



**United Nations Climate Summit**  
**Nature Based Solutions Track**  
**Forest Sector Contribution**

**Title**

*Sustainable Forest Management – Sustainable Land Use Planning, Forest Management and Improved Agriculture Practice*

**Context and rationale.**

Papua New Guinea (PNG) comprises of the eastern portion of New Guinea which is the largest tropical island in the world and contains the third largest tropical rainforest after the Amazon and Congo Basin. With over 80% of the 46.9 million total land area under forest (i.e. 33.7 million hectares), and a low deforestation rate of 0.04%, sustainable management of this national asset is critical to achieve the global targets of 45% GHG emission reduction over the next decade and zero emissions by 2050.

Developing countries are experiencing increase rate of forest degradation and forest deforestation. These losses of tropical rain forest are due to commercial logging and land use for agriculture purposes. In order to alleviate the loss of carbon sinks, one of PNG's government effort now is encouraging sustainable forest management as the key for using forest resource in the present without depletion of the resource for the future.

**An overview of the contribution.**

PNG's forests have been subject to significant impacts primarily from commercial logging, shifting agriculture and the expansion of commercial agriculture. While these elements are at the centre of PNG's rural economy on which 85% of the population are directly dependent it has also resulted in significant GHG emissions with emissions from the forest sector estimated through PNG's Forest Reference Level at over 41mtCO<sub>2</sub>e per annum in 2013 with the forest sector shifting from a net sink to a source of emissions in 2015.

In response to this PNG has committed to work to deliver emissions reduction related to reductions in emissions from deforestation and forest degradation as well as the sustainable management, conservation and enhancement of forest carbon stocks (REDD+). This approach has been confirmed by PNG's National REDD+ Strategy which sets out action across land use planning, environmental management

(including forest, environmental management and conservation actions) and action on sustainable agriculture as well as ongoing strengthening of capacity for managing, monitoring and reporting on the status of PNG's forests and ensuring that any changes are done in line with international safeguards.

In doing the above PNG will increase its climate ambition (by revising its NDC), improve forest management, improve sustainable land use planning and improved agriculture practices to ensure that the forest cover/carbon sink's capacity is maintained or improved. This will continue to provide livelihoods to 80% of the PNG's population who depend directly on forest for food, shelter, medicine and other cultural benefits

**How the contribution leverages living natural systems as a solution to avert climate change?**

The contribution will leverage the role of PNG's expansive forests as a critical global carbon sink and will work to conserve, manage, and enhance these forests areas.

**How might the contribution support both climate, mitigation and adaptation as well as other important co-benefits and social, economic and environmental outcomes in coming years. They may include:**

***Reduction in carbon emission and carbon capture (GTonnes)***

PNG's technically assessed Forest Reference Level (FRL) identifies annual emissions of over 40mtCO<sub>2</sub>e.

Estimates of potential emissions reductions that could be achieved through implementation of the National REDD+ Strategy indicate emissions reductions over the coming 10years of over 40mtCO<sub>2</sub>e are possible

***Increasing climate resilience***

Less obvious, yet equally important, is the role of forests in enhancing landscape resilience to climate change. These forests are significant as a global sink for greenhouse gases, they contribute to maintaining local and regional weather patterns, and are some of the most biodiverse in the world.

***Social impact (job increase; poverty reduction; Just transition, etc.)***

Since 80% of PNG's population live in the rural areas and are not formally employed, this initiative will increase job opportunities in terms of manual labour especially those living in the rural areas that have not made it through formal education.

***Net economic impact (total in US\$; how was it achieved?)***

Detailed economic models of the potential impact of NRS implementation have not been developed but indications exist that implementation could deliver significant increases in forest products from planted forests (over \$50m) as well as improvements in agricultural production through improved land management techniques as well as better planting stock. Initial models for this support indicate that support to 20,000 family palm oil block holders could deliver – additional 5

million tonnes of FFBmill benefits of USD 10 million / yr, and additional smallholder benefits of USD 4,500 per smallholder per year (total USD 33 million / yr). These benefits would also combine with opportunities for tourism development and as well as avoided economic costs linked to environmental degradation including loss of access to traditionally harvest foods (over 500 varieties of which are recorded in PNG, with the estimates of wild caught protein also indicating that replacing this source of protein would equate to a \$23m per annum cost to the rural economy). These benefits are additional to emissions reductions that could equate to over \$200m over 10 years (based on USD5 per tCO<sub>2e</sub>).

***Impact on realization of the 2030 Agenda for Sustainable Development (in particular SDGs 1,2,6,12,13,14,15,16)***

Forest is central to the cultural, economic and environmental wellbeing of PNG's rural communities, which make up some 80 per cent of the population and which has impact to all goals. Wellbeing is key to achieving all the goals.

Action will have a significant impact on the following SDG indicators:

<b>Global SDG Target</b>	<b>Indicator</b>	<b>Potential Impacts</b>
<b>1.1</b> By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	<b>1.1.1</b> Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	Improved economic opportunities for many of the poorest and most marginalised in society
<b>1.2</b> By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	<b>1.2.1</b> Proportion of population living below the national poverty line, by sex and age	As above
	<b>1.2.2</b> Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	As above
<b>1.4</b> By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic	<b>1.4.1</b> Proportion of population living in households with access to basic services	Enhanced support to rural forest areas will help increase access to basic services in these areas.

services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance		
	<b>1.4.2</b> Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure	Improved land use planning, engagement in development of community conservation areas and support to rural agricultural producers all through participatory processes will improve security of tenure for communities, in particular those most vulnerable to being excluded from existing decision making processes.
<b>1.5</b> By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	<b>1.5.1</b> Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	Improved resilience to natural disasters through reducing impacts of intense rainfall and storm events.
<b>2.1</b> By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	<b>2.1.1</b> Prevalence of undernourishment	Support to family and commercial agricultural production systems will help strengthen food security in rural areas, with increased economic activity in rural areas also reducing vulnerability to environmental shocks.
	<b>2.1.2</b> Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)	As above
<b>2.2</b> By 2030, end all forms of malnutrition,	<b>2.2.1</b> Prevalence of stunting (height for age <-	As above

including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age	
	<b>2.2.2</b> Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)	As above
<b>2.3</b> By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment	<b>2.3.1</b> Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size	As above
	<b>2.3.2</b> Average income of small-scale food producers, by sex and indigenous status	As above
<b>2.4</b> By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems,	<b>2.4.1</b> Proportion of agricultural area under productive and sustainable agriculture	As above

that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality		
<b>13.2</b> Integrate climate change measures into national policies, strategies and planning	<b>13.2.1</b> Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)	The National REDD+ Strategy represents a key national strategy that forms part of PNG's response to climate change including the overarching Climate Compatible Development Strategy, and PNG's Climate Change Management Act. These elements are being integrated into PNG's broader development planning framework.
<b>13.3</b> Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	<b>13.3.1</b> Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula	
	<b>13.3.2</b> Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions	PNG is working to strengthen capacity to the measurement, monitoring and reporting of emissions as well as provision of information on safeguards as part of its REDD+ process with significant increases in capacity across government.
<b>15.1</b> By 2020, ensure the conservation,	<b>15.1.1</b> Forest area as a proportion of total land	PNG's forest cover was over 78% in 2013 (PNG

restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	area	FRL) with targets set to reduce rates of decline in forest cover as well as increase area of planted forests.
	<b>15.1.2</b> Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type	It is proposed that 6.2mha of land area be placed under conservation.
<b>15.2</b> By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	<b>15.2.1</b> Progress towards sustainable forest management	Improvements in application of logging code of practice and move towards sustainability standards will improve levels of sustainable forest management.
<b>15.3</b> By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation- neutral world	<b>15.3.1</b> Proportion of land that is degraded over total land area	Degraded agricultural and forest land will be rehabilitated.
<b>15.4</b> By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development	<b>15.4.1</b> Coverage by protected areas of important sites for mountain biodiversity	A portion of the increase in protected areas will be in PNG's unique montane areas.
<b>15.5</b> Take urgent and significant action to reduce the degradation of natural habitats, halt	<b>15.5.1</b> Red List Index	Action on conservation will help to address species loss and conserve a number of endangered

the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species		species.
<b>15.9</b> By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts	<b>15.9.1</b> Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020	PNG is working to integrate requirements for biodiversity offsetting into development projects as well as integrate environment and climate considerations into its development planning framework linked to action on REDD+.
<b>15.a</b> Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems	<b>15.a.1</b> Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems	Increased public expenditure on forest conservation linked to action on REDD)

### ***Food security***

Forests play a direct role in supporting rural food security with more than 500 species of wild growing plants identified as being used for food and the value of annual bushmeat consumption estimated to be equivalent to \$26million if alternative meats had to be sourced.

Sustainable Forest Management will also target support to rural food production systems helping to increase productivity in line with government targets of 60% per unit area and the resilience of systems to shocks. Further development of cash economies in rural areas will also help to further strengthen this resilience to shocks by providing alternative access to food stuffs.

### ***Minimising species extinction and ecological losses and fostering an increase of biodiversity.***

The country's lowland forests have been ranked among the world's most ecologically distinctive forest regions, with the country's forests as a whole identified as containing 191 species of mammal (of which over 80% are endemic), 750 bird species (of which over 50% are endemic), 300 species of reptile and 197 species of amphibian<sup>20</sup>. PNG's montane forests are also recognized as being significant for their regional scarcity and levels of endemism. Action to effectively manage PNG's forests will help safeguard these species from harm as well as providing improve opportunities for them to adapt to a changing climate.

### **Which countries and organisations are involved in the contribution?**



Support from development partners including the UN-REDD Programme and is (implemented by UNDP,FAO and UNEP) JICA, GIZ the EU and the FCPF Readiness Fund implemented by UNDP.

**How have stakeholders (for example local communities, youth and indigenous peoples, where applicable) been consulted in developing the contribution?**

Consultations were done to all provincial capitals in identifying mitigation priorities. This feeds into a situation analysis from all sector representative including Technical Working Group Members on improving gender responsiveness and stakeholder participation in PNG's national REDD+ Strategy for sustainable forest management and its policies. This was undertaken in order to identify gaps, needs and corresponding recommendations for consideration.

**Where can the contribution be put into action?**

PNG aims to address REDD+ at the national level where reducing emissions from the forest sector becomes an important policy priority. As such, PNG has decided to develop its forest reference levels at this scale, where all REDD+ efforts are also better monitored and measured, as a result of the latest GIS and Satellite Land Monitoring Systems, equipment and tools which have been introduced and built into the country's existing national agencies. This will effectively contribute towards the country's policy directions and act as a guide for its forest policy.

**How the contribution will be delivered? How will different stakeholders be engaged in its implementation? What are the potential transformational impacts?**

It is envisioned that Sustainable Forest Management will be implemented through the role out of Policy and Measures within the implementing Agencies as per the PNG National REDD+ Strategy. The PAMs look toward addressing the three main drivers of deforestation which include a) Commercial Agriculture b) Commercial logging c) Family Agriculture (Subsistence Agriculture). Achieving the proposed activities within the NRS will result in achieving REDD+. Stakeholder engagement will be essential toward achieving REDD+ - at the sub-national level and at the national level, for this reason a Stakeholder Engagement assessment was completed within the three pilot provinces. Transformational impacts are envisioned within the NRS and thus articulated in the NRS Vision. Achieving continued economic growth through a sustainable manner can be considered transformational.

**Is this initiative contributing to other Climate Action Summit work streams (industry transition; energy transition; climate finance and carbon pricing; infrastructure, cities and local action; resilience and adaptation; youth and citizen mobilization; social and political drivers; mitigation strategy)?**

REDD+ has the potential to add value to Agriculture, Forestry and other land Use Activities, ensuring sustainable development within the sectors through exploring climate financing options. Exploring climate financing options will require private sector/ industry involvement and can contribute to the country achieving its higher

order policy emission targets. Ensuring readiness for sustainable AFOLU sector initiatives would be strategic for PNG given the forthcoming CORSIA markets.

**How does this contribution build upon examples of experience to date? How does the contribution link with different ongoing initiatives?**

Sustainable Forest Management through PNG NRS was the culmination of 10 years of developing the elements required for a country to be eligible for results based payments. This process was largely dictated by the ongoing UNFCCC Conference of Parties negotiations coupled with national priorities. The identification of the three main Drivers of deforestation through a vigorous stakeholder engagements process within the country builds upon existing knowledge base within the country and ensured consideration of identifying synergies between parallel running initiatives within the AFOLU sectors.

There are different sectors that run in parallel regarding the policies and measures as stated in the NRS, such as 1. Strengthened land-use and development planning, 2. Stronger environmental and management, Protection and enforcement, and 3. Enhanced economic productivity and sustainable livelihoods.

**What are the mechanisms for funding (with specific emphasis on potential for partnerships)?**

The return from investments in sustainable forest management and sustainable agriculture is tenfold on average but requires significant level of investments. Much of this climate change investment needs will have to come from the private sectors; government direct funding or investment is anticipated to be less. To ensure increase climate change-related private capital flows, the Government of Papua New Guinea is promoting economic collaboration between the public and private actors.

Potential funding mechanisms for PNG include:

- Reinvesting and redirecting emission reduction incentives.
- Facilitating investment in agroforestry.
- Tax exemption for private sector investments and provision of safer environment for investment.
- Leveraging climate finance opportunities.
- Emerging carbon emissions offset schemes such as the Carbon Offset and Reductions Scheme for International Aviation (CORSIA).

**What are the means of stewardship, metrics for monitoring?**

The initiative will be monitored through the National Forest Monitoring System which includes TerraPNG (a system for wall to wall land use mapping used with PNG's GHG reporting) and time series assessment of forest carbon stock through the Collect Earth. The performance will be reported to the National Climate Change Board which will function as a central coordinating point for all action on climate

change and through its membership of key sector agencies will support and guide cross sector coordination.

**What is the communication strategy?**

In 2017, Papua New Guinea had a REDD+ National Communications and Knowledge Management Strategy established, to support Papua New Guinea's REDD+ objectives under the UNFCCC by enhancing communication and knowledge with all relevant stakeholders on REDD+ and building capacity to implement REDD+. The strategy focuses on increasing awareness and image building, enhance communications and knowledge among all relevant stakeholder groups. It also targets the general public including people living with disabilities, women and girls, youths and elderly people.

**What are the details of proponents (indicating the degree of commitment among the countries and organizations that are named)?**

GoPNG is now implementing its approach to reducing emissions from deforestation and forest degradation as outlined through its National REDD+ Strategy.

With support from international partners, PNG has made significant progress, including an operational National Forest Monitoring System, a Forest Reference Level submitted and fully assessed in 2018, and a first REDD+ technical annex submitted in 2019 and with work to finalise a Safeguard Information System underway.

PNG is assessing the potential investment needed to deliver significant emissions reductions under the NRS, while also safeguarding biodiversity and supporting the livelihoods of local communities.

PNG is taking a phased program to develop to ensure preparedness to participate in a Sustainable Development Mechanism under Article 6.4 of the Paris Agreement; cooperative approach on mitigation with other Parties under Article 6.2; and protect PNG's natural assets, including forests and biodiversity, by creating high-integrity offsets that meet the eligibility requirements of Article 6 and the Carbon Offsetting and Reductions Scheme for International Aviation (CORSIA).