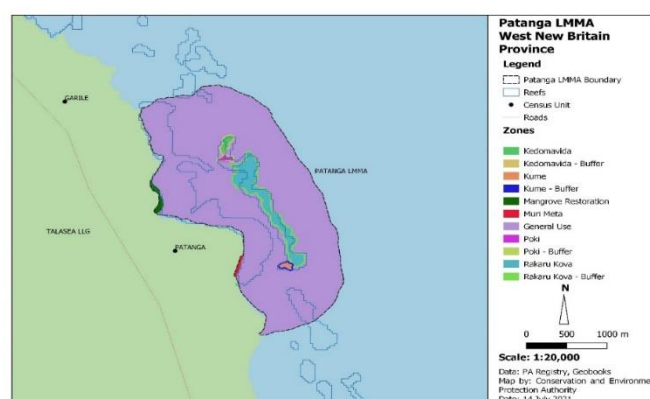
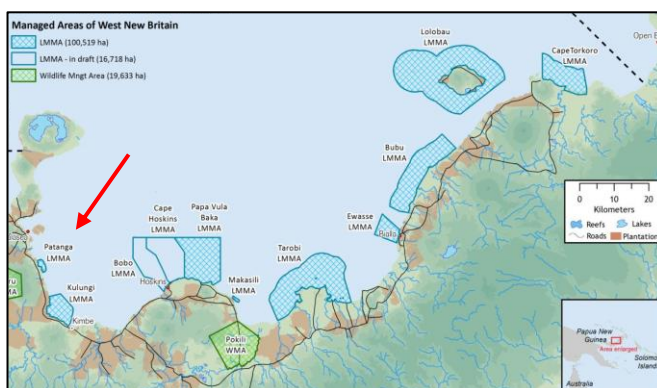
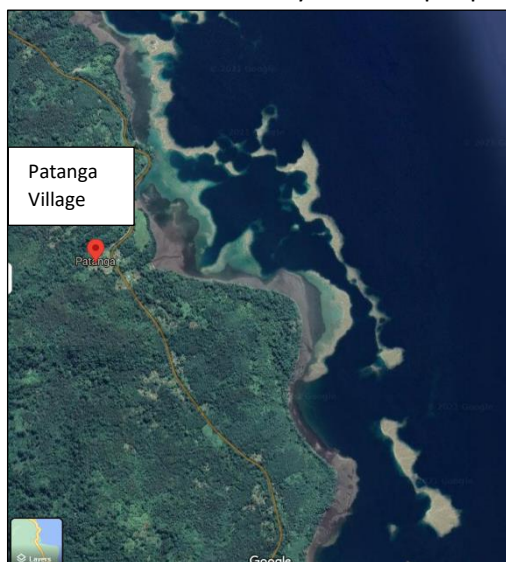


Patanga Locally Managed Marine Area

Talasea District, West New Britain Province

Patanga LMMA lies about 19 km northwest of Kimbe town on the western side of Kimbe Bay. The LMMA lies between Kulu and Gharile Villages and includes inshore and offshore reef systems, mangroves and seagrass areas. There are small freshwater creeks and a sulphur creek within the area.

The LMMA area has been agreed and mapped. The boundary is indicated by physical features such as reefs (Kume, Poki, Kedomavida and Rakaru Kova), creeks, points (like Matane Vilei), the mangrove area, Muri Meta estuary and the coastline. Patanga LMMA is mainly surrounded by sago wetlands, oil palm, balsa, mangroves, hot springs, and a small forest area and is well known by the local people.



Management objectives:

- ✓ To protect the area and minimise unsustainable fishing practices to increase fish stock
- ✓ To Improve the Community Profile through capacity building to enhance knowledge and skills
- ✓ To balance gender equity by involving women and young girls in decision making at the community level

Patanga LMMA in brief

Established:	01/08/2009
Size:	5.1 km ²
Ownership:	Customary land (5 clans)
Management:	Outdated Management Plan (2004); Management Committee (7 members), but limited effectiveness; local community undertakes some surveillance; no work plan.
Staff/volunteer:	No paid staff; about 10 volunteers
Finance:	No budget
Other:	No equipment, resources or facilities; no tourism

Our people

History, culture and traditions

Patanga customary landowners comprise five main clans, including Naruna, Pasibola, Nokonamarea, Poke and Tupai. There are no people living with the LMMA. However, the LMMA landowners live in coastal villages with about 800 people who are subsistence farmers/fishers, using the sea and the environment around them for food, shelter and other economic needs. There are sacred or masalai sites in the LMMA. *The matrilineal clans own the resources and protect the protected area based on their marine tenureship.*



Karebu renga (blue striped surgeon fish) which is culturally important. It forms part of the reasons for reef closures (tambu areas). (Available at: <https://reefguide.org/acanthuruslineatus.html>)

Traditional rules

The protected area is controlled and used by clans, who are landowners, and access is given through user rights.

There are also traditional practices that are of a conservation nature in that they help maintain the values of the LMMA. For example, reef closures, where one part of the reef is closed for six months – there are no fishing activities in this period in the area. Similarly, fishing grounds may be closed especially if a person who commonly uses the area passes on... The LMMA Management Plan identified certain reefs for spatial and temporal closure.

Specific zones within the LMMA are identified in the management plan.

These zones each have their permitted uses and restrictions. Use and access to resources in the LMMA by other people are identified in the Management Plan. If they are related to a person with ownership rights, access and use must be through this person.

Participants' perspective on what they like about Patanga LMMA

Patanga LMMA is part of the Kimbe Bay Marine Protected Area Network. The area is well conserved by the community. We have sacred sites where people are not allowed to go near. The area also has hot springs, mangroves, seagrass, sago palms, edible seaweeds, coral reefs and sea cucumbers.

We have realised that mangroves have reached their peak and they needed protection from being over harvested. There is a specific seagrass species that is frequently eaten by dugongs, and it grows within the conservation area. This seagrass attracts dugongs when it sprouts.

The sago palms grow within the buffer zone of the protected area, and they are mostly harvested by people with user rights only. Seaweed (piako) is a medicinal herb used mostly by diabetics and people with high blood pressure. It is also a form of income for locals(us). Sea cucumbers are eaten by locals as a delicacy. Seashells and fish are decreasing in numbers due to increase population.



Key Values, Condition and Trend

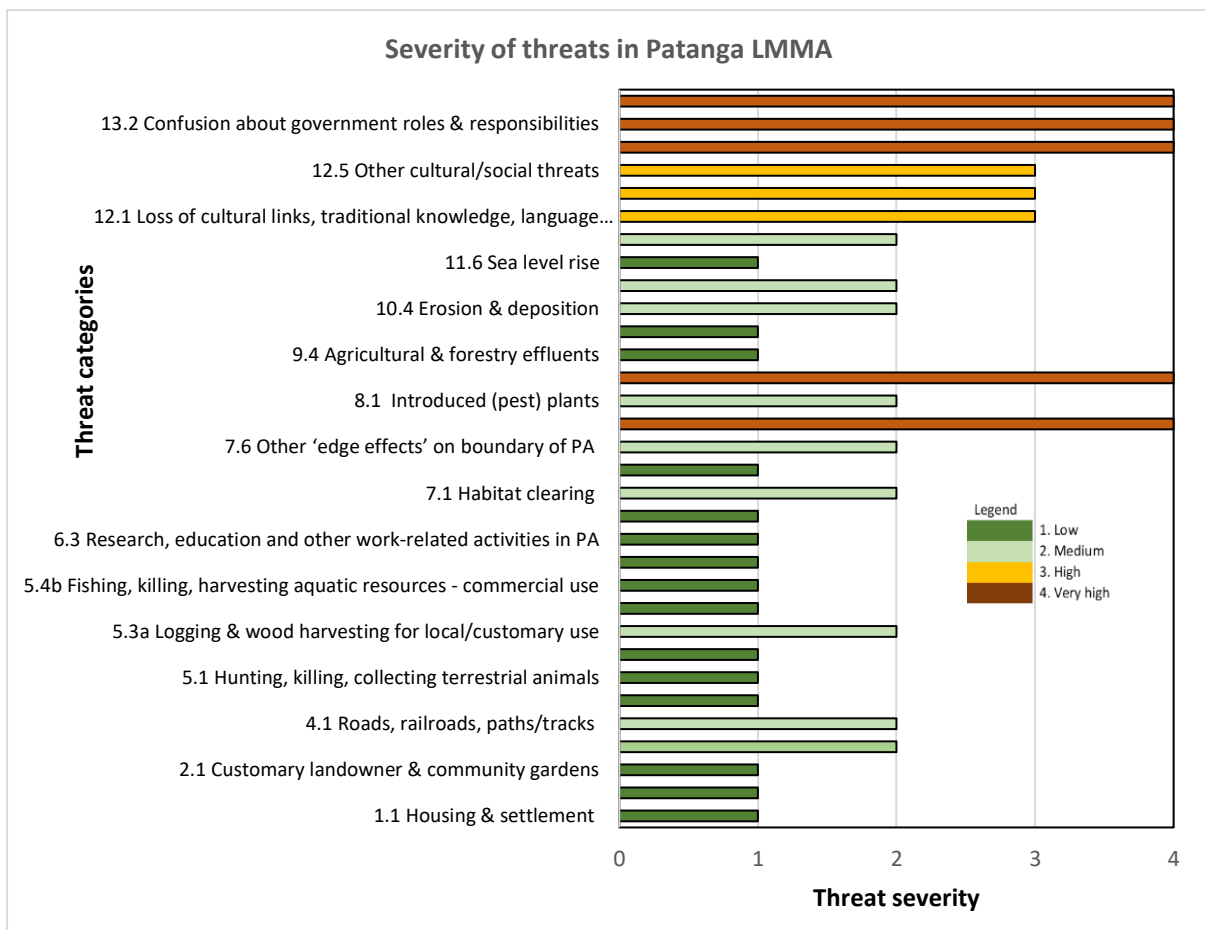
Value	Condition	Trend	Description
Coral reefs	Good	↔	Four main reefs. Six-month closure of these reefs has seen a recovery in most of the key values. Poki reef is a sacred site in the LMMA (traditional conservation practice)
Mangroves and wetlands	Fair	↓	<i>The wetland is drying and most mangroves are drying up and have no shoots</i>
Freshwater	Good	↓	Home to freshwater animals, agent for transportation of nutrients, spawning area for certain saltwater fish species
Seagrass	Good	↔	Seagrass meadow is recovering and extending to other areas. <i>There is a specific seagrass, the smallest of all seagrass that attracts dugongs to come and eat. This is a special seagrass to the community</i>
Beach area	Good	↔	Important area for the community. Disposal of rubbish into the conservation area is slowing due to continuous awareness and less deforestation
Cultural sites	Good	↔	Cultural sites within the PA are in good condition and remain stable despite increasing population pressure. A challenge is the knowledges associated to these sites as not many elders are alive any more. <i>We have hotspots, sacred sites, masalai sites.</i>

Benefits and negatives related to name of PA and type

Benefits	<p>Fish populations have increased, <i>especially in spill-over reefs near the conservation area.</i></p> <p>Shoreline area is clean - <i>the community take ownership of cleaning and maintaining the beachfront and people are very mindful of beach usage.</i></p> <p>Community is taking ownership of conserving their marine resources - <i>Monitoring and surveillance of the conservation area is undertaken by local communities, who take ownership in protecting the conservation areas from outside poachers. The LMMA has encouraged people to participate in its management.</i></p> <p>Improved community profile - <i>increased capacity building in terms of skills and knowledge gained through attending conservation training. Improved skills in monitoring and surveillance. Education and awareness programmes incorporated into lower schools, e.g. mangrove planting by schools.</i></p> <p>Women and young girls participate in decision making at the community level - <i>traditionally women and young girls implemented whatever decisions were made at the houseman by males. Times have changed and women have started to participate in decision making e.g. increase in awareness on gender violence, family planning, more women and young girls are educated</i></p>
Negative impacts	<p>User rights and accessibility have been taken away through the LMMA management plan</p> <p>User rights conflicts - <i>no proper or wide consultation with resource owners concerning the LMMA. Also, people have started going into [other] people's areas since the LMMA was established and it is not as effective now.</i></p> <p>LMMA raised false expectation in the local communities through previous NGOs working with them. <i>The establishment of the LMMA raised false hopes within the communities to provide incentives. As a result, the locals are not abiding by the management rules. Breaching of laws within LMMA is evident.</i></p>

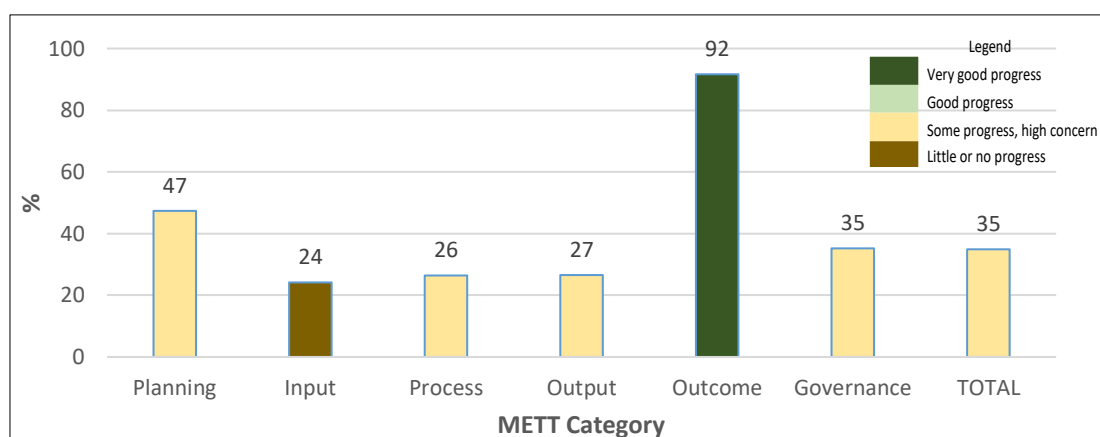
Threats to Patanga LMMA’s values

Description	Extent, Severity and Impacts
Population increase in the protected area	Population increase will increase pressure on the marine resources within the conservation area. This will result in the depletion of resources. The practice of unsustainable or harmful methods of fishing is detrimental to the conservation area and there are negative mindsets.
Climate change and severe weather	Seagrass meadow degraded and have changed in colour from green to brown; sea level rise and coastal erosion; mangrove species dying out; unpredictable weather and tide patterns; and intrusion of salt water into well/bore water. These have severe impacts on the conservation area.
Poor government support for conservation areas.	Lack of funding for infrastructure, lack of capacity building for local rangers, and improving financial literacy for young girls and women; lack of effective coordination from government sectors.



Input of sediment from coastal rivers into the LMMA (2021)

Protected Area Management Effectiveness – Summary of Results



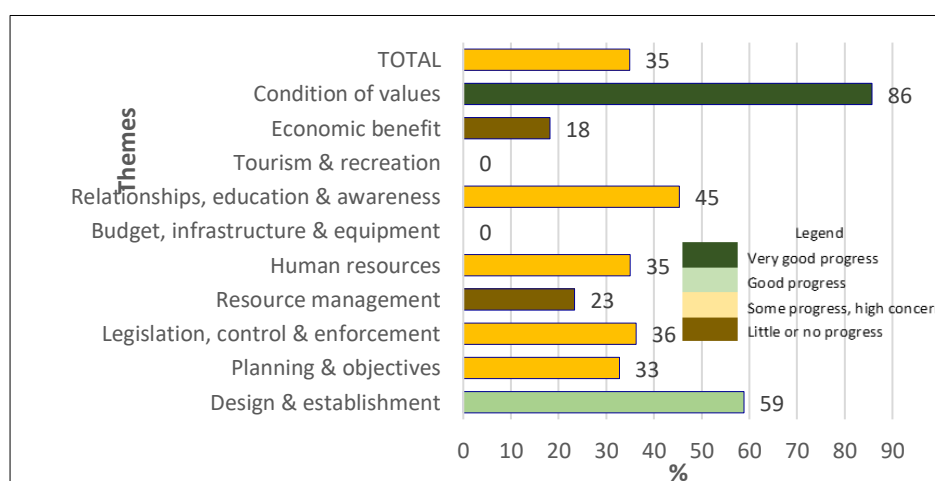
Evaluation – key findings

Element of evaluation	Result
Planning	<p>LMMA is recognized under the Talasea LLG Marine Environment Management Law (2004) Management Plan (2009) is outdated and only partially implemented, but there are agreed management objectives that address ecosystem and species needs; no work plan</p> <p>Outside planning frameworks take little to no account of the PA</p> <p>PA boundaries and design are satisfactory (with a desire to expand the boundaries to include water catchments)</p>
Inputs	<p>Good traditional knowledge about the PA, but no recent surveys; reliant on traditional knowledge and a few people who worked with TNC</p> <p>No staff, although a few people undertake important management activities (e.g. monitoring of values in zones and doing awareness raising)</p> <p>No budget or budget security; no equipment and facilities</p> <p>Very little input from the provincial and local level governments (LLG) (advice mainly); no support from CEPA, or District representatives. Some previous help from NGOs</p>
Process	<p>Rules and guidelines exist (in outdated management plan) but are not enforced. Custom and traditional laws/systems of management are mainly used as it relates to resource management for food security and resilience</p> <p>Boundaries are mapped (GIS) and most landowners and outside residents are aware of the boundaries, however only some respect the boundary; LLG/Districts aware of boundaries</p> <p>Management committee has new members and meets randomly</p> <p>No equipment or facilities to assist management or enforcement</p> <p>No law enforcement; protection systems are partially effective in controlling outsider access</p> <p>The working environment is generally safe</p> <p>No research/survey work or monitoring. Some ad hoc resource management takes place</p> <p>Some initial discussion about likely impacts of climate change; no specific policies on carbon management and storage</p> <p>Broad understanding of ecosystem services</p> <p>Some irregular education and awareness training</p> <p>No contact/cooperation with adjacent government/commercial users, tourist operators</p> <p>Fees can be collected (but not currently)</p> <p>Customary landowners have limited input into management discussions (contribute through their clans and zone meetings); people with user 'rights' have input mainly at village meetings or ward days and through matrilineal ties</p> <p>Some management activities happen e.g. mangrove planting and management without technical support (on an ad hoc basis), but no routine management; no specific management programs to enforce zone rules/guidelines to help assess status of values</p>

Element of evaluation	Result
Governance	<p>Rule of law: Some rules are agreed to/documented, but there are weaknesses. Limited coordination between Management Committee and others. No prosecutions due to lack of enforcement; coordination is at the clan level and treatment of offenders is not uniform. Illegal entry and harvest of resources recurs and there is no enforcement/prosecution.</p> <p>Respect of rights: Some use/access rights clearly defined and documented. Most (>75%), people know their rights, but some are unclear about what the rules mean in terms of resources use</p> <p>Full and effective participation: Decision-making structures in relation to the Management Committee are unclear including PA decision making. (Vaguely captured in the Management Plan and are not widely known; few women or young people are involved in decision making and have little influence on decisions</p> <p>Transparency and accountability: PA decisions are made known to the community (during village/clan meetings)</p> <p>Dispute resolution: Processes are documented and known. Most are suitable across recurring PA issues, but gaps exist on who will lead. No evidence of cases being resolved</p> <p>Benefit sharing: No benefit sharing arrangements; inequitable sharing of benefits; no improvement in livelihoods over past 5 years</p>
Outputs	<p>No communication with CEPA, provincial government, LLG (Talasea), district representatives or Ward councillor; some communication with local NGO Mahonia Na Dari</p> <p>No programs to improve community welfare, while conserving the PA resources</p> <p>There is community support for the PA but requires improvement through good management</p> <p>Some benefits to community from the PA (good livelihood sustenance at family unit), but local commercial retail fish trade in Kimbe Bay is not well developed</p> <p>Minimal management of threats</p> <p>Connectivity is a key principle used in the establishment of the LMMA within Kimbe Bay</p>
Outcomes	<p>Most natural values are in a good condition and the status of key species and habitats is stable or has improved in cases</p> <p>Cultural values are predominantly intact as people still practiced and generally respected cultural norms and practice including rituals</p>

METT Themes

An alternative way to think about Patanga LMMA’s management effectiveness is to examine specific themes. In an overall sense the LMMA’s condition of its natural and cultural values demonstrates very good progress. Matters related to its design and establishment show good progress. while other themes demonstrate some progress but high concern. e.g. education/awareness raising, human resources and capacity, resource management, enforcement and control, planning and objectives. Two areas (tourism and budget, infrastructure and equipment) demonstrate little or no progress. Overall there has been some progress, but there is high concern for the future of the PA.



Strengths, Challenges and Ways Forward

Strengths	<ul style="list-style-type: none"> • Formally established as an LMMA (under Talasea LLG Marine Environment Management Law); outdated management plan; agreed objectives, various zones/use types, fines to enhance compliance (although not fully implemented) • Good awareness and support by community on the LMMA boundary and zones partly due to culture and traditions that underpin management • Management strategies, control and enforcement measures documented e.g. bans on use of derris roots and breaking of reefs to harvest giant clams – this has resulted in increased species numbers and larger species • Key values are in good condition, in part due to the establishment of zones with their agreed permitted access, use and guidelines, and the continued customary practices and norms (closure periods, to honour a death) • Increased participation of women e.g. in management decision making
Challenges	<ul style="list-style-type: none"> • Undertake a broad-based review of the Management Plan to ensure more effective management and support for the LMMA • Obtaining sufficient resources (technical and financial) to: review and update the Management Plan; implement training programs and skills development/capacity building (monitoring, surveillance, enforcement, finance, leadership, awareness raising) • Surveillance and enforcement of rules is difficult with limited equipment and logistics • Getting support from all levels of government to provide support and funding • Reinforcing recognition of traditional maritime practices • Raising the awareness of other communities about the LMMA
Ways forward	<ul style="list-style-type: none"> • Planning <ul style="list-style-type: none"> – review and develop an updated Management Plan, including revised objectives and clear definition of user/access rights – improve communication with outside planning frameworks that have the potential to impact on the PA (e.g. LLG and province and commercial land users) – expand the LMMA to include terrestrial environments (consider ‘starting with a buffer’) • Budget <ul style="list-style-type: none"> – seek funding for projects that will improve community sustainability and management e.g. <i>work with the LLG to incorporate the plan into the 5-year development plans</i> – identify and purchase essential equipment for management (e.g. boat and motor) • Employ and train rangers to work with the community to enhance sustainability outcomes and management effectiveness. Involve community in LMMA work (e.g. members from each clan) • Law enforcement and protection systems need to be agreed, clearly defined and equitably enforced • Education, research and monitoring <ul style="list-style-type: none"> – enhance information on the LMMA’s resources (natural and cultural) (e.g. mangroves, seagrass, coral reefs and other marine species and habitats) to assist in improving management – develop a community-based monitoring program • Enhance linkages and communication with all levels of government and neighbouring land users and settlements • Improve governance including: <ul style="list-style-type: none"> – clear documentation of rules, roles and responsibilities – develop benefit sharing arrangements and dispute resolution processes and – strive for greater equity • Awareness raising and capacity building <ul style="list-style-type: none"> – of LMMA community e.g. incorporate into school programs – of communities near the LMMA and outside e.g. mangroves and their importance <i>-need to be made aware not to illegally use/harvest mangroves</i>; general user/access rights clearly explained; include in women’s groups • Sustainability projects and tourism <ul style="list-style-type: none"> – there is potential for nature based and ecotourism activities in the LMMA. Dive tourism has high potential and could be explored – facilitate the sustainable production and sale of local products