

Devastating Impact of Climate Change in Papua New Guinea: 'Loss and Damages'



Centre For Environmental Law
and Community Rights Inc.

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Introduction

Papua New Guinea (PNG) is located in the south west Pacific and encompasses the eastern half of New Guinea and its offshore islands. It is home to around 15 million people and more than 800 languages and thousand tribes.

Papua New Guinea, the largest Pacific island state, is also facing significant challenges due to climate change. As a nation with diverse ecosystems, including forests and coral reefs, it is home to 7% of the world's biodiversity. However, the impacts of climate change are already being felt in Papua New Guinea, leading to environmental challenges and global warming concerns.

Climate change is projected to have the greatest impact on the agriculture and water resources sectors, as well as the health and overall well-being of its people.

Papua New Guinea is experiencing the impacts of climate change, including landslides, deforestation, and loss of biodiversity.



Climate Change in Papua New Guinea

Papua New Guinea is among the top 20 countries most vulnerable in the world to the impacts of climate change.

Already, the country has experienced an increase in temperature of approximately 0.8-0.9°C, as measured in the difference between average temperature in 1900–1917 and 2000–2017 (World Bank 2021).

In PNG, inter-annual variation in precipitation can be very high. Annual precipitation in Port Moresby is typically lower than other areas and regularly fluctuates between 700 mm and 1,400 mm.

Located in the 'Pacific ring of fire', PNG is one of the countries most at risk to natural disasters, ranked 28th out of 191 countries in the 2019 INFORM Risk Index. PNG's ranking is particularly driven by the country's lack of coping capacity, for which it ranked as having the 11th lowest coping capacity in the world (world bank 2021).



Climate Change Impacts in Papua New Guinea

☐ Intensified rainfall;

Landslips;

Simbu Province, Papua New Guinea , April 2024

14 people buried alive in Gumine landslide

Tuesday, 2 April 2024, 3:31 pm



Heavy rains caused landslips in Gumine District, Simbu Province (PM's Media)



In May 2024; A fatal landslide in the Enga Province of PNG covered more than 2,000 people alive and destroy homes, livestock, gardens and infrastructure costing millions of dollars.

❑ Loss to livelihood and Infrastructure

According to the country's Second National Communication to the UNFCCC, inland flooding affects over 22,000 people annually, displacing over 6,000 people and typically resulting in a few deaths. Additionally, it is estimated that annual damage amounts to over USD 8 million. Changes in climatic conditions – both through increased average precipitation and increased extreme rainfall events – will strongly affect the impact of inland floods.



- Most parts of PNG are highly vulnerable to sea level rise, with the majority of socio-economic activities and infrastructure development located in coastal areas or vulnerable areas along rivers or in highlands.
- Climate related disasters are damaging critical infrastructure, disrupting transportation and communication networks

Flooding;

Flood affects thousands in Angoram District in East Sepik Province of PNG, March 2024



❑ Sea-level rise

- Carteret islands were among the first Pacific islands from which environmental refugees were documented, as a result of sea-level rise.

December 2021; World Bank preliminary reports indicate that in Bougainville, at least 3,400 people in four communities in the Carterets Islands have been affected.



- Sea-level rise also threatens the integrity of PNG's coastal resources and biodiversity. Notably, the mangrove forests found along New Guinea's north coast have been identified as vulnerable to submergence and loss.



Sea level rise causing shoreline degradation



Gulf Province, PNG,



Manus Province, PNG, 2018



Madang Province, PNG, 2023



Gulf Province, PNG

❑ Loss to Agriculture

About 80% of households in PNG remain dependent on subsistence agriculture and therefore, are highly vulnerable to climate-related hazards.

Between 2015 and 2016, El Niño caused drought that affected about 700,000 people with destruction of gardens and food and cash crops (World Bank 2021).

Sweet potato, coffee and cocoa are examples of climate-sensitive crops that Papua New Guineans are dependent on for food and livelihood. Multiple studies have suggested that sweet potato yields in PNG may decline by as much as 10% by 2050, as a result of changing climate conditions.



□ Human Health

- Climate change pressures, such as increased incidence of extreme rainfall, drought, and flood, as well as higher temperatures, represent environmental drivers of vector and water-borne disease. Diarrheal disease is a significant health risk in PNG.
- Around three in every 1,000 children die before the age of five as a result of diarrheal disease, and it is the cause of around 5% of hospital admissions (UNICEF 2019).



Activities contributing to enhanced GHG Emissions

Anthropogenic emissions are the primary factors influencing global warming and climate change. Between 2000 and 2007, PNG's emissions were zero. This is because the Land Use, Land Use Change and Forest sector was not contributing to emissions, rather, it was sequestering emissions from the other sectors.

PNG then transitioned from being a sink to an emitter of GHG during the periods of 2007 to 2017, largely as a result of deforestation and forest degradation (CCDA, 2022).

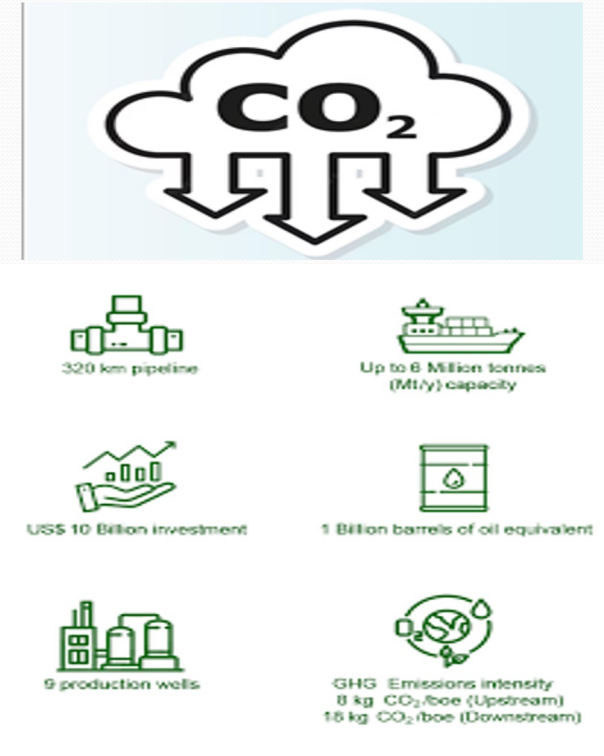


- Additionally, GHG emissions from PNG increases rapidly from 2014 to 2015 due to LNG Expansion from its first ever Oil and Gas Project the PNG LNG. Increase in greenhouse gas emissions from burning of fossil fuels and deforestation are key drivers of climate change.
- Yet, the PNG Government is developing a series of Oil and Gas projects with the Current Papua LNG Project possessing Climate, environment and Human Rights risks.

Climate Risks Associated with the Papua LNG Project

Over its lifetime, fossil gas extracted from this one project is anticipated to release the same amount of emissions – estimated at 220 million tonnes of carbon dioxide equivalent (MTCO₂e) – that it takes the entire population of Bangladesh (169 million people) one year to emit. The project also contravenes PNG's commitments to climate action on 1.5C under the Paris Agreement.

The Intergovernmental Panel on Climate Change and the International Energy Agency clearly state that to keep global temperature rise to within 1.5°C requires no new oil and gas field expansion.



Climate Change

Concerns

- **In Papua New Guinea**

CELCOR and five other Organizations are calling on all actors to respect the Paris Agreement and stop supporting fossil fuel expansion that is incompatible with the global objective of limiting global warming to 1.5°C

- **Across the globe**

50 civil society organizations sent an open letter to major banks and public lenders in the U.S, Europe, Asia and Australia who had financed an earlier LNG in the country or TotalEnergies projects in the Asia Pacific region.

- The IEA Net Zero Emissions by 2050 scenario concluded that no new upstream oil and gas project and no new LNG terminal are required to meet global energy needs.



Conclusion

Papua New Guinea is already bearing the brunt of climate change. The Loss and Damages caused by Climate Change in Papua New Guinea are staggering. Its time for action to reduce green house gas emissions and **'transition from fossil fuels'** to clean renewable energy.

❖ Call to Action

Stop supporting fossil fuel expansion that is incompatible with the global objective of limiting global warming to 1.5°C

Reduce carbon footprint through sustainable practices (*Transition from Fossil Fuels*)

Support Climate-Resilient Infrastructure development

Promote climate-smart agriculture and water management practices

Promote Community-led conservation efforts



Thank you Everyone



**TIME
FOR
ACTION**



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