

94. CLIMATE RISK PROFILING (USING AI)

ACTION AREA	CLIMATE RESILIENT DEVELOPMENT PATHWAYS
SOLUTION CLUSTER	CLIMATE RISK REDUCTION & MANAGEMENT
THEMATIC AREA	CLIMATE INFORMATION SERVICES
SUBMITTED BY	WINNERS PROJECT, WITH MUNICHRE). CLIMATE KIC

WHAT PROBLEM IS THE SOLUTION TRYING TO ADDRESS?

Africa's population is projected to double by 2050, making the continent home to more than one quarter of the world's population. Food production on the continent will need to increase dramatically to accommodate such a population surge. This endeavour will become increasingly challenging as soil conditions deteriorate and extreme weather events become more frequent because of climate change. Providing African farmers with access to finance, building capacity in farmer organisations, strengthening the resilience of current supply chains and providing solutions for sustainable agriculture intensification are key to food security and job creation on the continent.

WHAT, IN BRIEF, IS THE SOLUTION?

Bringing finance access to small holder farmers is the foundation for systemic transformation of Agri-supply chains. By providing access to finance we can place conditionality loans to build capacity and incentivise climate resilient practices at the farm level. This leads to a positive feedback loop that makes the cost of credit cheaper and ensures that the entire supply chain places importance on farm level climate resilience.

WHAT WAS/ WERE THE SOURCE(S) FROM WHICH THIS SOLUTION EMERGED?

Submitted by member of WG (Dr. Tom Mitchell, Chief Strategy Officer, Climate-KIC)

WHY IS ADDRESSING THAT PROBLEM IMPORTANT FOR ACHIEVING THE GOAL OF YOUR WORKING GROUP?

To ensure food security and job creation in Africa.

HOW CAN THIS SOLUTION ADDRESS THAT PROBLEM?

Climate-KIC launched the WINnERS agricultural supply chain de-risking programme in 2016 with the aim to improve the financial inclusion of smallholder farmers in the Global South and create more inclusive and resilient food supply chains across Africa and Europe. The core of this multi-funder programme consists of a climate service that utilises machine learning to create robust climate risk information for reinsurance and credit guarantees, which allows banks to provide loans to smallholders who have never been able to access credit before.

In collaboration with Munich Re, the world's largest reinsurance group, an integrated service has been successfully brought to market in Tanzania, where the WINnERS solution is currently supporting local

banks and insurance companies to de-risk credit guarantee schemes and ultimately boost food production and security of the country.

The WINnERS systemic framework is currently providing financial access to over 25,000 farmers in Tanzania, allowing them to take a loan for the first time in their lives, and, importantly, using such funding to gain access to a more efficient production inputs. As documented by the randomized control trial, 90% of the farmers covered by the product could not otherwise have had access to finance.

WHY DOES THIS SOLUTION ALIGN TO THE DEFINITION AND CRITERIA FOR A 'GAME CHANGING SOLUTION' DEVELOPED BY THE SUMMIT?

The WINnERS programme fits the main criteria as follows:

- Impact potential at scale: the scheme is already active in 4 countries (Tanzania, Ghana, Uganda, Zimbabwe) and covers 25,000 farmers in Tanzania alone. Climate-KIC plans to scale to include 10 new countries and support the financial inclusion of 1 million smallholder farmers by 2022.
- Actionability (taking into account politics, capacity, costs): 90% of farmers covered by the scheme could not otherwise have had access to finance
- Sustainability: this solution will be increasingly needed to support smallholder farmers that are facing the consequences of climate change. Governments could consider the inclusion of such solution into their agriculture/rural national plan for sustainable agriculture and food security.
- The African Development Bank is already supporting the scaling of the WINnERS scheme in Tanzania and beyond, with 3 new pilots launched in Uganda, Ghana and Zimbabwe.

The WINnERS scheme aims to build more inclusive and gender-sensitive farmer organisations. Currently, part of the programme's funding is specifically earmarked to promote gender equality and improving the financial inclusion of woman farmers in agricultural supply chains in Tanzania.

By bundling insurance with input loans, the product turns insurance into a credit enhancement device overcoming standard frictions affecting both the demand and the supply. The product changes the behaviour of farmers, who now see the product as acting as a substitute for collateral or credit history and as a powerful signal of the value of investing in more climate resilient production technology

WHAT IS THE CURRENT AND/OR LIKELY POLITICAL SUPPORT FOR THIS IDEA

WINnERS has secured political support from: Tanzanian Government, Ugandan Government, AfDB, European Commission

WINnERS partners include Climate-KIC, Imperial College London, African Development Bank, CIRAD, Climate Justice Resilience Fund, L'Ecole Polytechnique University Paris-Saclay, Mercy Corps, MunichRE, Private Agricultural Sector Support (PASS), Universiteit Utrecht, and The World Bank

ARE THERE CERTAIN CONTEXTS FOR WHICH THIS SOLUTION IS PARTICULARLY WELL SUITED, OR, CONVERSELY, CONTEXTS FOR WHICH IT IS NOT WELL-SUITED AT ALL.

The programme currently covers smallholder farmers in the Global South, specifically Tanzania, Ghana, Uganda, and Zimbabwe. The WINnERS scheme could be scaled to be scaled to any geographical context. The WINnERS scheme leverages the use of super computers and machine learning to tailor the payouts of an insurance product to specific locations in response to local weather patterns and exposure characteristics, such as soil and agricultural practice. The data driven product design technology allows the product to be upscaled country-wide thus reaping significant diversification benefits and avoiding loss verification costs and moral hazard issues. Local market participants document a cost reduction of 35-40% relative other agricultural insurance products.

WHAT DO YOU THINK ARE THE KEY ACTIONS REQUIRED TO ADDRESS THIS SOLUTION?

Public policies. Governments can use such systemic de-risking schemes to support smallholders and accelerate the transition towards climate smart agriculture. Through the WINnERS scheme, economic incentives could be provided to those farmers that are investing on climate solutions and improving their management practices.

The technological innovation introduced in the Tanzanian market has demonstrated that insurance, and more generally blended finance solutions, can provide a powerful tool to move beyond donor-based frameworks and promote financial inclusion and technology adoption at scale by using market driven mechanisms. Examples: 1m USD commitment by the African Development Bank to deploy the product beyond Tanzania; commitment by the Ugandan Banking Association to introduce it in Uganda; USD 500k committed by Oak Foundation to use the technology to promote gender.

Change in behaviour of off-takers (crop buyers) in engaging in contract farming with smallholder farmers deriving from the coverage of crop loss risk resulting from the new parametric insurance technology.