Climate change and extreme weather events are becoming more disruptive to food production and supply chain operations.

WINnERS (Weather Index-based Risk Services) is a multi-funder innovation project that offers risk management services to build resilient supply chains from the smallholder to the global retailer.
The climate change challenge

Weather-related disasters such as floods and droughts will likely become more intense with climate change, resulting in irregular crop yields. With ensuing disruptions in production and distribution could come higher and more volatile food prices. Recently, the locust invasion in East Africa which has resulted in an unprecedented food security crisis is most likely the result of unusually heavy rainfall in the regions.

On the African continent, yields in staple crops are expected to drop as a result of climate change. By 2030 some African countries could see yields in rain-fed agriculture fall by half and the prices of certain food crops are predicted to increase by anywhere between 50 per cent and 120 per cent by 2030.

Many smallholder farmers fail to sign deals with food retailers which would enhance their financial stability, mainly because of the difficulties associated with maintaining a stable level of production in the face of new extreme weather events related to climate change. On the other hand, the frailty of smallholder farmers places pressures on the food supply chains which European distributors rely on.

The situation is also worse for women in many emerging countries, who face poor social conditions and are absent from higher managerial positions. Climate change threatens to compound all of these already existing problems.

In the WINnERS programme, European universities are teaming up with banks, insurers, food companies and smallholder farmers to find ways to increase resilience in supply chains in a way that protects buyers, banks and most importantly producers from climate-driven risk and losses. Technology offers the use of a truly sustainable feedstock for new products.

Through the WINnERS programme, 25,000 farmers have already been insured for their maize production in Tanzania.
Solution

The WINnERS programme aims to develop a de-risking framework involving all stakeholders of the food value chains, in order to make smallholder farmers creditworthy to their local banks, and allow them to access inputs and markets for staple crops.

At its core sits an index-based insurance that uses machine – learning to deliver robust climate risk information. The system analyses meteorological and climate data, and a series of algorithms produce highly accurate agricultural risk information. This information helps farmers plan ahead to secure their crops and is integrated in an insurance and loan scheme, where the premium depends on the implementation of sustainable farming practices.

Impact

Through the WINnERS programme, 25,000 farmers have already been insured for their maize production in Tanzania, and part of the funding for the programme is specifically dedicated to promoting gender equality and financial inclusion for female farmers in Tanzania.

WINnERS services and products are already working to bring more sustainable food production and improved market access for smallholder farmers. Better farming practices – such as intercropping, in which separate crops are planted in close proximity – leads to improved yields and higher levels of resilience to adverse weather such as heat stress, or lack of rainfall.

By enabling financial access to smallholder farmers, WINnERS places conditionality around the loans that incentivises climate-resilient practices at the farm level.

The programme aims to reach a million farmers in sub-Saharan Africa by the year 2022.

Fabrizio Rossi, Programme Lead, Sustainable Land, EIT Climate-KIC
EIT Climate-KIC’s role

EIT Climate-KIC provided initial funding and supported the project’s development. It has successfully secured more than $1.5 million in additional funding from banks and funders to scale the de-risking service across Africa. The WINnERS programme is still evolving, thanks to the backing and guidance from EIT Climate-KIC. The team wants to move on to multi-crop insurance programmes, increase the geographical footprint of the project further and develop new agricultural practices along the way. The EIT-backed programme aims to operate in ten countries, and to reach a million farmers in sub-Saharan Africa by the year 2022.