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POLICY BRIEF

Legal frameworks for aquatic biosecurity and sustainable aquaculture

Purpose

This policy brief illustrates the legal aspects of aquatic biosecurity to assist Pacific Island countries and territories (PICTs) improve their legislation. In accordance with regional policies, this brief focuses on the importance of biosecurity regulations for sustainable aquaculture development and provides recommendations for the adequate control of aquatic pests and diseases, based on the most recent international standards.

Key messages

Regional efforts to harmonise national legal frameworks have led to the adoption of modern biosecurity legislation by more than half of all PICTs over the last two decades. Although these biosecurity laws generally cover all animals and plants, including marine and freshwater organisms, implementation remains a challenge in the aquaculture sector because specific guidance is needed for aquatic species.

The overarching areas for improving of national legal frameworks on aquatic biosecurity are both institutional and regulatory, and call for:

- clarifying the roles and responsibilities of competent authorities and government services, including through memoranda of understanding and delegation of authority, based on actual institutional capacity for management and surveillance of aquatic species; and
- adopting specific regulations and adequate standard procedures for aquatic species (e.g. aquatic disease control, fish movement and pest management), accompanied by training authorised enforcement officers in the new rules.



Aquaculture and biosecurity

Aquaculture is the fastest growing food producing sector in the world, contributing to almost half of the global food fish supply. If not managed sustainably, aquaculture presents biosecurity risks that may impact its productivity, and affect human and environmental health. In the Pacific region, the aquaculture sector is expanding, thereby increasing its contribution to food security and to the livelihoods of island communities. However, the unique and biodiverse aquatic environments of PICTs are particularly vulnerable to biosecurity risks.

Like elsewhere, the domestic and international trade of aquaculture species may increase the risk of introducing invasive species and transboundary aquatic animal diseases, including zoonoses (diseases shared between animals and people). Coastal ecosystems housing aquaculture operations are also vulnerable to climate change impacts, such as ocean warming and sea level rise, and to ocean acidification, which can lead to the increased risk of disease outbreaks and the establishment of pest species. If implemented effectively, adequate legal frameworks for aquatic biosecurity can contribute to building the sustainability and resilience of the aquaculture sector.

What is biosecurity?

Biosecurity is the protection of the economy, environment, biodiversity and human health from the negative impacts associated with the entry, establishment and spread of organisms including pests, diseases and invasive species.

Source: [SPC 2003](#)

Several international standards guide policymakers and legislators in developing regulations and policies for aquatic biosecurity, which in turn increases the quality and safety of aquaculture products. These standards are also relevant to the Pacific region. For example, the Sanitary and Phytosanitary Agreement 1994 of the World Trade Organization applies to the international trade in goods, including fish and fish products. Under this agreement, the international standard-setting bodies for animal health, plant health and food safety are, respectively: the World Organization for Animal Health (WOAH); the Secretariat of the International Plant Protection Convention; and the Codex Alimentarius Commission of the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization.

Seaweed farming in Tonga ©Garcia (SPC)



Governance Framework

The *Regional framework on aquatic biosecurity 2020* (the Framework) specifically aims to harmonise, develop and promote enforcement of coherent national aquatic biosecurity policies, regulations, procedures and practices. It also highlights regional challenges identified by PICTs in relation to national legislation on aquaculture and aquatic biosecurity, such as limited quarantine procedures, outdated or lacking legislation for health certification and limited biosecurity plans in aquaculture facilities.

Sustainable aquaculture productivity in the Pacific requires strong collaboration by different institutions, agencies and other key stakeholders involved in aquatic biosecurity at the national level. The development of clear and streamlined aquatic biosecurity legislation is paramount for defining the roles and mandates of each ministry and for overall good governance. It also enables the adoption of effective regulations on the movement of live aquatic organisms, the introduction of exotic species, the control of aquatic disease outbreaks and fish and fish product safety.

Regional efforts

- 2007 Pacific Model Biosecurity Bill (Port Moresby)
- 2008 SPC Policy Brief on Aquatic Biosecurity
- 2010 SPC Policy Brief on Biosecurity Legislation
- 2019 MASA Aquaculture Business Development Strategy
- 2020 Regional Framework on Aquatic Biosecurity



Recommended priority actions

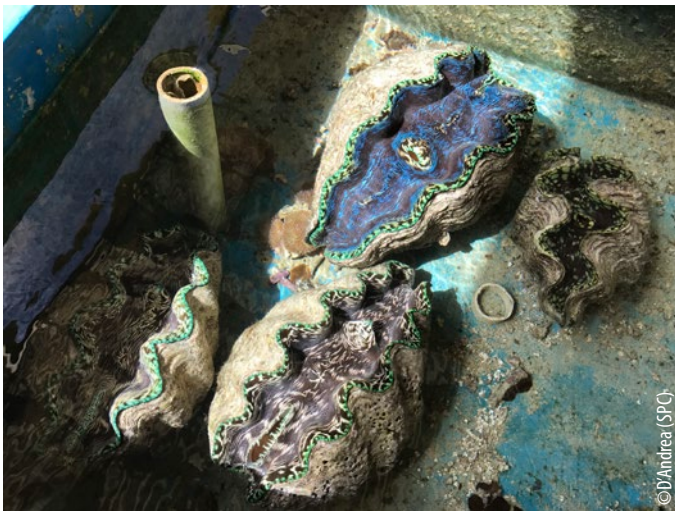
To strengthen national legislation governing aquatic biosecurity and aquaculture, the following priority actions should be considered:

1. Competent authorities for aquatic biosecurity:

- Biosecurity and marine resources legislation should clearly identify the roles and responsibilities of government agencies in dealing with aquatic biosecurity particularly to provide on aquatic disease investigation and reporting requirements and prevent overlap.
- Where PICTs rely on multiple agencies for livestock, fisheries and aquatic biosecurity, adequate coordination mechanisms should be developed and a clear chain of command established, particularly for quarantine, disease diagnosis and surveillance, and for health certification, including phytosanitary or sanitary permits and import or export permits.

2. Specific regulations on aquatic biosecurity:

- c. Aquatic animal and plant health should be regulated to ensure aquatic disease control, including in aquaculture establishments. Regulations may require a list of notifiable diseases for national and international reporting on pests and diseases, mandatory and continuous disease surveillance activities, control over disease-infested zones, and any compensation mechanisms, particularly in the event of disease outbreaks or pest emergencies.
- d. The movement, import and export of fish including spat, live fish and fish products or fomites should be regulated, including the domestic transfer and transport of live fish to and from aquaculture facilities within and between islands, and biosecurity plans should be specifically required from aquaculture establishments.
- e. Aquatic pest management requires extensive regulations, including on the introduction of marine organisms, wastewater discharge from aquaculture establishments, ballast water discharge from ships and invasive alien species control. Contingency planning is also recommended for diseases listed in the WOH Animal Health Code, including elements of a disease response. Vectors and potential introduction pathways should be included in the pest/disease control scheme and specifically regulated, particularly from or into aquaculture establishments.



Further reading

SPC 2020. Regional framework on aquatic biosecurity. Noumea, New Caledonia: Pacific Community. 28 p. <https://purl.org/spc/digilib/doc/23nkb>

Garcia-Gomez R. 2020. The importance of aquatic biosecurity for the Pacific Islands region - SPC Policy Brief #34. Noumea, New Caledonia: Pacific Community. 4 p. <https://purl.org/spc/digilib/doc/ptmbq>

FAO. 2023. Legal frameworks for sustainable aquaculture. FAO Legislative Study No. 117. Rome, Italy: Food and Agriculture Organization of the United Nations. 232 p. <https://doi.org/10.4060/cc6018en>

Contact details

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