



Policy Brief for Donors

Healthy Environments, Resilient Communities: The vital role of sanitation for improving climate resilience in the Pacific

It is well known that the climate crisis is a water crisis, however the links between climate change and sanitation are often less acknowledged and understood. Climate change is significantly impacting sanitation services across the Pacific, however climate-resilient sanitation also holds the key to poverty alleviation and improving the resilience of communities to climate change. Unless Pacific Islands Governments lead a concerted and cooperative effort to prioritise and mobilise resourcing towards sanitation access, the 2050 Strategy's vision of a resilient, healthy, equitable and prosperous Pacific cannot be realised.



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WaterAid



The Climate and Sanitation Nexus: Why we need to act now

The Pacific Island Countries are among the most vulnerable to climate change in the world and face a unique set of threats including sea-level rise, frequent tropical cyclones, coastal inundation and droughts. This means that they are constantly exposed to threats of extreme climate events and the frequent economic and non-economic damage they cause. Even under a low emissions scenario, economic losses from climate change in the Pacific are predicted to reach 4.6% of the region's annual 2100 GDP equivalent. Pacific Island Leaders have repeatedly recognised the existential threat of climate change to the livelihoods, security and wellbeing of the Blue Pacific Continent's people and declared a climate emergency in July 2022¹, calling on all development partners to prioritise climate action.

Universal access to safe sanitation is a foundational public service and at the heart of sustainable development.

The Pacific region is one of the most off-track regions to meet the SDG 6 targets for basic drinking water, sanitation and hygiene services by 2030. Between 2000 and 2020 over half a million people gained access to basic sanitation in the Pacific, however the sanitation gains were outpaced by population growth; the population practicing open defecation in the region increased by almost 50,000 people. Approximately 70% of the population in Pacific Island countries currently lacks access to basic sanitation services, and open defecation rates are increasing in countries such as Papua New Guinea (PNG) faster than any other country in the world. The need for sanitation is even more urgent in the context of Pacific Island countries' high vulnerability to the impacts of climate change and its impacts on human and environmental health, and economic resilience.

¹ Communiqué of the 51st Pacific Islands Forum Leaders Meeting, held in Suva, Fiji, July 2022



70%

population in Pacific Island Countries lacking basic sanitation services

“Safe sanitation underpins the very feasibility of Pacific Island Countries ... our national and international development goals are unlikely to be met without increased advocacy and financial support for water and sanitation, which will require renewed leadership and investment at the national, regional and international level.”

Pacific Island Country Statement to the 2nd Asia-Pacific Water Summit, 20 May 2013

Sanitation is the management of human excreta, including faeces, urine and menstrual blood. Inadequate sanitation services produce hazardous conditions through which human excreta may contaminate environments, food, and water, exposing people to potential disease.

Climate-resilient sanitation means strong sanitation systems, services, and behaviours that are ecosystem-aware and build community resilience and can be appropriately restored or maintained to reduce vulnerabilities, despite slow onset or acute climate hazards.



The impacts of climate change on sanitation

Whilst the links between climate change and water are increasingly recognised, the links between climate change and sanitation are less prominent in global conversations. All sanitation services are directly at risk of impact from a changing climate and climate-related disasters, with cascading impacts on users and ecosystems (below). Climate change will increasingly impact sanitation through widespread damage to critical sanitation infrastructure from flooding, droughts, and sea-level rise, contamination of drinking water sources from overflowing septic tanks, discharge of untreated wastewater into important aquatic ecosystems that provide livelihood opportunities, and exposure to pathogens from increased open defecation and

unsafe hygiene practices.

These climate hazards can cause significant economic and non-economic loss and damage that cannot be avoided through mitigation or adaptation. The Pacific is already experiencing climate impacts through increased intensity of cyclones and flooding. Long-term sanitation planning must consider climate change hazards, including adapting existing systems to withstand climate impacts, and acknowledging that in some instances destruction may be inevitable and allocating budgets for frequent repairs and rehabilitation.



Economic Losses

Income:

- Sanitation service delivery disruptions
- Tourism
- Economic productivity declines from loss of fisheries due to pollution from sanitation issues

Physical assets:

- Destruction of sanitation infrastructure from cyclones
- Corrosion from drought and sea-level rise
- Sewage system failure during floods

Non-economic Losses

Individuals:

- Loss of life from disease outbreaks
- Health issues e.g. water borne diseases
- Childhood developmental issues such as stunting

Society:

- Exacerbation of existing vulnerabilities and inequalities e.g. women & girls, people with a disability
- Unequal access to sanitation facilities
- Reduced productivity and economic returns

Environment:

- Loss of ecosystem services from wastewater/ faecal sludge pollution
- Water borne diseases
- Loss of critical coastal habitats e.g. coral reefs, mangroves that provide coastal protection and food security
- Pollution of drinking water source

How off-track is sanitation in the Pacific?

The Pacific region is one of the most off-track regions to meet the SDG targets for basic sanitation with the situation more dire in rural areas, schools and healthcare facilities:

- **Households:** Pacific sanitation rates are dragged down by low sanitation rates in a few countries with large populations (Figure 1). Rural areas typically have lower sanitation access than urban areas and in PNG and the Solomon Islands as few as 1 in 5 households have basic sanitation services.

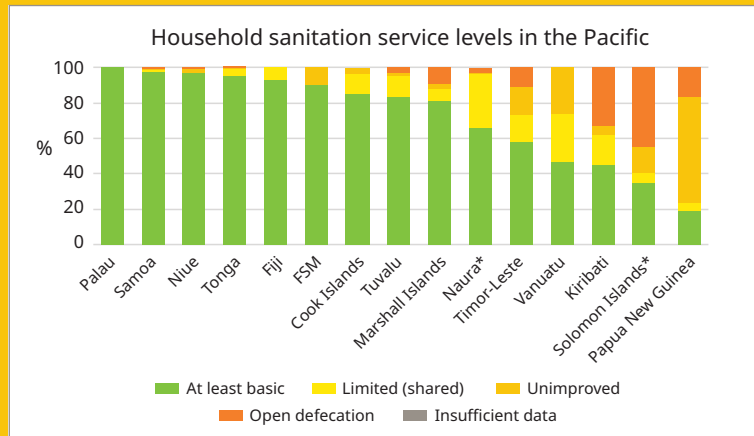


Figure 1 – Household sanitation service levels from JMP data 2022

- **Schools:** The Pacific is the worst-performing global region for sanitation access in schools, with 40% of schools having no sanitation service at all. The Solomon Islands and PNG have the highest (64%), and seventh highest (42%) proportion of schools in the world without any sanitation service respectively.
- **Healthcare Facilities:** The Cook Islands is the only Pacific country with basic sanitation in the majority of its health care facilities. Papua New Guinea is ranked seventh-worst in the world for sanitation services in health care facilities: 32% of HCFs had no sanitation service in 2019.

“Excessive nutrient inputs are causing eutrophication and associated macro-algal blooms in some of our lagoons. This is leading to nearshore habitat loss, decrease in fish numbers, and causing challenges for fishermen. Inadequate sanitation including poorly functioning septic systems, are thought to be the main contributors to the excessive nutrient loads to the lagoon.”
 H.E. Kausea Natano, Prime Minister of Tuvalu
 Statement to the 4th Asia-Pacific Water Conference, April 2022

Access to universal, safe sanitation services is critical to alleviating poverty and achieving outcomes across the entire SDG agenda. The links between sanitation and the rest of the SDG agenda are often overlooked within governance and financial systems, and seldom play a prominent role in sustainable development planning. Climate change and unsafe sanitation combined can tip ecosystems into collapse with cascading impacts on food security and fisheries, human health, tourism and the safety of coastal communities from extreme weather events through the degradation of critical ecosystems such as coral reefs and mangroves. Inadequate sanitation and its toll on health, livelihoods and productivity costs Pacific Island countries 1.6% of their GDP each year.



\$10

economic return for every \$1 invested in basic sanitation in the Pacific.



2.7%

proportion of global overseas development aid currently directed to sanitation and water supply



<1/3

proportion of WASH overseas development assistance directed to sanitation



The definition of poverty used for the Global Goals is that everyone has access to basic services of which sanitation is one of the most fundamental ones.



Providing access to safe and sustainable sanitation systems can increase the number of girls attending school. Creating awareness around menstrual hygiene and sexual and reproductive health and rights through education can positively reinforce sustainable and inclusive practices and reduce discrimination against girls.

Sanitation workers often face discrimination and suffer from health risks due to a lack of access to sanitation, excluding them from the workforce leading to economic losses and limited opportunities to build livelihoods. Ensuring safe sanitation services can generate \$86 billion per year in greater productivity and reduced health costs.

Supporting inclusive access to sanitation services can reduce discrimination against marginalised communities and lead to improved access to education, including supporting the rights of slum dwellers and those residing in rural low-resource settings.



Re-using water for sanitation can reduce pressure on natural resources. Building a circular economy through innovative waste to energy sanitation practices can reduce waste and greenhouse gas emissions.



Safely disposing sanitary waste rather than burning or incineration can improve air quality and reduce emissions, as well as reduce terrestrial ecosystem contamination from open defecation.



Treating human waste can reduce environmental contamination and improve environmental health, thereby supporting ecosystems that provide critical services such as food.



Building gender inclusive toilets can improve the safety and privacy of women and girls. Including menstrual hygiene management facilities in projects can support school attendance among girls and other vulnerable groups.



SDG 6.2
By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations



Encouraging capacity building and behaviour change across the sanitation sector can lead to improved resilience of communities to climate change through poverty alleviation, food and water security, and reduced disease burden from water-borne diseases.



Building inclusive toilets can reduce discrimination against women and people with disabilities. Improving access to water resources flushing and hygiene can reduce conflicts within communities.



Safely disposing human waste can reduce pathogen transfer and reduce mortality from water-borne diseases. Implementing safe sanitation can support maternal and infant health and reduce the number of premature births and under 5 mortalities by mitigating mental and physical stress for pregnant women and girls.



Supporting green technologies such as ecological sanitation systems and waste to energy conversions can boost productivity and cost savings and reduce water consumption.



Increasing funding and investment in sanitation can support small to medium scale enterprises gain access to the market, including achieving co-benefits such as innovation in the waste and energy nexus.



A lack of access to basic sanitation services is enough to classify a dwelling as a slum. In larger cities, access to sanitation also has benefits in terms of improving amenities and liveability, improving productivity, human capacity and foreign investment.



Safely disposed human waste and wastewater can reduce impacts on coastal and marine ecosystems supporting positive biodiversity, and food security from reduced contamination of fisheries and aquaculture.



Climate-resilient sanitation services are built on a foundation of cross-sectoral partnerships and leadership to achieve joint outcomes across climate resilience, human health and ecosystem health.



LeFAI / Dion Kombeng



3%

global disease burden associated with poor sanitation and water.



1.6% of GDP

annual economic losses due to inadequate sanitation and water in the Pacific

The poor state of sanitation has widespread implications for climate resilience and sustainable development in the Pacific:



Public health concerns. Outbreaks of sanitation-related diseases such as cholera and typhoid remain common in parts of Kiribati, Marshall Islands, Solomon Islands and the Federated States of Micronesia (FSM). In 2019, the Solomon Islands and Kiribati were respectively ranked 11th and 13th in the world for deaths per capita from diarrhoeal disease.



Childhood nutrition and development. Sanitation is a key contributor to childhood stunting². Stunting affects almost half of all children under five in Timor-Leste and PNG, and is above the global average in the Marshall Islands, Vanuatu and Solomon Islands.



Educational attainment. Sanitation access in schools helps reduce student absenteeism and drop-out rates, especially among girls.



Freshwater resource protection. In low-lying atoll states like Kiribati, Tuvalu and the Marshall Islands, poor sanitation threatens the quality of scarce freshwater resources.



Climate vulnerability. In urban areas of Fiji and Vanuatu, inadequate sanitation access contributes to the growth of informal settlements into flood-prone areas.



Tourism and economy. The importance of tourism to national income in some countries, such as the Cook Islands and Fiji, has been a primary reason for developing sanitation policies to preserve public health and ecology.



Environmental health. Poor sanitation impacts the environmental health of lagoons, reefs and fisheries. This has had flow-on effects to livelihoods and national economies in countries including the Cook Islands, Samoa and Tonga.

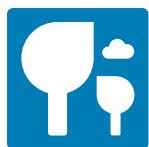
² Stunting is an indicator of a child's impaired growth and development from poor nutrition and repeated infection.



Why is sanitation in the Pacific so off track?



Systemic failures and underinvestment. The water and sanitation sector systems of many Pacific countries have a history of underinvestment and neglect. Sanitation financing, especially from overseas aid, has often been project-based and has prioritised capital expenditure on major infrastructure over establishing the systems required for basic sanitation services. Fragmented approaches to financing rarely consider the sanitation service chain holistically, leading to skills shortages in key services, and gaps in the recurring finance needed for service operation, maintenance and rehabilitation. Aid and development financing should be targeted more strategically to strengthen sanitation sector systems and catalyse more sustainable local investment in sanitation.



Challenging geographies require contextually-appropriate sanitation technologies. Challenging environments in the Pacific range from atolls with high water tables across Micronesia and Polynesia, to steep mountainous terrain in Papua New Guinea, Solomon Islands and Timor-Leste, and high-density urban centres with limited land for sanitation treatment facilities. Technology must also be affordable for the poorest households and accessible for people with a disability. Within each country, and even each island, multiple sanitation technologies and service models may be required to respond to localised conditions.



Expensive market access and costs of doing business. The Pacific's relatively small and fragmented populations - isolated by vast ocean distances or challenging mountain terrains - lead to complicated and expensive sanitation supply chains which inflate the costs of sanitation products and services and limit the economies of scale possible elsewhere.



Limited political prioritisation. Global experience shows that political prioritisation can catalyse rapid sanitation improvement. Governments in the Pacific countries with high sanitation rates typically have the greater public investment in water, sanitation and hygiene (WASH) while those with the lowest sanitation rates – Papua New Guinea, Solomon Islands, Kiribati and Vanuatu – typically have the lowest budget allocations for WASH, as little as US\$1.3 per capita per year. Within this, sanitation is often neglected; less than 7% of public WASH budget is directed to sanitation in Solomon Islands and Vanuatu.



Cultural taboos. The highly gendered nature of many sanitation topics introduces additional sensitivities about who can participate safely in community dialogues, especially in the many patriarchal cultures.



Social structures and norms. Social norms and cultural customs in the Pacific can be both an asset and a challenge to sanitation. Customs such as kastom, wantok and vanua may drive rapid sanitation behaviour change in communities through social relationships and reciprocity. However, highly localised customs may limit the scalability of successful sanitation programs.

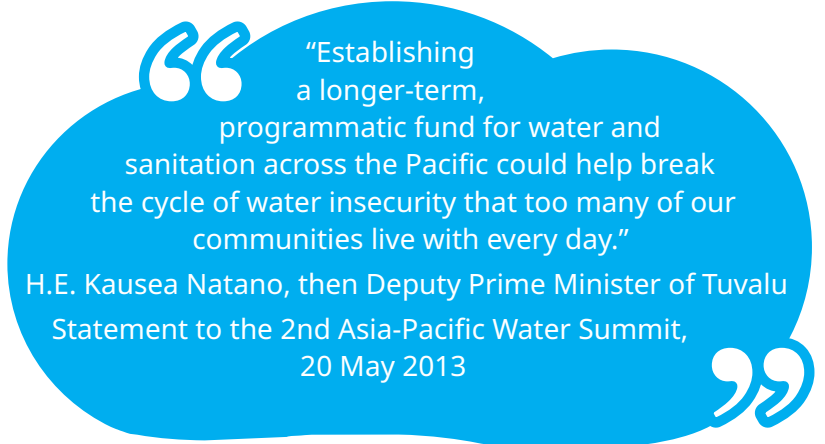


What should donors do differently?

A significant step change is needed in recognising sanitation as a foundational public service for human health, ecosystem health and climate resilience in the Pacific. Donors should support Pacific Leaders to drive their 2050 Strategy for the Blue Pacific Continent forward, including government-led sanitation initiatives to strengthen resilience, health, equity and prosperity.

Within climate financing commitments, the focus from donors on water issues risks leaving sanitation even further behind. Donors must prioritise universal access to sanitation as a core component of their climate adaptation initiatives to ensure development progress that has already been made in the Pacific across the SDG agenda is not undermined by the combined impacts of climate change and unsafe sanitation. Donors have an opportunity to shift their funding models from infrastructure-heavy projects which contribute to fragmented sanitation financing to funding programs which strengthen national government sanitation systems and markets that leverage household and private sector investment. This includes mobilising resources to operationalise sanitation commitments in Pacific Islands' National Adaptation Plans and incorporating sanitation indicators into Loss and Damage financing initiatives.

Reaching everyone in the Pacific with climate-resilient sanitation services requires better evidence, knowledge and awareness of appropriate sanitation service solutions. Donors can fund projects that test the appropriateness of existing service



models in different contexts and develop guidance for improving the resilience of sanitation services to climate change. Donors can also invest in technological innovations, regional knowledge exchange, and scaling appropriate solutions across countries. Reaching everyone in the Pacific with climate-resilient sanitation services requires better evidence, knowledge and awareness of appropriate sanitation service solutions. Donors can fund projects that test the appropriateness of existing service models in different contexts and develop guidance for improving the resilience of sanitation services to climate change. Donors can also invest in technological innovations, regional knowledge exchange, and scaling appropriate solutions across countries.

Donors should consider the following recommendations to catalyse the change needed for climate-resilient sanitation in the Pacific



Partnership

- **Fund a Pacific sanitation coalition** to facilitate Pacific-wide access to technical expertise, policy development support, capacity development and knowledge exchange. The coalition could be housed within an existing organisation like SPC.
- **Prioritise partnership-based models** between sanitation and other sectors such as conservation in future climate adaptation programs.



Service delivery

- **Support capacity development of government and sanitation service providers** to enable sustainable service chains that prioritise operation and maintenance and community-level ecosystem-based approaches.
- **Invest in private sector innovation** to demonstrate contextually-appropriate sanitation service models for rural, low resource settings across the Pacific.
- **Fund upgrades to wastewater and faecal sludge treatment plants**, serving urban centres in the Pacific such as Port Moresby, Suva, Honiara, Port Vila, Koror and Apia to integrate circular economy principles and resource recovery. These upgrades should be co-financed by governments and utilities where possible.



Policy and planning

- **Fund projects to generate evidence of effective** sanitation technologies and service models in different Pacific contexts. Evidence is needed to enable better decision-making and strategic planning, and develop guidance for climate resilience of sanitation services.



Financing

- **Increase the proportion of funding dedicated to basic sanitation service systems, including within climate financing commitments and Loss and Damage funding.** Basic sanitation is foundational for national development and community climate resilience.
- **Prioritise funding to strengthen sanitation enabling environments.** Donor investments in policies, regulations, community engagement, capacity and workforce development can leverage financing from government, the private sector and service users and create conditions for sanitation service models which are more financially sustainable in the long term.

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