UK Aid Match case study: Trócaire on building climate change resilience through community-based integrated watershed management

Photo caption: Watershed Management Committee members in the UK Aid Match funded project Enhancing climate change adaptation and disaster resilience in rural communities of Northern Ethiopia

About the grant holder

Trócaire Northern Ireland, established in 1986, works for a just and sustainable world for all, tackling the structural causes of poverty by engaging people to take action on issues of global injustice.

Trócaire has been working in Ethiopia for many years and has, in partnership with Catholic Agency for International Development (CAFOD) and Scottish Catholic International Aid Fund (SCIAF), implemented programmes on sustainable livelihoods, natural resource conservation, drought recovery and resilience building. In 2015, Trócaire received a grant from UK Aid Match to implement a three-year project which enhanced climate change adaptation and disaster resilience for 20,213 households in five districts of Tigray region, Ethiopia.

What was Trócaire's approach to building climate change resilience in Ethiopia?

Drought-prone Tigray has a fragile ecosystem and for years has been facing a problem of severe land degradation, deforestation, and biodiversity loss. To reverse this situation and build climate change resilience, Trócaire used Integrated Watershed Management (IWM) as its central approach, with the objective of improving the livelihoods of communities while conserving soil, rainwater, and vegetation.

An integrated watershed management approach takes a holistic view of the catchment area and a multi-sectoral approach for all resources – soil, water, biomass, energy – whilst also considering both human and environmental needs. It helps communities to increase and diversify income by creating sustainable access to land and water resources which, in turn makes communities prepared, adaptive, and more resilient to climate related shocks.

What elements of the Integrated Watershed Management (IWM) approach were particularly effective in Tigray?

Trócaire has been working in the region for over two decades and so understood the area and its challenges. Guided by its partnership policy and previous experience, Trócaire works with local organisations to ensure it reaches the people most in need and that programmes are sensitive to the local context. Communities were engaged from the very beginning to identify and validate the nature of problems faced and to provide feedback on appropriate measures to address them. This included consulting different segments of the community such as women, the elderly, and younger men and women, to ensure that their specific needs were included, and that solutions would be appropriate to their different contexts and experiences.

The following community-based activities contributed towards an effective integrated watershed management approach:

- Communities were trained on the effects of climate change and climate adaption as well as watershed management techniques to conserve soil and water. Early warning and watershed management committees were then established with bylaws being enforced.

- Communities selected micro-watersheds and prepared resource and development maps. The resource maps showed what natural resources were available for the intervention, while the development map showed soil and water conserving intervention measures to be undertaken and the desired change for the catchment or watershed. Communities closed the selected watersheds to humans and animals while they conducted the works needed to conserve soil and water.

- In some of the watersheds, along the contour of the degraded hillsides, communities constructed bench terraces and planted them with different multi-purpose tree seedlings including fruit seedlings. Landless youths were then engaged and organised as cooperatives to work on the terraces for future income generation.

- Early warning committees were trained on climate change, hazard identification and analysis, vulnerability and capacity assessment and contingency planning using a Community Managed Disaster Risk Reduction (CMDRR) approach. Strong and functional links were created between the watershed management committees and early warning committees.

- Different income generation groups/cooperatives such as beekeeping, small ruminant rearing and fattening, irrigation and forest tree production were established and became functional in the watershed.

- To ensure the sustainability of the various groups and cooperatives, linkages were made to appropriate government structures, input suppliers and local markets.

What impact did this community-based IWM approach have?

The impact of this IWM climate resilience approach has been substantial both in its effects on the local environment and on the lives of the target communities. The natural resources of the watersheds have been reclaimed and are now being used productively by local communities with the following results:

- Improved forest and flora coverage has increased honey production and income generation through its sale for the beekeeper cooperatives

- Soil is being conserved and soil biomass has been improved as evidenced by a research study on bench terraces conducted by Axum university

- Water discharge has been improved which has enabled dried-up drinking water structures to be restored to working order and additional water structures to be constructed in the watershed. Additionally, irrigation of rivers downstream of the watershed has been improved which has positively impacted agricultural yield and income for communities through increased sale of vegetables.

- Forage production has similarly been improved as communities are able to increase the amount of cattle feed through a cut and carry system. This improved and increased animal production and productivity.

- Forest tree production groups/cooperatives have benefited from the sale of by-products of the forest. Moreover, fruit seedling producing cooperatives have benefited from the sale of forest tree seedlings to bench terrace groups and other surrounding areas of the watershed.

- The watershed system has created land access for landless youths and created different business opportunities for them, significantly reducing their likelihood of migrating to cities or other countries

- Communities are prepared with contingency plans for future risks and shocks.

What key challenges were faced during project implementation, and how were they overcome?

In spite of the careful project design and implementation planning, some challenges required creative responses. One major challenge was that the promised government co-financing of the construction of a water retention dam did not materialise. The project responded to this set-back by diverting its share of the dam construction costs towards accessing ground water.

Local government had already constructed a deep water well in the area; however, it had fallen into disrepair due to a lack of funding. This was revived as part of the project and a second deep water well was dug, using the diverted funds. In order to pump the water from the ground, electricity was required. Initially it was thought that the project would have to wait three years for a transformer to be installed. Instead, the wells were connected to solar powered generators which pumped the water up to be stored in a reservoir and channelled for irrigation of farmers land through project-built canals. This enabled agricultural activities on the bench terracing where community members produced different types of fruit and vegetables for sale and consumption.

What are Trócaire's top tips for an organisation working with small farmer communities on climate resilience and/or related issues?

- Context Consideration: It is important to plan activities and formulate outcomes based on the project location. Processes and activities in one area may produce different results when carried out in another area. For instance, the results of identical project activities such as bench terracing were more prominent in one project area than another due to different geophysical characteristics – for example, the source of water - of the sites.

- Participation: Involving and engaging local communities in all phases of the project built ownership and local capacity which enhances long term sustainability of the

intervention. Similarly, partnership with and involvement of local government was critical and enabled the project to access government-led Productive Safety Net Programme (PSNP) public work schemes. This supported the successful implementation of bench terracing activities. Furthermore, Trócaire implemented the project as a consortium with three other implementing organisations. Beyond active coordination and shared implementation of project activities, working as consortium enabled the organisations to share knowledge, skills, and best practices on climate resilience.

- Peer-learning and best practise: At the mid-point of the project, Trócaire hosted an event with key stakeholders in Ethiopia, which included a project visit to Tigray. Stakeholders included other UK Aid Match-funded projects working in the region. This event created an opportunity to learn and share experiences among all organisations on climate resilience. A programme mid-term evaluation and final evaluation of the project was also conducted, and this guided and informed future directions and improvements on building climate resilience through projects.

What external resources could help other grants holders design and implement effective community-based climate resilience projects?

- Food Security, Poverty Reduction, Climate Change: Placing Trócaire's livelihoods work in context
- Mid-Term Evaluation of Hintalo Wajirat Livelihood Development Project
- Still Feeling the Heat