



World Food Programme

SAVING
LIVES
CHANGING
LIVES

The GFCS- APA programme in Malawi and Tanzania

The climate crisis is already harming the productivity of farmers globally, threatening the livelihoods, crops and livestock of the poorest people. In 2020, the number of people suffering from food crises soared to a five-year high, with 155 million people experiencing acute hunger.

In a warming world, vulnerable food-insecure communities face more frequent extreme weather events such as floods and droughts, changes in rainfall patterns and in the timing of the start and end of the rainy season. The current pace of change is overwhelming their capacity to understand how to adapt and plan based on their traditional knowledge. As the past is no longer a reliable indicator to understand the present or the future, climate services is a crucial tool in ensuring communities are able to make risk-informed decisions to be able to plan for agriculture and ensure food security at the household level.

While information about the weather and climate may exist at a national level in some countries, access to it in

the communities living in rural remote areas, where such information would be useful, is often limited or non-existent. The World Food Programme (WFP) has considerable experience in co-production, translation and strengthening access to climate services so that countries and vulnerable rural food-insecure communities can use it to make informed decisions and manage climate related risks.

In Malawi and Tanzania, WFP is part of the multi-partner initiative of the Global Framework for Climate Services (GFCS) Adaptation Programme for Africa Initiative, supported by the Norwegian Agency for Development Cooperation (NORAD), which focuses on reducing vulnerability to climate change by enhancing the production and use of climate services in support of decision-making for a range of sectors, including agriculture, food security, health and disaster risk reduction.

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Phase I (2014-2017) of the GFCS APA initiative, and in particular, the food security component was co-led by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) with WFP. Phase I (2014-2017) implemented pilot projects in Tanzania and Malawi based on the needs identified by communities in target districts and by integrating the project activities in the [R4 Rural Resilience initiative](#) to maximize impacts of interventions in Malawi. Whereas **Phase II (2018-2020)** consolidated the work in the same districts targeted in GFCS phase I, with WFP and the Ministries of Agriculture in both countries leading the work under the food security component.

Key partners in the food security component within the GFCS-APA initiative include:

(1) the [UN World Food Program](#), who jointly led the agriculture and food security component of the program with CCAFS in phase I, and the former led phase II;

(2) the [University of Reading](#), who led training and capacity development in the PICSA approach;

(3) the International Crops Research Institute for the Semi-Arid Tropics ([ICRISAT](#)), who performed scoping and feasibility studies ICT-based communication strategy;

(4) the World Agroforestry Centre ([ICRAF](#)), who performed baseline data collection and analysis, and contributed to the final project impact assessment;

(5) Farm Radio International ([FRI](#)) and (6) [Farm Radio Trust](#), who provided training and capacity building for rural radio use;

(7) the International Livestock Research Institute ([ILRI](#)); and

(8) the International Center for Tropical ([CIAT](#)).

BETTER INFORMATION FOR A CHANGING WORLD: AN INTEGRATED APPROACH WITHIN THE GFCS-APA INITIATIVE

Under the food security component of the GFCS-APA initiative, WFP's work focused on **helping rural communities access tailored weather and climate information that they can easily understand and use to make decisions to strengthen their food security and improve their overall livelihoods**. The project used an **integrated approach** to help co-design and deliver reliable and easy-to-understand information by training 'intermediaries (namely extension workers and NGO volunteers) on the **Participatory Integrated Climate Services for Agriculture (PICSA)** approach and how to access, understand and communicate complex climate and weather information to smallholder farmers and pastoralists through farmer groups and radio listening hubs.

PICSA is a step-by-step approach that empowers farmers with climate, crops, livestock, and livelihood information and tools they need to make their livelihoods more resilient to climate so they can decide the best strategies that are suited to their needs. The approach was originally developed by the University of Reading in the UK, and it focuses on hands-on methods that can easily be applied, including a tailored menu of livelihood options and the skills to interpret it at different stages of the process – before, during and after the season.

The PICSA approach reaches farmers through extension and NGO field staff who are trained in its use. Then, using additional material prepared by their national meteorological agency, they work with groups of farmers to expand the reach of PICSA, offering information, guidance and advice.

Farmers would also provide feedback to national met agency which would be used to validate and improve the weather forecast. In some cases, farmers would receive rain gauges and get trained on reading the gauges providing area specific observations that would be use for better forecasting. These readings would be used to improve planning through the PICSA approach.

As part of the PICSA roll-out process, **district-level 'Planning and Review' meetings were also introduced** ahead of each growing season and participatory needs assessment studies ensured that differing information needs across vulnerable groups were considered in the on-going co-production of climate information products and services and are being evaluated on an ongoing basis to further refine the products over time.

In addition to building the capacity of farmers to access and use such information through the extension workers, **interactive ICT-based platforms including rural radio programmes and mobile phones (SMS services and audio) are used as additional channels to access weather and climate information at the local level**. The forecasts are provided through broadcasts on national radio stations and accompanied by advisories on crop, livelihood and livestock options. **A call center service allows farmers to interact with extension officers if they require further information**. Farmers who register their phone numbers also receive short-term (weekly) forecasts accompanied by agro-advisories co-developed by various cross-sectoral experts combined with farmer's traditional knowledge and experiences. In addition to radio programmes, **'push' and 'on demand' (the latter also known as 'Beep4Weather' service) text messages** have also proved to be an effective mechanism to improve the reach and provide further advice to farmers in an interactive manner.

All these mechanisms to access climate information services are at the heart of the activities being undertaken by WFP, the University of Reading's Walker Institute and CCAFS supported by Farm Radio International (Tanzania) and Farm Radio Trust (Malawi), including other local partners.

Better climate information and decision-making tools enable small-scale farmers in Malawi and Tanzania to offer a service that is tailored to people's specific contextual needs and improve their overall food security and resilience to uncertain climate conditions.

In addition, **capacity of hydrometeorological services to produce relevant climate and weather products and information to the district level has been increased** and is continuously being re-assessed based on feedback gathered in the field. The national ministries of agriculture and their extension services are also engaged in co-producing appropriate advice with the needs of farmers in mind. Downscaled forecasts for the growing season, accompanied by agronomic advice for farmers within the local area are an improvement on the relatively large-scale forecasts that have traditionally been released.

Achievements at a glance:

33,000 farmers reached via SMS in Malawi

42,500 farmers and pastoralists reached via SMS in Tanzania

Providing access to climate information together with agro-advisories that is timely, easy to access, easy to understand and packaged in a way that triggers action through the various delivery channels, farmers are empowered in their livelihoods decision-making.

The beneficiaries of the initiative include more than 15,000 farmers who received information through the PICSA approach, and over 12,000 individuals via radio listening hubs in Balaka and Zomba districts, Malawi.

In Tanzania, more than 4,812 farmers across the three districts (Kiteto, Kondoa and Longido) have access to climate information services, who are mainly crop and livestock farmers.

MAIN INNOVATIONS FOR LAST MILE CLIMATE SERVICES THROUGH THE GFCS-APA INITIATIVE

Climate information per se does not provide the level of support required for farmers to make decisions on their livelihoods. The success and innovation of this initiative lie in building climate services as part of an integrated approach to other climate risk management strategies, including WFP and government programmes, as opposed to a stand-alone initiative.

The GFCS-APA initiative has **brought together a range of stakeholders from different sectors strengthening the interaction between producers of weather and climate information with those who use the information to make decisions**; often using intermediaries to help connect these actors. This two-way dialogue between users and producers of information has enabled a process of 'co-production' of information and of user-centered and user-led climate services that has proved to be more responsive to the farmer's demands, improving the quality of weather and climate information and encouraging better use of these services in decision-making. This has provided a great opportunity to strengthen the institutional coordination in both countries.

The implementation of **PICSA has enabled building capacity of extension officers in climate services for agriculture increasing their confidence when they work with community farmers** and supporting their work with the relevant information and the right tools that best suit their individual contexts and objectives ('options by context'); contributing to skills-building and leading to the development of livelihood innovations. This process has used **a 'training-of-trainers' approach via extension staff becoming one of the first opportunities to use PICSA at scale and build the**

credibility and legitimacy of climate information services among rural farming communities so they can adopt improved livelihood strategies. The use of PICSA via the extension workers has been regarded as one of the main channels through which information reaches farmers, especially to women, who may not necessarily have access to radios or ICT hubs.

Well-established flexible feedback loops at the local level through the innovation of the 'Planning and Review' (P&R) days have provided an opportunity to share and discuss the experiences between extension staff and community farmers to continuously re-assess the evolving end-user needs in the refinement of climate products and services and demonstrate evidence of impact of the intervention. Likewise, the P&R days have contributed to the scaling up of project activities; ensuring both the integrity and quality of the PICSA roll-out process.

LESSONS LEARNED IN MALAWI AND TANZANIA WITHIN THE GFCS-APA PROGRAMME

The initiative has provided an opportunity to learn from one phase to the next, and from one district to the other. Implementing a last mile climate services initiative often entails a new way of doing things, new partnerships and readjusting processes based on feedback from the end-user communities.

Once the foundations were laid and a national process was in place, capacities were built at country and district levels and crucial partnerships with key stakeholders were developed so that the process could become institutionalized in the long run and could be easier to adjust and scale up to other districts following a phased approach. However, it was necessary to allow time for new processes to be embedded in the daily roles and responsibilities of key field staff (i.e. extension officers), so they could become experts in using the tools and approaches and adapt and learn from the processes being embedded.

At present, based on evaluation studies conducted, **more than 80% of the farmers in Tanzania are making changes in their farming and livelihood practices** as a direct result of the PICSA training. The large **majority of farmers (89%) that listen to the radio program have increased their skills at using information** to improve their livelihoods. While beneficiaries make their own livelihood choices, those who choose an integrated package of risk management interventions benefit from a timely combination of knowledge and resources that allow them to plan and make informed choices to adapt their strategies to climate variability.

Evaluations in Malawi show **that 90% of farmers use PICSA tools in their planning and decision-making, especially changes in crops (76%), livestock (46%) and livelihoods (26%)**. Also in Malawi, about **75% of beneficiary household stated that climate services information was used to make decisions related to disaster-risk reduction, agriculture and livelihoods, in general.**

While dissemination of climate and weather information and advisories has been very successful, the number and turnover of extension officers per district is low and affects the number of people they can reach to provide support using PICSA. This has been addressed by linking extension officers to radio listening hubs who helped bridge the shortage of extension staff as farmers were able to access the radio service and get supplementary advice. The sustainability of the PICSA approach beyond the intervention will also depend on its integration within day-to-day extension services activities.

A participatory needs assessment conducted in the early stages of the initiative was useful to identify the best channels to deliver information to people and tailor the approach to ensure that different vulnerable groups could also benefit from the access and use of climate information and agro-advisories. This is a big lesson in the success of the initiative, as the studies revealed that the needs of men, women and other vulnerable community groups differed in terms of the type of information that is useful to each of them, the format, and the packaging each specific group requires, and the delivery channels to be used. For example, it was useful to assess both access to and use of radios and cell phones by men and women. The assessment highlighted that not only did fewer women own radios and cell phones when compared to men, but they also had no access to radios in their households.

While radios and cell phones were therefore good channels for disseminating information to men, to reach women as well the project introduced the Participatory Integrated Climate Services for Agriculture (PICSA) approach. Extension officers were trained to access and communicate information and advisories to communities, with a specific focus on women farmers. In addition, farmer listening groups were set up and provided with a solar-powered FM/AM radio with a built-in memory card for recording radio broadcasts. These groups were specifically intended to encourage women to participate. Therefore, **having a range of delivery channels in the GFCS-APA initiative has helped reach different community members and reinforce the messaging being given.**

The emerging demand for climate services among smallholder farmers and their future provision and use will depend on the meteorological services' ability to continue producing timely, accurate and downscaled seasonal and sub-seasonal weather forecasts and on the processes of co-production of advisories disseminated via the different channels (i.e., extension officers, and ICT-based platforms). Plans beyond GFCS-APA II with regards to the sustainability and up-scaling of the initiative seem to be quite ahead in Malawi, where the Department of Climate Change and Meteorological Services (DCCMS) has already managed to downscale the seasonal forecast to each district and translate into local language. Discussions are underway to begin including PICSA in the curriculum of short courses offered through the Lilongwe University of Agriculture and Natural Resources (LUANAR), as well as addressing the shortage of staff in order to support roll out of PICSA in the country. This will ensure sustainability of the PICSA initiative beyond the project.

Furthermore, the Ministry of Agriculture, Irrigation and Water Development has seen value in the PICSA approach and is keen to scale out to other districts.

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Likewise, capacity strengthening of the national meteorological service and Tanzania's much larger network of extension services and district authorities has resulted in improved climate information tailored to specific livelihoods such as the inclusion of rainfall and temperature variables for improved livestock management.

One of the key elements of success of Phase I and II of the project has been the high level of institutional coordination achieved through the involvement of various stakeholders including the meteorological services, NGOs, extension services, and WFP both in Tanzania and Malawi.

Achievements at a glance:

60,000 farmers with Climate Services Information in Malawi (21,000 † men; 39,000 † women)

450,000 farmers with Climate Services Information in Tanzania (55% of † women)

221 intermediaries trained in PICSA (Malawi)
204 intermediaries trained in PICSA (Tanzania)

15,000 farmers use PICSA in Malawi
3,566 farmers use PICSA in Tanzania

364 Radio listening hubs in Malawi
61 Radio listening hubs in Tanzania



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