



A Climate-Smart Approach to Delivering Propcom+’s Market Systems Interventions

Climate change is a global issue, but it is influenced by a number of human-instigated factors, making Nigeria one of the most climate-vulnerable countries in the world. In 2022, Nigeria ranked 152nd out of 187 countries on the [Notre Dame Global Adaptation Initiative ND-GAIN Index](#), which implies Nigeria’s high vulnerability to climate change. Northern Nigeria is the most affected and climate-vulnerable region.

Climate change is not static. It is dynamic – changing overtime unpredictably. Rising temperatures, shifting rainfall patterns, and more extreme weather events such as flooding, drought, and heat waves all contribute to Nigeria’s changing climate. Climate change is undoubtedly threatening agricultural productivity, but at the same time, agriculture accounts

for [one-third of greenhouse gas emissions globally](#), according to the UN Food and Agriculture Organisation (FAO).

Propcom+ presents two critical entry points for addressing climate change issues: helping farmers adapt to the impact of climate change and reducing greenhouse gas emissions (GHG) in the way that interventions are designed and delivered. Investing in sustainable climate-smart agriculture is imperative. Here are three ways we are driving transformational market systems changes through the design and delivery of climate-smart agricultural solutions for smallholders, most of whom remain at the bottom of the economic pyramid.

Building farmers’ resilience through climate-smart seed varieties

Less than 30 percent of smallholder farmers in sub-Saharan Africa use improved seeds, according to a 2016 Al Jazeera report. For a number of reasons, such as weak seed laws, limited research and development (R&D), production and supply of climate-smart seed varieties, lack of money, and a limited number of rural seed outlets, many smallholder farmers in Nigeria still rely on local, outdated seeds passed on through generations. As a result, there is reduced productivity and devastating destruction of farmlands due to harsh climatic conditions.

Propcom+’s approach through the community seed multiplication model continues to revolutionise the sector and bring hope to millions of smallholders whose livelihoods and nutrition are threatened yearly because they cannot produce enough to sustain their families and incomes. In the model, seed companies empower smallholder farmers as out-growers to produce high-yielding, locally preferred, climate-smart and improved crop varieties. At harvest, seed companies do a buy-back, giving farmers a premium for participating, and out-growers sell the surplus to other farmers within their

community, thereby boosting local availability and opening avenues for smallholders to start seed trading businesses.

The legacy Propcom Mai-Karfi (PM) programme, which ran from 2012 to 2021, had previously demonstrated the effectiveness of the “community seed multiplication” model, significantly increasing the supply of seeds suitable for the local climate. During PM’s implementation, the programme worked with selected private sector companies to increase their out-growers from 155 to 305, increasing production from 650 metric tons of seeds to over 1,220 tons in one farming season. This improved the availability of adapted seed varieties and incomes for seed companies, out-growers and smallholder farmers. Propcom+ is well positioned to double and, perhaps, triple those numbers.

Propcom+ is working with private-sector seed companies to co-invest in multiplying and strengthening the distribution channels for climate-smart seeds, which are known to minimise exposure to climate risks and have higher resistance to flood and drought, pest resilience, early maturing and high-yielding varieties, and better storage capacity.

For instance, Propcom+'s experience implementing the community seed multiplication model over the last several months has generated some interesting feedback from out-grower farmers. The farmers are multiplying a variety of climate-smart seeds for different crops, such as rice, groundnut, maize, millet, sorghum, etc.

Shedding light on their experiences, a group of farmers in a farming community in Bunkure Local Government Area in Kano State shared their amazing story of overcoming pests after planting an early yielding iron and zinc-fortified millet variety that is also resistant to pests. According to these farmers, they stopped planting millet years ago because of the activities of avian pests. Millet is a staple crop in Northern Nigeria, known for its high nutritional value and use in many dishes. In recent

times, these birds, supposedly migrating from neighbouring countries into Nigeria, have become a great concern for many farmers in the north, causing reduced crop yields or failures for crops like millet, the lack of which they have to turn to other less nutritional options.

Our experience has shown that as the climate changes, so does the range of pests, diseases and other climate-induced hazards. Areas not previously vulnerable to certain climatic conditions might suddenly be exposed to additional, unfamiliar risks. Propcom+ has learnt to subject interventions through a 'climate lens' that enables it to ascertain at every point whether our interventions are 'climate-smart' enough or whether we need to finetune the interventions or the process of delivering them.

Reducing greenhouse gas (GHG) emissions through improved technologies and practices

Outdated farming practices, limited access to improved seeds, and inadequate mechanisation are important factors limiting rice yields and incomes. Rice cultivation significantly contributes to global methane emissions due to the unique anaerobic conditions in flooded rice paddies, which promote the growth of methane-producing microorganisms. But there's hope for farmers and promise for the environment through Propcom+'s Sustainable Rice Intensification (SRI) intervention. The programme piloted this intervention in Adamawa, Jigawa, and Kano, three northern states among Nigeria's highest rice producers.

Evidence from the nine-month pilot showed that SRI has offered increased income potential for smallholder rice farmers, as it supports both wet and dry season farming. In Nigeria, rice production is mainly rain-fed, meaning most smallholder farmers can only make income from one farming season a year. This is not sustainable. Solving this problem, the

SRI pilot enabled smallholder farmers, particularly women with small plot sizes, to pull their resources together as clusters to access affordable solar irrigation technology using a service delivery model. This has completely turned things around for these women, reducing costs and increasing incomes.

Reflecting on the experience, one of the women in Hadejia, a largely agrarian traditional emirate in eastern Jigawa State, said, 'The same amount of money I was using to produce 1 acre is what I now spend to produce 1 hectare.' This is due to using efficient energy sources (solar) for irrigation. Additionally, the practice of efficient water management, such as Alternate Wetting and Drying (AWD), also led to a significant reduction in GHG emissions, particularly methane emissions. Switching from fuel-powered water pumps to solar-powered water pumps where irrigation was in place also contributed to this reduction. 115 tonnes of CO₂ was estimated to have been avoided from the 201.63 ha under the SRI pilot.

Integrating smallholder farmers into sustainable forest management efforts

The implications of unsustainable farming practices, deforestation and other forms of land degradation on climate change are undeniable. Every year, an estimated 10 million hectares of forests are lost to growing agricultural commodities such as palm oil, rubber and cocoa (FAO). Although forest governance reforms and sustainable forest management have improved over the years, transparency and accountability remain major concerns.

Sustainable forest management is at the heart of Propcom+'s climate change response. Four states, Edo, Cross River, Ekiti and Ondo, particularly hold promise for the programme as reform-ready states, accounting for 54% of tree cover loss in Nigeria. Edo State is leading the way and providing a promising model for replication by other southern forest-rich states.

Among several other reforms, Edo state institutionalised the Africa Palm Oil Initiative (APOI), which fosters sustainable palm oil production in a way that not only brings jobs and wealth to local communities but is environmentally sustainable and protects the rich tropical forests of the region. Propcom+ is providing technical assistance to the Edo State Government to create a robust institutional environment that is crucial for governing the forest and land use sector. One of the most

remarkable outcomes of this support is the recent passage of the Edo State Oil Palm (ESSOP) Bill, which includes a national policy on Free, Prior and Informed Consent (FPIC), to protect community rights throughout the oil production process.

Propcom+ is now supporting the Governments of Cross River, Ekiti, and Ondo States in replicating the APOI and other critical reforms needed to sustain their forests. Learning from the Edo State case study, these states have shown the readiness and commitment to work with Propcom+ to strengthen forest governance laws and to promote the sustainable and responsible sourcing of high-value non-timber forest products (NTFPs) such as cocoa, oil palm, etc.

As one of the Governors recently stated, "We believe that through a strong collaboration with Propcom+, we can drive significant progress to position our state as a leader in sustainable agriculture that promotes the livelihoods and incomes of our people while preserving forest ecosystems." These are significant opportunities for Propcom+ to continue to instil hope and optimism for the future of forests in Nigeria, showing the potential for widespread positive impact and promise for a clean and greener planet.

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