The Pacific Island countries face complex issues around the development of socially robust, sustainable and resilient infrastructure. A key challenge of planning for infrastructure and urban development in the Pacific Islands is incorporating practical measures for dealing with the increasing incidence and severity of coastal hazards (including periodic inundation and coastal erosion) due to climate change. Another key feature of infrastructure planning is to design, prepare and implement projects that are appropriate to the environment and scale of island geographies and ecosystems, and to their social-cultural environments.

There is a long history of unsustainable practices of planning and development for island infrastructure and evident conflicts between development tracks and the different economic, environmental, social, cultural outcomes that they achieve. Some emphasise economic growth, others emphasise pathways out of poverty, or targeted programmes of development and related assistance. Many Pacific low-lying atolls and exposed islands are particularly vulnerable to climate change, but the impacts of climate change are not restricted to sea level rise. There are wider impacts such as increase severity of extreme weather events, droughts and coral bleaching events that also affect the raised atolls and high islands that are usually surrounded by protective reef systems. These issues are exacerbated by waste management issues and land clearance that contribute to further waterway pollution, erosion and degradation of ecosystem services.

All island types have issues of concern around infrastructure project development: biodiversity loss, resilience to climate change, high levels of poverty and social-economic disadvantage, food insecurity, gender inequality and uncertain futures for youth. While these impacts and issues affect all levels of the community it is most often the more socio-economically vulnerable people who suffer the greatest effects. These issues raise questions about the use of participatory planning and the transparency of decision making and environmental governance. Greater resilience is possible through enhanced land and water management and planning systems, and from infrastructure that contributes to improvements in social-economic wellbeing, resilience and sustainability goals.

Pacific countries have infrastructure needs (building and maintenance) in multiple sectors including low-carbon energy production, electrification and potable water supplies in remote areas and villages, road improvements, airports extensions and improvements, port facilities and harbours, telecommunications, primary processing, produce markets, waste management, sanitation, health and education. To assist with these needs across the region the Pacific Regional Infrastructure Facility (PRIF) is a multi-partner coordination and technical assistance facility for improved infrastructure. The PRIF development partners are the Asian Development Bank, Australian Department of Foreign Affairs and Trade, European Union, European Investment Bank, Japan International Cooperation Agency, New Zealand Ministry for Foreign Affairs and Trade, United States

Department of State and the World Bank Group. PRIF works with member countries to identify and prioritise national infrastructure plans, donor financing and support for sustainable infrastructure management.

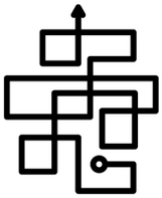
Alongside the current phase of infrastructure development there is a strong interest across the Pacific in adding to the capacity to undertake impact assessment and enhance the sustainability outcomes of infrastructure projects. The Secretariat for the Pacific Regional Environment Programme (SPREP), headquartered in Apia, Samoa, is the premiere regional inter-governmental organisation charged with the protection and sustainable management of the Pacific Island countries and territories. One of SPREP's key goals is the development of environmental governance and promotion good practice in impact assessment. SPREP have developed and published a series of guidelines on impact assessment that are used widely through the Pacific including: *Strengthening Environmental Impact Assessment, Guidelines for Pacific Island Countries and Territories*. These 2016 guidelines set out the environmental impact assessment (EIA) process for promoting positive project outcomes and sustainable development. Importantly for practitioners the regional EIA guidelines, as they are known, also provide templates and checklists for project screening, terms of reference for an EIA, and reviewing EIA reports.

The regional EIA guidelines have been endorsed by all the SPREP Members and cited by the World Bank and ADB as good practice for the region in the PRIF Shared Approach. SPREP has subsequently produced the *EIA guidelines for coastal tourism development in PICT* (2018) and *Strategic Environmental Assessment (SEA) Guidelines for PICT* (2020) and *Good Practice in Environmental Impact Assessment for Coastal Engineering in the Pacific* (2022), along with providing training and support to member countries and territories to build capacity for better practice in impact assessment. The training and guidelines focus on the interconnectivity of the socio-economic and environmental impacts of development, emphasising the need for meaningful early and ongoing stakeholder engagement with enforceable environmental management and monitoring plans.

Due to the vastness of the Pacific region and remoteness of its many islands, face to face support has long been difficult. This was further highlighted during the pandemic with border closures and restrictions on gatherings. In order to address this issue SPREP was able to leverage off its existing practice network to deliver much of its support virtually to Members.

The Pacific Network for Environmental Assessment (PNEA) Portal was established by SPREP to support capacity building programmes for EIA and SEA across the Pacific Island countries and territories. PNEA is the principal network of a fast-growing community of practice for impact assessment across the Pacific. Their internet portal provides access to guidelines documents, resource materials, training materials including webinars, email blasts and a regular newsletter. PNEA also assist regional practitioners with requests for advice on any matters relating to safeguards, EIA and SEA and provide a platform for peer-to-peer sharing. It is possible for practitioners to subscribe free to the network to gain access to the training modules, resources and email updates.

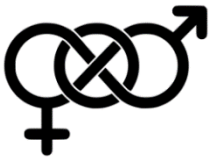
A number of issues stand out when considering the use of impact assessment in planning for infrastructure development in the Pacific. These issues include the following:



Complex safeguards arrangements are a particular problem for projects in many countries, where external funding sources are utilised. Safeguards requirements and compliance is often a complex combination of country and funder requirements. To successfully meet all the project requirements project developers often have to enlist external consultants with knowledge of the systems of development banks and donors. The mix of requirements can result in a stop-start-stop approach to planning with adjustments to project components and resulting changes in impacts as originally assessed, and then ongoing revisions and updates to approvals and to environmental and social management plans. The results are increased project timelines and costs, short-cuts to participatory processes and assessments of impacts, and a lack of time and commitment to build local capacity in IA.

Benefit sharing for infrastructure projects needs careful assessment and clear articulation. Projects generally are designed to create positive impacts, while negative impacts are mitigated or managed to enhance the net outcome for people and communities. A number of benefit-sharing mechanisms and institutional arrangements can be possible and desirable (Schulz and Skinner, 2022) and should be considered as part of project impact assessment with wide participation to determine community needs, including support for the capacity of affected communities to absorb any new arrangements. It requires extensive coordination between the various stakeholders to take place, to achieve an understanding of what benefit sharing will entail and how it will be delivered. One issue is that benefit sharing is often seen as a form of pay-out, so it is important that all parties clearly define the objectives of any provisions they design. Another issue is that benefit sharing is not impact management nor is it merely a form of compensation, or the provision of any offsets for the loss of assets, including ecological, cultural and heritage assets. Benefit sharing is also not remediation of past mistakes such as environmental clean ups encountered in a new project. The matter of benefit sharing is therefore potentially contentious and donors have varying requirements for how it is applied, although generally it is aimed at disseminating the financial benefits of a project to the wider community and society in the form of programmes to enhance livelihoods, living standards, skills and technical capacity. It can also be used for synergistic infrastructure projects that offer benefits to the community through health, security, sanitation or other initiatives.

Cumulative effects come from the combined impacts of a single or several activities or events on a receiving environment over time. Common examples in the Pacific include the effects of climate change, waste and pollution on areas subject to successive development of infrastructure, such as ports, coastal roads and causeways, and reclamations for urban growth affecting reef systems or coastal vegetation including mangrove forests. Other examples are the spread of tourism infrastructure across small islands and coastal areas, and nitrification and sedimentation of lagoons from agricultural activity, urban waste and storm water. The important feature of these sorts of cumulative impacts is that they often result in a wide range of consequential effects, including on cultural practices, livelihoods, food security and human health. The focus of cumulative assessment therefore is often on valued environmental components. Assessment of cumulative effects requires skills in strategic assessment, systems and spatial analysis, ecological and social analysis, integrated assessment and participatory appraisal.



Gender and social inclusion are considerations in most projects. The PRIF facility recently commissioned a report on this topic and it identifies priority groups in relation to social inclusion. There are multiple groups potentially impacted by infrastructure development in the Pacific that face at least some level of social exclusion. These groups include “women and girls, people with disabilities, rural and remote communities, residents in urban settlements (often migrants from rural areas), ethnic minorities, youth, and the elderly” (Jones, 2022). An inclusive approach to infrastructure development looks to generate positive outcomes for the human rights and social wellbeing of all social groups and utilises an inclusive, participatory approach to project planning, including all forms of impact assessment. Social impact assessment in particular plays an important part in ensuring there is analysis of social disparities in any social baseline analysis, an understanding of any impacts on human rights, and makes sure participatory techniques are used in identifying, analysing and managing impacts (Vanclay, et al., 2015).

Grievance redress mechanisms (GRMs) are an under-utilised tool in the Pacific Islands (and elsewhere). GRMs provide projects with an important way to maintain ongoing engagement with affected people and a channel for communicating progress, and to address any new issues arising from impact mitigation and management. Key concerns with using GRMs are their often complex and bureaucratic arrangements and the involvement of multiple parties who might be channels for grievances arising from a project. These different parties can include contractors on the ground undertaking project works, a lead contractor, project owners, and responsible agencies. Often grievances reflect unresolved issues such as the use of customary land, payments and distributions of royalties, and confusion over the

distribution of project benefits. Grievances can also build from previous failures to deliver project benefits or to remediate previous environmental damage. Gendered GRM processes are an increasing focus for impact assessment internationally and require particular attention in the Pacific (Kimotho and Ogol, 2021).

Monitoring and audit procedures are an important aspect of project compliance to national, donor and multilateral requirements and standards. These procedures also provide an important set of data for evaluations of project outcomes including post-project assessments and assessments by third parties such as NGOs. Assessments are usefully designed consistent with established frameworks such as the UN Sustainable Development Goals (SDGs) and specialist indices such as the Multidimensional Vulnerability Index for SIDS. A key issue for monitoring and compliance is the mix of requirements when projects consider the multiple needs of host governments, donors and multilateral organisations such as development banks. It is therefore essential to develop an agreed framework for environmental and social monitoring, including spatial boundaries, early in project implementation. SPREP has maintained a particular focus on environmental monitoring and governance and supports countries through resources and technical support including national environment data sharing and reporting.

The demands of implementing these requirements all too often fall on small regulatory agencies that are ill equipped to deal with due to the administrative requirements, inexperienced staff, high levels of staff turnover, small budgets/resources. The resulting problems are compounded by ever increasing numbers of complex projects, expansions and requirements to revise legislation. It is therefore critical for the success of the EIA process that capacity building and empowerment of regulators and regional practitioners continues.

In conclusion, Pacific Island countries are in an unprecedented era of infrastructure development with funding from multiple donors and funding sources. These ongoing developments require robust but workable systems of environmental and social assessment and management. Support for impact assessment is provided by SPREP as the central regional entity and there is an active community of practice through the PNEA. A number of issues need attention in the use of impact assessment in planning for infrastructure development, as outlined in this paper. Members of NZAIA can further support local and donor efforts to address these issues in ways appropriate to island cultures and environments and their unique challenges due to climate change.

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