



Organization: Banana Industrial Research and Development Centre (BIRDC)

Location: Bumbaire Village, Bushenyi District, southwestern Uganda

Solution: Picture-based index insurance for climate risks in Ugandan banana farming

Factsheet Period: First round of UNDP AFCIA funding (16 months)



In Uganda, an initiative leverages technology to transform banana resources into sustainable products @ BIRDC

Agriculture contributes to almost a quarter of Uganda's GDP, with 56-59% of agricultural households growing *matoke*, local bananas (Uganda Bureau of Statistics, [2020](#) and [2024](#)). Although wind and hailstorms contribute to approximately 60% of losses for banana smallholders in Uganda (BIRDC, 2022), existing index-based insurance products only cover drought and excessive rainfall. To bridge this gap, the Banana Industrial Research and Development Centre ([BIRDC](#)), in collaboration with their consortium partners Agriculture and Climate Risk Enterprise (ACRE) Africa and Agro Consortium (AIC), is piloting a Picture-Based Insurance (PBI) solution tailored for addressing climate change-related events that damage banana crops. This innovative approach aims to help banana smallholders quickly recover from extreme climate related events, avoiding catastrophic financial losses which threaten both livelihoods and food security.



Key achievements

- Trained 30 champion farmers to use 'SeeltGrow' mobile app for picture-based monitoring to better manage their crops, promptly report issues and receive timely advice.
- Trained remote agronomists to monitor and analyze pictures submitted by champion farmers, supporting them to optimize their farming practices.
- Conducted in-person training sessions for over 534 farmers (41% women) on enhancing agricultural productivity and sustainability, expanding to radio programmes for hard-to-reach areas.
- Established a network of farmers to scale farmer engagement.



Adaptation benefits

- Smart agriculture and agroforestry: Sustainable farming and agroforestry techniques protect banana plantations from windstorms and floods, thereby reducing climate vulnerability.
- Protection and insurance: Access to information, tailored insurance and microfinance helps farmers mitigate losses from extreme weather.
- Climate solutions: A combination of resilient farming, water conservation and risk-sharing mechanisms enhances long-term stability.
- Driven adaptation: Community-led approaches equip farmers with the knowledge, tools and resources for sustained resilience.



Social impact

- Equips local farmers with essential knowledge and access to financial resources, fostering long-term community resilience.
- Expands insurance coverage and drives increased demand among women through the engagement of champion farmers, ensuring equitable participation and benefits while promoting inclusivity.



Replication potential

- Offers the potential to reach an additional 50,000 smallholders by leveraging AIC's close working relationships with relevant government authorities and ACRE Africa's experience in designing and scaling agricultural insurance for smallholder farmers.
- Demonstrates steady growth in portfolio premiums alongside decreasing premium costs over time, supporting sustainable agricultural investment.



Funding snapshot

- UNDP-AFCIA grant: US\$125,000 (initial grant)



Innovation

- Bundles PBI with climate-smart agricultural practices, yield-increasing inputs, market access and financial services training.
- Expands access to microfinance and insurance, reducing financial risks for farmers and businesses facing climate-related losses.
- Promotes openness to innovation through champion farmers who monitor crops via smartphones and distribute seeds.
- Utilizes mobile tools, data-driven forecasting and nature-based solutions to improve climate preparedness and response.

Investability

Sustaining criteria	UNDP-AFCIA grant supports BIRDC in building an evidence-base for its PBI, which will allow it to seek funding from insurance and resilience funds for further product development.
Financial innovation	Establishes a database of 22 registered cooperatives with 5,000 farmers, building a strong track record in enhancing smallholder productivity. Collaborates with financial institutions to bundle insurance products with smallholder loans to BIRDC farmers. Exhibits potential for direct online sales in the medium- to long-term.