Climate Resilient Islands Programme

Linking Tonga profiles to resilience plans

As part of the Climate Resilient Islands programme, communities in Tonga participated in information gathering on community assets, values, livelihoods and challenges. This data was used to produce each community's Community Resilience Profile. These profiles in turn are the basis for Community Resilience Plans, which contain practical resilience strategies based on an 'absorb, adapt, transform' framework (as outlined below).

Based on the information communities provide in the profiles, communities envision in workshops what their 'best futures' look like and establish priorities, initiating a process of applying targeted strategies for resilience building of local resources and skills. This process is unique to each community, responding to their unique challenges and strengths, and driven by the community. These strategies are linked to grant funding and are also intended to provide a basis for the community to seek other partnerships and other forms of funding. The process is monitored, and adjustments made to the plans as the process of building resilience continues.

Absorb, Adapt, Transform framework

The CRI programme operates on the understanding that community resilience can be conceptualized as a three-level structure, incorporating the community's ability to absorb, adapt, or transform. Absorption utilizes community skills and structures to bounce back after negative events. Adaptation requires adjustments to a community's ways of living, sometimes with external help. Transformation almost always requires varying levels of external help to significantly change societal structures and habits in order to remain resilient.

Within the programme, in order to help communities understand these capacities, we symbolise them with the coconut palm, the crab and the butterfly.



Most CRI communities cannot simply absorb the majority of pressures on livelihoods, food security and infrastructure. Overfishing threatens marine environments and fish stocks. Continued, long-term agriculture has depleted soils. External pressures such as sand mining negatively affect local ecosystems, in particular increasing coastal erosion and decreasing fish stocks. Loss of labour, especially of young people, to overseas work schemes affects communities, even if there are well-known benefits in terms of bringing in income to communities.

Considerable threats also come from the effects of climate change, the focus of the CRI programme. These include:

- sea level rise and saltwater intrusion
- storm surges and coastal erosion
- erosion of soil and riverbanks from increased storms
- cyclone damage to forests, plantations and community infrastructure
- temperature rises and longer dry periods, affecting yields, forest plants and marine ecosystems.

Modernisation provides some benefits, but it has also entailed loss of community knowledge around management of local ecosystems, traditional farming techniques and traditional handicrafts that provide subsistence and livelihoods. Loss of traditional knowledge also leads to disconnection between community members.

Pathway thematic areas

Planning pathways are aligned with three outcome areas: nature-based solutions (NbS), food security and disaster risk reduction (DRR). These are at the core of the programme and align to grant seeking activities.

Nature-based Solutions include forest, river and marine restoration and the use of sustainable land management (SLM) techniques. These involve replanting for soil stabilisation and water quality improvement, sustainable farming methods including soil improvement, restoration of marine areas for fish stock conservation and planting for handicraft resources.

Food security involves sustainable farming techniques, diversity of crops, prioritisation of local foods, conservation of forest and marine resources, and protection of gardens and plantations from climate hazards and local pests.

Disaster risk reduction involves strengthening local housing and water supplies, securing evacuation centres, and training on disaster planning and procedures.

These three pathways are not isolated but are often integrated in resilience planning. For example, good soils are essential for crop health and therefore food security, while the stabilization healthy soils provide mitigates the risks of flooding, especially in tropical areas.

Examples of pathways

The process of profiling communities provides opportunities to identify absorption capacity within communities. Communities generally grow a variety of crops, sell handicrafts and use marine resources, and this variety enhances resilience. Yet in all these areas communities face challenges, and their absorption capacity needs strengthening. Additionally, many of the community plans focus on opportunities for adaptation or transformation.

To optimize outcomes, where communities in the same island group identify identical resilience activities, these activities will be prioritized. In each of the thematic areas, local Live & Learn teams will utilise expertise based in government and non-government organisations and the Live & Learn network.

Resilient farming methods

Twelve out of fourteen Tongan communities identified resilient farming pathways of some form as a necessary adaptation. Training will be conducted on SLM techniques, especially in relation to soil conservation and adaptation of crops to climate variations. This will enhance food security. Four communities have identified the need for the set-up of a composting system. In at least six communities, traditional methods will be applied as part of our Indigenous Leadership program.

Across Tongan communities, traditional crafts, such as weaving and tapa making, are important, especially for women. Local resources are used in these traditional crafts and in at least six communities the cultivation of local plants for craftwork materials will be part of the pathways. More broadly, there is widespread interest in reviving the use of traditional plants, especially in relation to food security.

Damage to plantations and food gardens caused by wild animals and community livestock is common across communities. Six communities have identified fencing as a necessary pathway for ecosystem and livelihood protection. Further assessment will be made of the feasibility of fencing activities or alternative strategies for livestock control.

Grants will be linked with creating nurseries and purchasing seeds or seedlings, and for agricultural equipment.

Fisheries and coastal conservation

Six communities will focus on fisheries conservation. This will involve either the strengthening of current Special Management Areas (SMAs) or investigation into the feasibility of creating new SMAs. This is linked to sustainable fishing business activities. Grants will be sought for equipment, and there will be training for sustainable fishing practices. Conversations with government around better application of laws concerning SMAs will also be needed.

In one community, improving fish stocks will involve looking into the possibility of redesigning or adapting the current causeway to improve tidal water flow into marine habitats. This may also involve a redesign of current coastline vegetation planting to be more aligned with the rejuvenation of marine species. In five communities revegetation of coastline and coastline cleaning of pollution have been identified as strategies.

Forest and watershed conservation

Forest and watershed conservation largely relates to coastal forests and the strengthening of plantations to avoid erosion which can affect waterways. The focus for communities throughout participating Tongan communities is on marine environments and plantations. Pristine forest areas are rare. However, communities have identified the need for local vegetation to be rehabilitated along shorelines to help ameliorate both coastal erosion and the spoilation of marine ecosystems.

Waterways (rivers, creeks) are not substantial in most participating communities – rainfall provides water for plantations, while household water is supplied by rainwater and some groundwater, therefore strengthening these systems is important.

Disaster risk reduction

SLM techniques contribute to disaster risk reduction by reducing the risks and the extent of flooding and by enhancing food security. Risk reduction will also be advanced through training on the maintenance of water supplies. It is envisaged that this work will be conducted in collaboration with local water authorities as well as the National Emergency Management Office (NEMO). Live & Learn will also coordinate with NEMO to provide other necessary disaster readiness and response training, and to ensure there are local disaster committees operating and planning, as well as making available disaster kits and knowledge within households of their proper use.

Indigenous Knowledge

A cross-cutting issue within resilience planning is the maintenance of traditional community knowledge. As part of the profiling process, communities are asked about Indigenous knowledge and the extent to which traditional practices are passed on. This is particularly relevant for land management, livelihoods through craft and agriculture, assessment of changes to ecosystems and traditional methods of DRR. Indigenous Leadership training will be conducted in some communities, focused largely on the promotion of traditional farming methods and local handicrafts, which rely on local resources. This training will be conducted with knowledge holders from partnering communities as well as experts from government or other bodies outside the communities.

Climate Resilient Islands aims to strengthen community resilience and adaptive capacity to the impacts of climate change through nature-based solutions working with rural communities in Vanuatu, Fiji, PNG, Solomon Islands, Tonga, and Tuvalu. The project is a New Zealand Ministry of Foreign Affairs and Trade initiative implemented by Live & Learn Environmental Education.

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