

Climate Change Adaptation & Risk Mitigation

Overview



Papua New Guinea (PNG) is ranked as the 9th with the highest disaster risk rating globally as of 2021. The country is prone to many natural disasters including cyclones, drought, earthquakes, floods, landslides, tsunamis and volcanic eruptions due to its geographic location.

In addition, PNG is ranked #51 on Global Climate Risk Index 2021, much higher than its Pacific counterparts implying its high vulnerability to climate disasters and impacts.

A World Bank study published in 2021 suggests that hazards such as flash floods, land-slide, and coastal flooding are all likely to intensify. The population affected by river flooding and its economic damages is projected to double by 2030. Exposure to hazards is significant and likely to increase, with many rural communities living in flood and land-slide risk areas, and coastal communities and infrastructure exposed to sea-level rise with potential amplification of future storm surges.

Extreme heat is very likely to present a human health risk in PNG, with health risks associated with potential new exposure to diseases being poorly understood, while degradation of natural resources, including water sources, and shifts in the viable ranges for plant and animal species, potentially reducing agricultural yields, and accelerating the decline of PNG's unique ecosystems.

In short, without significant global mitigation and local adaptation action, PNG's communities face very significant increases in disaster risk as a result of climate change, which are likely to disproportionately burden the poorest communities.



Photos [top & bottom]: Riwo Primary School students in Riwo, Madang learn about Disaster and Climate Change



Aspirations



- Build communities' resilience to and preparedness for extreme weather events through crop diversification, climate smart agriculture initiatives and prudential savings culture
- Promotion of sustainable land and critical habitat management.
- Enhance sustainable livelihood environment through improved ecosystem and biodiversity conservation
- Improve access to climate-responsive water and sanitation in both rural and urban areas
- Increase communities' awareness and capacity to prepare, mitigate and respond to climate disasters

Programming Approach



Climate Change Adaptation and Community Based Disaster Risk Management

- With reference to National Disaster Mitigation Policy and the Disaster Management Act, WV places high emphasis on Climate Change Adaption while addressing relevant disater risk management.
- WV works to increase awareness and knowledge of climate change and climate disaster risks of children, schools and communities.
- WV targets to strengthens capacity of community and government through risk mapping, and disaster preparedness incase of increased frequency and severity of climate disasters.

Climate Sensitive WASH

- WV works to improve systems of water supply, treatment, storage, water resource management & climate change resilience, by installation and rehabilitation of water management systems.
- In face of increasing hydrological disasters and instability water resources, WV is actively exploring alternative technology (e.g. solar pumps for boreholes), as well as incorporate climate risk management awareness raising into WASH activities for communities.
- As the chair for WASH Cluster in PNG, WV also leads the Cluster's drafting of Disaster Preparedness/Contingency Plan for drought and floods to guide stakeholder's effort in early action and emergency response.

Climate Smart Livelihood

- Guided by "National Climate Compatible Development Management Policy" & "PNG E-Agriculture Strategy", WV considers the impact of climate change and possible disaster into project designs.
- WV incorporates resilient and sustainable farming practices (e.g. intercropping), nature-based livelihood practices (e.g. mangrove planting) and climate resilient food crops (improved varieties of taro, yam, etc.) as a holistic approach to improve livelihood in communities.
- Savings and financial literacy trainings are introduced as a disaster risk reduction mechanism.
- WV is an active member of Food Security Cluster and serves on Technical Working Group for Inclusive Green Finance Fund.



Ongoing Project Highlights



AHP Child Focused Disaster Risk Reduction

- Donor: DFAT OPPOSE Project Duration: January 2018 December 2022
- WV works to ensure communities are better prepared for rapid and slow onset disasters, with rights and needs of women, people with disabilities, youth and children are being met in disaster preparedness and response at all levels
- In partnership with Self Help Centre, disability-friendly videos for 12 schools and 10 communities were developed with sign language teacher engaged to narrate in sign language on topics related to climate change, how to prepare, cope and respond to disaster.
- A series of activities and events are used to raise awareness and knowledge of children and community on climate change and disaster hazards, including mangrove planting, poem writing, storytelling and picture drawing based themed around impact of climate change or traditional stories of disaster events, benefiting 249,130 people.



Ongoing Project Highlights





Planting mangrove is important because it can protect us from rising sea levels and be a home for small fish to breed", says Stephanie.

Stephanie was among 600 school children who took part in planting 700 mangrove seeds along the coastline of Riwo in Madang Province to celebrate World Environment Day on June 11, with the theme - Ecosystem Restoration.

Through the project, children learn about the ecological importance and different uses of mangroves as a natural defense of the coastlines, swamps and breading space for fish stocks."



Photos Riwo SDA Primary School students plant mangroves to protectr thier coastline from Climate Change

https://www.wvi.org/stories/papua-new-guinea/children-plant-mangrove-trees-address-climate-change

Bougainville Economic and Heath Resilience Project

- Donor: MFAT OPPOSE Project Duration: : August 2018 December 2025
- ⑥ Budget: USD 2,277,000 ♀ Location: Autonomous Region of Bougainville
- While the project generally focuses in improving nutrition and livelihood access, climate resilience has been incorporated as cross-cutting theme.
- Orientation on climate change and improved farming practices are included into agricultural trainings, whereas households and farmers are also introduced to improved resilient crop varieties by PNG National Agricultural Research Institute (NARI).
- Evidence also shows that Savings Groups are increasing resilience among climate change affected communities, which is main intervention of the project.

Building Resilience Communities in Madang

- Donor: PNG Incentive Fund / DFAT
 Project Duration: June 2020 May 2022
 Budget: USD 599,000
 Location: Madang Province
- WV works to build capacities of 15 low lying coastal and island communities to prepare, respond to, and recover from the impacts of climate change and disasters via enhanced awareness of risks and positive actions to address climate change, adoption of sustainable and resilient livelihoods, and improved access to disposable income and fund adaptive measures to absorb shocks.
- This project also aims to improve the local 's Early Warning System to facilitate timely dissemination of weather information so as to enhance preparedness.
- WV works in partnership with National Agriculture Research Institute, Department of Agriculture & livestock and Commerce Division including Working District Committees of respective communities to build resilience.

Ongoing Project Highlights





"By 2022, we would like to see people in our target communities apply current climate and disaster information services and are adjusting their food and livelihood production systems in response to climate change." Says Vele Emilio, the project coordinator.

World Vision's Project team works in close partnership with NARI and DAL to empower people in Sumkar, Madang and Raikos (Raicoast) districts to inspire an improved livelihood to counter climate change, addressing the climate-impacted food security of low laying, inland and coastal communities in the province. So far, successful dry-land rice farming has been achieved, with milling and packaging support and training provided for 679 farmers (354 females & 325 males).

https://www.wvi.org/stories/papua-new-guinea/rice-farming-building-more-resilient-communities

AHP COVID-19 Response Pacific Package (drought/floods & covid)

Donor: DFAT / AHP OPPOSED Project Duration: : July 2021 - June 2022

- WV works to enhance resilience to shocks and reducing negative coping mechanisms related to household income, given most households depend on localised agricultural practices for food provision, surplus for trading, and/or income streams, which is highly susceptible to impacts of various hazards, such as drought & floods, which is increasing frequent in North Fly and Middle Fly Districts.
- Farmers are trained on improved farming techniques (e.g. conservation farming and seasonal calendars), provided with climate sensitive & improved varieties of root crops and legumes, as well as orientated on financial literacy and savings.
- Improvement to sustainable drinking water sources is also included to build communities' resilience.

South Fly Resilience Plan

Donor: DFAT OPProject Duration: : January 2021 - September 2022

Budget: USD 2,562,000 ♀ Location: Western Province

- Western Province is routinely affected by droughts and floods which compound poverty and increase socio-economic vulnerability. South Fly District experiences a monsoonal climate and has been known to experience drought conditions in the dry season and flooding in the wet season. The District is also located in a region that is adversely affected by the El Nino-Southern Oscillation, experiencing extreme drought conditions during El Nino event, while La Nina events may contribute to higher than normal rainfall and could increase flood risk.
- WV strengthens community's resilience to water-related disasters and improves water quality via rehabilitation and/or installation of rainwater tanks, rainwater catchments, boreholes, sand dams, latrines and handwashing stations.
- It is PNG's 1st large-scale WASH implementation, across the entire district of South Fly, including the development of governance capacity of the district to design, finance, deliver and sustain inclusive, resilient WASH services.
- Procurement of desalinization units for early action during dry season or drought. WV is currently in discussion and coordination with various disaster management stakeholders, including community members, to identify drought response activation triggers, monitoring, procedures and responsibility, so that the measure could be sustainable.



ANCP Climate Smart & inclusive Cocoa in Usino

- Donor: DFAT Project Duration: July 2021 - June 2026
- Budget: USD 4,263,000
 Q Location: Madang Province
- Addressing the issue of changing climate patterns and reduced relevance of traditional knowledge, WV provides training on climate change adaption and access to weather information to farmers and communities for making timely and responsive decisions and planning for farming
- Addressing the issues of increased pest outbreak of Cocoa Pod Borer (CPB) under warming weather, farmers are supported to improve access to more resilient hybrid clones of cocoa seedling and are trained and supported on Integrated Pest Management (IPM).
- To reduce impacts and severity of climate disasters, farmers and communities are also sensitized on climate risk and land use management, including watershed level Disaster Risk Reductrin mitigation.

Disaster Response Improvement Project

- Donor: World Vision USA ©oject Duration: August 2018 - December 2025
- Budget: USD 100,000 ♀ Location: Autonomous Region of Bougainville
- WV builds awareness of communities towards disaster risk and climate change, as well equip communities with preparedness mechanism and community-based disaster risk reduction trainings
- Under climate change, rising sea level is currently experienced throughout Bougainville, impacting, livelihood, housing, health, food and water security. Communities are also more susceptible to climate disasters, such as floods and seawater intrusion.



A king tide is the highest predicted high tide of the year at a coastal location. It is above the highest water level reached at high tide on an average day.

A massive king tide occurred during 4th -6th December, 2021, impacting Invius community, Wakunai District. Fortunately, the affected community underwent the Community Based Disaster Risk Management Training during Jun-Sept'21, with Community Disaster Risk Management Committee established.

Subsequently, as the king tide hit, around 100 people from coastline community were evacuated efficiently to higher grounds timelily, reducing the risk of loss of lives, injuries and losses.

During field visits on the 10th of Dec'21, WV's WASH officers were informed by the Community Chief Mr. Dau that their community members were able to save their belongings and move to higher grounds on time. Mr Dau, acknowledged WVPNG's support and requested WV to support them in more trainings that would equip them further in Disaster Response.



Photo: Dau Billy standing on the beachside in front of his home at Inivus.

Connect with us

National Operations Director Clement Chipokolo Email: clement_chipokolo@wvi.org

National Director **Chris Jensen** Email: Chris Jensen@wvi.org

Grant Acquisition & Compliance manager **Christabel Chan** Email: : christabel_chan@wvi.org



