

● TECHNOLOGY

# Sustaining indigenous forests with blockchain technology

By Peter S. Kinjap, Travel4Green (T4G)

Reducing deforestation, responsible for up to 11% of global greenhouse gas emissions, is crucial for the international community to achieve its goal under the *Paris Climate Change Agreement* to keep the global average temperature rise as close as possible to 1.5 degrees Celsius.

The global hype on REDD+<sup>1</sup> actions that will benefit forested countries financially and a technology of decentralised ledger blockchain<sup>2</sup> that can possibly eliminate the ‘middleman’ and enables good governance are welcoming news to a Pacific Island country facing ‘irresistible’ corruption.

© Supplied / Sili-Muli' girls in Engan traditional attire preparing for an indigenous festival.



© Supplied / Indigenous people using ropes from the trees in the forest.

<sup>1</sup> REDD+ stands for ‘reducing emissions from deforestation and forest degradation, conservation and sustainable management of forests and enhancement of forest carbon stocks’ and refers to a policy framework under the UN Framework Convention on Climate Change (UNFCCC) designed to provide payments to developing countries for keeping their forests rather than converting them to plantations or grazing land.

<sup>2</sup> A record of secured transactions on a public ledger powered and protected by cryptography codes. It has the property and functionality of proof of ownership recorded on decentralised database shared amongst many viewers without changing it and thus its transparency at its very core.



© Supplied / A virgin rainforest in the island of New Guinea, the second largest island in the world.

Located north of Australia and sharing land boundary with Indonesia, Papua New Guinea (PNG) is the second largest island in the world with a landmass of 46.28 million hectares; of which 29 million hectares of land is virgin forest cover. Only second to Brazil, PNG has the largest tropical rainforest still intact and untouched.

Legally, land in Papua New Guinea is owned by the indigenous people. Only 3% was acquired by the government for administration buildings and estates during colonial period and 97% is recognised by the *Customary Land Registration Act 2009* (amended) for the customary landowners.

The country also has some of the largest mineral deposits in the Oceania continent and currently exports gold, copper, nickel, crude oil and natural liquefied gas in which customary landowners are important stakeholders in benefit sharing.

Meanwhile, the *Corruption Perception Index 2018* report published by International Transparency revealed that Papua New Guinea is one of the most corrupt nations in the world, ranking 138 out of 180.

Most of the corruption cases involve illegal land grabbing. The country’s biggest land scandal ever is the Special Agriculture–Business Land (SABL) lease agreement; in the pretext of agricultural activities being promised to the customary landowners, the government used some of these SABL leases for REDD+ and carbon trade.

This occurred without a proper policy framework in place, snipping off huge cuts illegally by ‘carbon cowboys’ flocking into the country from all over.

The government established a Climate Change Office in 2010 to deal with climate policy matters. It soon came under public scrutiny for disapprobation and condemned by international observers.

According to government documents leaked to local blogs, the government has been pre-selling carbon credits for almost four years prior to 2009 without any proper legal policy documentation and framework in place.

## Blockchain and REDD+ in Papua New Guinea

The people of Papua New Guinea would bet on the hype of carbon benefits to the indigenous community and the transparency of blockchain-enabled transaction as their future when all natural resources run out.

In 2014, PNG’s Climate Change Office changed its name to Climate Change and Development Authority (CCDA), with new management taking over. The hope was to curb out corruption and implement REDD+ actions throughout the country with indigenous landowners as the beneficiaries of carbon revenue.

SABLs in the country have since been cancelled by court order and all leases sought by the government



© Supplied / Engan men from PNG in traditional singing during an indigenous festival.

under SABL were forfeited. While the land is now back to the customary landowners, the government haven't publicly released the full list of cancelled SABLs. This may attract the ire of the international community, especially considering that the indigenous landowners' rights are protected under the United Nations Declaration on the Rights of Indigenous Peoples since 2007, and are part of the negotiating text on indigenous rights under REDD+ at the UNFCCC COPs.

### From theory to practice

Papua New Guinea's greenhouse gas (GHG) emissions mostly come from land use, land use change and forestry (146.5 – 268.6 million tons of CO2 in 2007). Papua New Guinea is a signatory to the Kyoto Protocol, therefore, it is a requirement under this international treaty that the country reduces its GHG emissions

Many people in the developed world speculate that reducing emissions from deforestation and degradation of forests in developing countries will be cheap and easy. In the case of PNG, it will not. The implementation of REDD+ programs on customary land will be a daunting task because natural forests and land belongs to the customary landowners, and not the government.

Nevertheless, Climate Change Ambassador Kevin

Conrad and his sidekicks have committed the country to a national REDD+ program on the international level and Papua New Guinea will have to deal with its 29 million hectares of forest.

If some of the forested land is to be used for the REDD+ program, there is likely to be conflict of interest among indigenous landowners and competition between developmental sectors. While city dwellers may want a logging or agroforestry project, village based landowners may opt for a conservation or carbon trade project.

In the midst of illegal land grabbing and carbon corruption, blockchain technology will potentially be beneficial to the indigenous community in Papua New Guinea.


Sustaining indigenous forests by offsetting PNG's carbon footprint

A decentralised public blockchain-based offsetting and compensation mechanism for indigenous communities in PNG to sustain their forested land with REDD+ mitigation instruments is already mooted to the aid of indigenous landowners.

Scheduled to be officially launched this year, Travel4Green (T4G) Project is an autonomous nonprofit private project designed and operated by Howarig Traders; a consultancy firm registered in PNG.

The project is based on public and programmable blockchain set of smart contracts and it encourages travelers worldwide to calculate their carbon footprints to recognise how much carbon emissions they leave behind in the country they visit.

Imagine for one second that you could calculate the carbon footprint of your travel to Papua New Guinea, and offset it with removals by sinks supporting the indigenous communities' efforts against deforestation, logging and land use clearing and covering the costs of managing and sustaining forests.

With blockchain technology, the offset acquired is irrevocably retired and double-spending is impossible. Travellers worldwide can acquire T4G token depending on the social responsibility and social commitments they have and feel towards saving the planet Earth. 

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© Supplied / A creek in the middle of a tropical rainforest in PNG.



© Supplied / During a traditional festival, these PNG men demonstrating how ancestors lived in the Stone Age.