

CLIMATE RESILIENCE

LEARNING BRIEF FROM BURUNDI

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Global climate change and environmental degradation is impacting the way people live and move. Scientists have predicted that climate change related impacts will be felt more frequently and more severely in years to come. These climatic changes will become increasingly significant displacement drivers among populations across the globe, emphasising the urgent need for DRC to find solutions to help mitigate, plan for and tackle climate impacts and related displacement. **In this Learning Brief, DRC takes a brief look at the connection between the climate and displacement and outlines one strategy DRC have taken to factor climate impacts and risk into our work in the Burundi Resilient Colline Pilot Project. The project aims to enhance livelihoods, food security and climate resilience in an ecologically degraded zone of Burundi and it is supported by DANIDA innovation funds.**

Background: Building resilience through permaculture-based design and agroecosystem restoration

Permaculture is an approach to land management which looks to natural ecosystems to inform holistic and regenerative practices. Permaculture integrates localised and holistic ways of farming to support biodiversity, rebuild and rejuvenate soils, reduce and reuse waste, improve water management and build resilience to climatic shocks and stressors. Using permaculture and agroecosystem restoration to inform resilience programming aims to transform and improve the lives and livelihoods of affected populations in the long term, whilst simultaneously increasing the

adaptive capacity of communities' agroecosystems and thereby reduce vulnerability to natural disasters and climate change impacts. This sort of environmentally anchored resilience design is context specific and looks to reinforce local capacity for agricultural production and is one method DRC can take to factor the climate into its programming.

1. Climate driven displacement

The [Mixed Migration Review 2019](#) points to several significant ways that the climate impacts migration flows. Firstly, the report reveals that it remains difficult to assess the direct correlation between climate changes and migration. The

climate is rarely the singular reason behind migration, but instead one of several reasons for why people move (138). However, it is generally accepted that environmental factors play (and will continue to play) an increasingly influential part in migration patterns -- particularly internal displacement -- due to sea level rise, and the increase in frequency of drought, floods etc. (MMR, 2019).

Additionally, it is asserted that environmental degradation as a result of climate change is likely to multiply the threats that lead to migration, whether these be political, economic, social or demographic (MMR, 2019). It is further outlined that climate factors can have a 'double jeopardy' effect where those that want to move are unable to do so because of intervening environmental factors (MMR, 2019). Taken together, it cannot be denied that the climate has, and will continue to have, a substantial impact on human movement. Accordingly, DRC needs to factor climate and the environment more comprehensively into its programming, advocacy, and mandated work.

2. Why should DRC care?

DRC's vision is *a dignified life for all displaced*. Through the organisation's humanitarian, development, and peacebuilding activities, it is committed to assisting, protecting, safeguarding, and empowering displaced populations all over the world. Whilst DRC has traditionally focused on *conflict induced* forced displacement, the organisation needs to adapt to the changing contexts of the people it serves. As communities and populations are increasingly put at risk because of climate related factors, it becomes more and more important for DRC to see these displaced people as within its remit and mandate. DRC's planning and programming is centred around the rights-based approach, and this is no less relevant here, where the rights of climate affected displaced populations are not being protected, respected, or fulfilled specifically within international law.

3. Resilience programming straddles the humanitarian-development nexus providing durable solutions and addressing root causes

DRC's programming is guided by three programme platforms: emergency response, durable

solutions, and addressing root causes – the second two naturally fitting into a longer-term development-type programme with a strong focus on resilience. Climate resilience programming creates these long-term durable solutions by transforming and improving the lives and livelihoods of affected populations, combatting their vulnerability to climate stressors and shocks, and helping to re-introduce stability and adaptive capacities into their agroecosystems. This should help to safeguard against future displacement.

4. The Pilot Project: Burundi Resilient Colline

Burundi is a small but densely populated nation in East Africa. It borders Rwanda to the north, DR Congo to the west and Tanzania to the east. After decades of ethnic-based civil conflict, Burundi is one of the poorest nations in the world and over 90% of its population relies on subsistence agriculture. It is also suffering from significant environmental issues, due in part to poor land-use management and unsustainable farming practices, but also due to the knock-on effect of global climate change. This means that issues such as deforestation, loss of biodiversity, soil erosion, drought, and deadly flash floods and landslides are hitting displaced and disenfranchised communities hard and multiplying their vulnerabilities.

4.1 Project objectives

In late 2019, DRC began its Resilient Colline Pilot Project aiming to enhance livelihoods, food security and climate resilience through permaculture and agroecologically-based resilience design in an ecologically degraded zone of southern Burundi -- Giharo Commune in Rutana Province. The project was funded for one year with USD300,000 through DRC's innovation funds, and focused on a colline (hill) which is one of the communal demarcations in this area of Burundi. The project began with a two-week training course to teach the community the tools of resilience design using principles of permaculture, agroforestry, and agroecology. Starting at the household level, it was demonstrated that household waste (such as food waste, grey water, and plant debris) can be used to make household permagardens which grow food even in the dry season. Farms were then redesigned using earth

and stone works - techniques which aim to harvest rainwater in the soil and build nutrients fostering healthy and resilient land.

A focus of the project was to diversify crops by integrating trees, shrubs, and perennial vines alongside annual crops to ensure enduring stability. At the landscape level, DRC teams worked with the community to enact larger scale ecological restoration such as path water harvesting, erosional control through check dams and swales, tree pruning, and other approaches geared to slowing, spreading, and sinking rainwater before it has a chance to accumulate into floods. Using these simple techniques, the community learnt how to revitalise soil fertility, stop topsoil runoff, mitigate flash floods, and harvest water for long-term hydration in the farm soils, whilst simultaneously increasing food and nutrition for farmer families, securing their livelihood, and restoring the community agroecosystem for future generations.

The project was designed to have a cascading effect: people who were trained by DRC become community trainers – to foster community engagement, grow empowerment and allow the project to continue and grow long after its initial implementation.

4.2 Successes and results

The beneficiary evaluations from stage one of the project suggest the following points:

→ Of the 176 households who participated in the phase one evaluation, accounting for 1109 people altogether, all 176 have at least one permagarden on their property because of the project.

→ 31 of the households surveyed received direct training from DRC, meaning that 145 were trained by their community members – succeeding in a goal of the project to invest in community knowledge and encourage ongoing community investment.

→ The community has already reported an increase in the production, volume and diversity of nutrient rich foods.

→ Due to the earth and stone works at farm and landscape level, the community has noticed there has been less flooding and rainwater is slowed, redirected, and distributed across the hill.

→ The community has already detected a positive change in the soil fertility, particularly in areas surrounding the permagardens, with 173 respondents outlining they had noticed this.

→ The programme impacts the entire community, which is made up of returnees, IDPs, and the host community, in line with DRC's mixed migration focus.

→ Government authorities have noticed the improvements to the projects colline, and three more collines have started similar work.

It should also be kept in mind that whilst there are initial immediate successes, this is also a long-term approach, which means lots of the outcomes of the project will be seen over time.

Video: Restoring the Colline (Watch on youtube)



4.3 Challenges

In a new and innovative project, there are always things to improve, such as:

→ A project baseline was not completed prior to implementation so the opportunity for a comprehensive evaluation of project successes was undermined.

→ Whilst there was local government support for the project and the project team worked closely with provincial and commune government officials, there were some government agroecology techniques that conflicted with DRC's techniques causing some confusion for the community on which to use.

→ The project suffered from long approval processing times, so not all project objectives were implemented or achieved in the first phase.

4.4 Lessons learned

→ Climate resilience programming can be a favourable way of delivering humanitarian aid

neutrally and accessing communities and countries that may be otherwise resistant to DRC assistance.

→ Substantial pre-assessment and project baselines should be undertaken before project implementation so that progress can be clearly identified, without relying purely on qualitative evaluations at the end of project.

→ The duration of agroecology resilience projects should be extended to account for the longer-term focus of climate resilience work.

→ Climate is, by its nature, context specific – what works for Burundi cannot necessarily be adapted for use in other communities/countries/regions. See some examples of other climate focused programming below for more ideas.

5. Other country climate programming examples

→ Yemen

DRC Yemen has partnered with local farmers and communities in the Sa'dah Governorate, in the northwest of the country, to collect, preserve, store, and multiply the traditional seed stock and thereby help increase seed and food security. The project aims to support seed security through the propagation of discarded seeds, the maintenance of current seeds, saving of seeds from each type of food grain, and training and awareness on the importance of seed preservation. Two seed bank stores - locations where seeds will be kept and preserved - have been built, with four more under construction in 2020. The project team and community have also collected crucial information about the most important types of grains found in the Sa'dah Governorate, which is being used to train farmers and community leaders, so that the knowledge becomes embedded in the community. DRC Yemen has also established four community nurseries which are operating and producing seedlings, with more of these nurseries being built. Additionally, like other DRC country offices, DRC Yemen has set up 60 permagardens with a view to set up 200 more by the end of 2020.

→ Bangladesh

DRC is helping to engage communities of Cox's Bazar through the implementation of livelihood-

generating activities with a circular economy approach, building their resilience to instability. A regenerative circular economy approach is (simply put) a systemic approach to economic development which aims to eliminate waste and continually use and reuse resources. The principal aim is to benefit society, the environment, and the economy in harmony. Using this underlying principle, the programme's income-generating activities will focus on waste management, rainwater harvesting, soil conservation, and land stabilization activities. It will also build capacities in compost preparation, biochar production and organic kitchen gardening. DRC is hoping to create two zero waste villages by the end of the project, and it is envisioned that those in the community who receive the project's vocational skills training will be able to 'sell their expertise' in the future, generating income and continuing to grow the resilience skills and techniques learnt. This will help to create systemic behavioural change in the long term.

Permaculture resilience design and agroecological restoration is not the only answer. There are many other ways for DRC to become more climate focused, but this is an inexpensive, regenerative and sustainable method that DRC can adopt and adapt in its programming across many different regions and settings.

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