

# ADAPTATION ACTIONS



**WASH TRAINING**



**MANGROVE PLANTING**



**CORAL PLANTING**



**WATER TANK INSTALLATION**



**CLIMATE-PROOFING OF INFRASTRUCTURE**

## AND MORE....

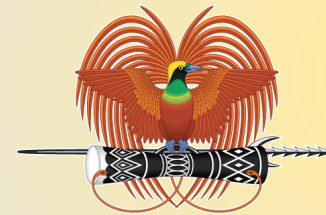
CLIMATE CHANGE & DEVELOPMENT AUTHORITY

Adaptation and Projects Division

P.O. Box 4017, Boroko 111

POM, National Capital District

(+675) 7531 1710 | info@ccda.gov.pg | www.ccda.gov.pg



# 9 PRIORITY AREAS FOR ADAPTATION



Nine adaptation priority areas have been identified and prioritized in key national documents, including the Intended Nationally Determined Contribution (INDC), the Climate Change Management Act of 2015, the National Communications, and the GCF Readiness Support for NAP Project for PNG, the CCDA Climate Change Corporate Plan, and the GCF PNG Country Program.

## 8. Water & Sanitation

PNG's population is among those with the least access to safe water supply in the world. The GoPNG's Water, Sanitation and Hygiene (WASH) Policy 2015- 2030 indicates that 89% of people in urban areas and 33% in rural areas have access to safe water, while 57% of urban dwellers and only 13% of the rural population have access to basic sanitation. Climate change impacts from coastal and inland flooding and landslides risk increasing cases of malaria and vector-borne diseases, as well as contaminating drinking water. This priority area is linked to the health, natural resources and environment, and water and sanitation sectors.

## 9. Landslides

Triggered by increased rainfall intensity and land-use changes in the mountainous rural areas of PNG, landslides frequently cause damage to vital infrastructure, homes and gardens, and upland forests. PNG ranks 1st in global landslide hazard profiles, according to a World Bank Hotspot study. In recent decades, landslides have caused considerable damage to road infrastructure and remote communities. Landslides have caused significant damage along the Highlands Highway, the sole lifeline for the highland communities and export businesses. Increases in rainfall and inland flooding as a result of climate change will increase the likelihood of landslide events. This priority area is linked to the transport, infrastructure, health, natural resources and environment, water and sanitation sectors.





## 1. Coastal Flooding & Sea Level Rise

Coastal flooding and sea level rise continue to affect the coastal regions of PNG. The sea level surrounding PNG has risen by approximately 7mm per year since 1993 and is anticipated to continue to rise. Under a high emissions scenario, the sea is expected to rise between 4cm - 15cm by 2030. This will impact storm surges and flooding to coastal regions. Risk of flooding (both coastal & inland flooding) is ranked amongst the highest level of climate risks in PNG and coastal flooding is anticipated to increase, particularly in PNG's northern areas. Rising sea levels are having an impact on agricultural crops grown on coral atolls, including swamp taro and coconut, where the freshwater lens is being intruded by saltwater resulting in a loss of production and an impact on livelihoods. This priority area is linked to the transport, infrastructure, agriculture, urban development, natural resources and environment, and water and sanitation sectors.

## 2. Inland Flooding

Driven by heavy irregular rainfalls, inland flooding regularly affects valleys and wetlands in both the lowlands and the highlands. Most of PNG experiences flooding during the monsoon season. This impacts most rural livelihoods, which are highly reliant on agriculture. Approximately 18 percent of the country's total landmass is experiencing flooding. The effects of inland flooding are amplified by steep inclines and deforestation. Inland flooding is projected to increase in wetlands and valleys in highlands and lowland areas. This priority area is linked to the transport, infrastructure, agriculture, urban development, and water and sanitation sectors.



## 3. Food Insecurity

Variability in agricultural yields affects many of PNG's agricultural regions. The highland regions are particularly sensitive to variability in agricultural yields as a result of a change in climatic conditions. Sweet potato, coffee and cocoa are examples of climate sensitive crops. Subsistence farmers are affected the most and may need to look for alternative crops. This priority is linked to the agriculture sector.



## 4. Cities & Climate Change

PNG is experiencing an increase in rural to urban migration. Climate change exacerbates existing urban development challenges and vulnerabilities, such as poor health, inadequate housing, and lack of access to infrastructure, basic services and social safety nets. Urban areas on the coast are under threat of storm surge and sea-level rise, and, in PNG, cities are often located in hazard prone areas in the coastal zone. This priority area is linked to the transport, infrastructure, health, urban development, and water and sanitation sectors.



## 5. Climate-Induced Migration

Climate change affects patterns and rates of internal migration and urbanization within PNG. Vulnerabilities faced by rural communities, exacerbated by climate change, are a key driver for rural to urban migration within PNG. Key hotspots, where rates of climate change-induced migration are high, include urban areas, outer islands and atolls, and coastal, delta and riverine communities, and communities prone to drought. Resettlement of climate-induced migrants will be complicated by the requirement for access to land and resources, including the provision of sustainable livelihoods, housing, infrastructure and public services such as education and healthcare. This priority area is linked to the transport, health, education, urban development, and water and sanitation sectors.



## 6. Damage to Coral Reefs

As atmospheric CO2 concentrations continue to rise, oceans will warm and continue to acidify. Under all three emissions scenarios, ocean acidification is projected to increase in the waters surrounding PNG. Data shows that ocean acidification around PNG has slowly been increasing since the 18th century, impacting the growth of corals and organisms that require carbonate minerals to develop. This damage will impact the health and viability of PNG's marine ecosystems, including the coral reefs that provide ecosystem services to communities. There are 15 coastal provinces in PNG with a population of approximately 4.5 million that rely on food, shelter and livelihoods sourced from coral reefs. Not only do the reefs contribute to livelihoods, but also protect the coastlines from storms and loss of land. This priority area is linked to the transport, infrastructure, fisheries, agriculture, natural resources and environment, and water and sanitation sectors.

## 7. Malaria & Vector-Borne Diseases

Malaria in PNG is one of the top five health priorities presently challenging the health sector. Malaria severely affects daily life in PNG, with 1.7m people infected every year. About 60 percent of the population lives in high-risk malaria regions. Over the last 20 years climatic changes resulting in rising temperatures have worsened the effects of malaria with malaria vector mosquitoes carrying the malaria parasite establishing itself in the highlands where it was not previously present. Migration of malaria to densely populated highland regions with no immunity is a high risk to the community. Poor environmental health management, poor waste management and poor water and sanitation management provide an environment for increased and optimal breeding conditions for malaria parasites. This priority area is linked to the health, water and sanitation sectors.

