



Climate Resilient Islands Programme

Case Study: Community Priority Values and Assets, Papua New Guinea

Climate Resilient Islands communities were asked to describe their most important values and assets, and their vulnerabilities and risks, to contribute to their Community Resilience Profiles. These ranged from material to natural, as well as spiritual or community focused. This case study provides an overview of the assets, values and concerns across the programme's communities, to explore trends and commonalities between them.

Assets and values

The eight PNG communities involved in the programme (Damon, Himau, Himaul, Katangan, Limbin, Marai, Naliut, Nokon) are located on or near the island of New Ireland in the country's east. Government and other services are minimal. Communities rely on fishing, growing vegetables and cash crops such as copra. Therefore, their marine environments and gardens and plantations are important to them.

The hausboi system is a strong element of traditional culture that is highly valued by older community members, but it is declining to varying degrees in different communities. The hausboi system centred around a community building where generally women were not allowed to enter, and the system helped young men understand their roles and responsibilities in communities and to their environment. This belief system integrated the values of respect, integrity, support, responsibility and accountability.

Water supply is highly valued, but there are significant differences from community to community, with some having streams within the village, and some that have to travel to fetch water, either by foot or vehicle. Some communities use the streams to grow watercress. One has access to freshwater fish and prawns. Stream water is used for cooking and washing. One community relies on fresh springs along the beach.

Rivers are also used to grow watercress, which is a valued agricultural product that is sold for income. Marine areas are valued for the mitigation of ocean flooding and the resources they provide, such as traditional medicines, shell collection, fishing for

subsistence and income. As with land areas, there were some taboos associated with reefs and marine areas. Chiefs would indicate that particular sections were off-limits for fishing during certain times, to allow for rejuvenation. Traditional methods such as spear fishing ensured there was no overfishing, and there were prohibitions against taking juvenile fish.

Forests and mangroves are important to communities for mitigation of flooding and for water quality. They also provide resources such as traditional medicines and herbs, building and craft materials, and wild foods. They are animal habitats and places of cultural significance.

Gardens and plantations are valued for providing food for households and crops for income. This includes vegetables, root crops such as yams (which are a staple food in the area), copra, cocoa, coffee and balsa. Livestock are also considered valuable assets.

Vulnerabilities/threats

Most communities have few water tanks. Where river or spring water is not constantly accessible, community members have to travel to bring water. Dry seasons or spells can reduce water availability. The lack of adequate sanitation (pit toilets, open defecation) can threaten the quality of local water supplies.

The water quality of rivers is affected by logging upstream and by the introduction of gardens to riverside areas, where clearing and other activities have created soil erosion that muddies the water. In the past there were rules around not making gardens at the river's edge, so this contamination did not happen. Water quality is also affected by disposal of rubbish and animal waste directly into or nearby streams.

Heavy rains often impede access to gardens that are located far from villages and in more mountainous terrain, where access is along steeply inclined paths.

There is logging in the proximity of some communities, and while this provides employment for some, directly and indirectly, logging creates erosion, reduction of local resources, and displaces wild animals, especially pigs that can cause damage to local food gardens. Mining exploration has also caused damage. Run-off from logged sites is carried by rivers into mangrove areas where silting is a result, modifying these environments and creating further flooding risks.

Land disputes and population growth are both risks to agricultural land availability and the quality of local forests. Agricultural land is sometimes not given adequate time to recover from cropping and is over-used, with a lack of regenerative soil strategies. In cocoa and coconut plantations, borers and other pests, exacerbated by a warming climate, are threats, while unreliable market access is a threat to the income potentially offered by these plantations.

Unreliable weather patterns and drier and hotter dry seasons are affecting agriculture. Previously reliable planting times are now less reliable, and communities note drier soils, leading to lower yields of traditional crops.

Sea-level rise associated with climate change is a threat in some communities. This affects mangroves, as well as houses and other buildings that are in low-lying areas. Traditional reef fishing methods using rock walls are being proposed as a possible surge and flooding-mitigation strategy.

Marine resources are threatened by overfishing, itself driven by population growth and incursions by outsiders, warming temperatures that have affected some reefs, and changes on land that effect marine environments in turn, such as agricultural run-off, rubbish in rivers and siltation.

Government assistance in disaster preparation or recovery is minimal or non-existent. In some communities the village planning committee undertakes preparations. Otherwise, both plans and disaster committees are lacking. Information about upcoming events that could cause problems for the community, such as cyclones, is sometimes hard to access. Radio signals are sometimes weak.



Focus on ecosystems for food security and livelihoods

The listings of community priority assets across communities indicate that local ecosystems that provide both food and income are vital assets, with other income sources such as wage work or overseas work opportunities rare.

Comments by community members in the Community Resilience Profiles for PNG reflect the emphasis above:

In the past people were not allowed to live within close proximity of the rivers, to protect the river ecosystem. Community members are not allowed to make gardens near the river.

A way of looking after the environment was to make small circles using stones on the reef to block in the reef fish. They harvested only those that were caught in there and left the others to roam freely.

Although they have access to more modern amenities, prices for goods have risen and there has been a decline in the availability of resources in land and sea, which the community describes as their two 'supermarkets'.

The seasons have changed compared to the past. Many activities are no longer done in the same period of the year as before, especially relating to gardening and fishing. Harvesting of crops is often unpredictable because of the changing weather patterns. The crop yields are also getting smaller in size.



Resilience planning

Understanding priorities of community values and assets informs the next phase of the CRI programme – establishing community resilience plans, which involves noting assets most at risk, especially from the impacts of climate change, community capacity for making changes and strategies for increasing resilience.



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, Tonga, Solomon Islands and Tuvalu. The project is a New Zealand Ministry of Foreign Affairs and Trade initiative implemented by Live & Learn Environmental Education.

