youths, individuals with disability, diverse wealth status and category and ethnicity. Needs assessments, stakeholder mapping via REFILS, and gender analyses were deployed to identify barriers. Women co-designed



Partners

- Sasakawa Africa Fund for Extension Education (SAFE)
- Nigerian Ministry of Agriculture
- Nippon Foundation
- Kano State Government
- Jigawa State Government
- National Agricultural Extension and Research Liaison Services (NAERLS)
- Islamic Development Banks



For more information, please contact:

- Oliver Kiptoo Kirui, IFPRI, O.K.Kirui@cgiar.org
- Bedru Balana, IFPRI, B.Balana@cgiar.org
- Opeyemi Olanrewaju, IFPRI, Opeyemi.Olanrewaju@cgiar.org
- Hyacinth Edeh, IFPRI, H.Edeh@cgiar.org
- Chibuzo Nwagboso, IFPRI, C.Nwagboso@cgiar.org



Dacewa Farmers Multipurpose Cooperative Society, Shabu and the Apashi Woza Multipurpose cooperative society, constructing aggregation centres equipped with rice processing machines and modern facilities for agribusiness to promote collective marketing and boost farmers' income.

Photo by SAA Nigeria

Women-Assisted Demonstrations; youths shaped agribusiness training; disabled persons tested technologies; resource-poor farmers joined cooperatives, driving inclusive approach, equitable and socially acceptable scaling.

Stage 3: SAA anticipated risks like increased labor for women, exclusion of illiterate users, and market consolidation. This was mitigated through labor-saving technologies, and smallholder-focused cooperatives. Opportunities empowered women, youth, and persons with disabilities through tailored training, market access, and inclusive design, ensuring responsible scaling with equitable benefits across diverse groups.

Stage 4: Concrete strategies designed and implemented to mitigate the identified negative consequences included pursuing targeted training, cooperatives, and ensuring their integration into the agricultural value chain. The scaling strategy particularly leverages its long-held community-based models, partnerships, and monitoring to ensure equitable access to benefits, aligning with broader goals of sustainability and social equity.

Inclusive Strategy Tools: Participatory tools like Participatory Rural Appraisal, Farmer learning platforms, Social Inclusion Matrix

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