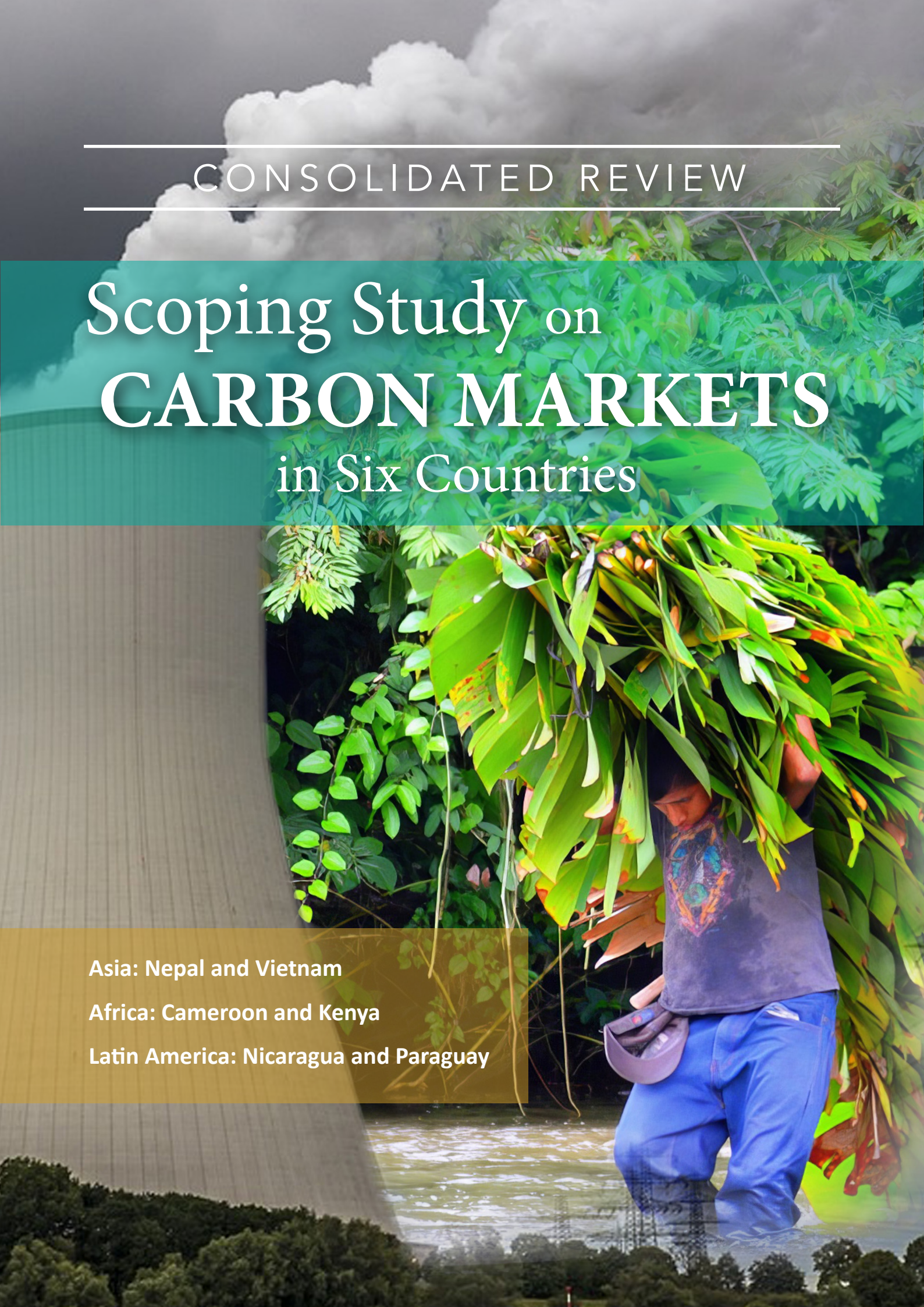


CONSOLIDATED REVIEW

Scoping Study on CARBON MARKETS in Six Countries

Asia: Nepal and Vietnam

Africa: Cameroon and Kenya

Latin America: Nicaragua and Paraguay

Consolidated Review: Scoping Studies on Carbon Markets in Six Countries (Asia: Nepal and Vietnam, Africa: Cameroon and Kenya, Latin America: Nicaragua and Paraguay)

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Study Scope and Methodology

This study seeks to present the engagement of Indigenous Peoples and local communities in the carbon markets discourse as an emerging solution to climate change. It involved six countries from Asia, Africa, and Central America. The scoping study was comprised of desktop research and consultations with indigenous communities and interactions with authorities at the country level. Desktop research was conducted to inform the background of the report, including the state of activity around carbon markets.

Executive Summary

The emerging carbon markets especially the voluntary carbon markets are taking a strong presence in the market. The emergence of the carbon markets has been an attempt to fix the market failure or an instance where economic resources are allocated inefficiently. A market failure is not giving the incentives that it should give for conserving resources, in this case the atmosphere and concentrations in the atmosphere. From the economic point of view, there is a need to account for the damage done by the market in relation to keeping the atmosphere safe and livable for all. Standards or regulations are also important in tackling the market failure, and as countries and various sectors explore the carbon markets, regulations or standards are inevitable. The importance of research and development should be done as well.

As noted in the country reports, the carbon markets have existed in the context of different national and international frameworks. The rights of ownership over carbon assets, and their treatment when traded as carbon credits, are derived from laws, regulations, and customs in the applicable jurisdiction and as such is subject to the evolution of these laws, regulations, and customs over time. The implementation of countries' first Nationally Determined Contributions (NDCs) under the Paris Agreement is also shaping a country's intention to generate, own, and use carbon credits. Added to the legal framework is the adoption of guidance for Article 6 of the Paris Agreement which provides a new international context for the voluntary carbon market to operate.

From the experiences of Indigenous Peoples in the six countries studied, governments have now a greater interest in tracking and in some cases incentivizing and managing carbon market activities that can be counted towards the targets set in their NDCs.

Governments of these countries have taken and are taking steps to track their carbon market activities, for instance, requiring registration and monitoring on the national registry. Some have introduced approval procedures, or a statement of no-objection before activities can proceed. Some governments are taking steps to incentivize the development of carbon market activities within their jurisdiction by sponsoring the establishment of local market architecture or by clarifying the legal classification of carbon credits.

All countries are keen on the rightful implementation of Free Prior and informed Consent (FPIC), a basic right of Indigenous Peoples to participate in any issue that would impact their life and resources.

As all these developments are taking place, Indigenous Peoples are anticipating participation or engagement in the process. Engagement of Indigenous Peoples varies as they exercise their rights to generate carbon credits, and own and use the carbon credits. Based on the experiences to date the right to carbon ownership is likely to be affected over the course of time. The potential of carbon markets to all sectors especially the private sector is being considered by Indigenous Peoples as likely to affect the ownership of carbon credits directly or indirectly.

Indigenous Peoples are responding to carbon markets with concern regarding the diverse and increasing interest in carbon trading. The success of carbon markets should be able to provide benefits to Indigenous Peoples and local communities, economies, and environments, and achieve national commitments and objectives. The active role of Indigenous Peoples is inevitable in achieving a net-zero because they manage and protect around 40 percent of ecologically intact landscapes. The respect for their importance will help ensure high integrity carbon credits that recognize and safeguards their rights, livelihoods, and values.

Introduction

The severity of climate change is undeniable and countries have been taking action to limit Greenhouse Gas (GHG) emissions to keep the global temperature from rising. Each report by the IPCC since 1990 seriously looked into the worrying state of the climate. The IPCC report in 2018 reflected the danger of more than a 1.5°C temperature increase. In the 6th Assessment Report by IPCC, the situation has depicted a more difficult situation if countries are not going to do and support strong and decisive action to keep the temperature rising.

However, it is important to note that not all countries and people are equally responsible for climate change. Some countries and human activities have emitted much more carbon than others, and the responsibility to curb the impact of climate change is supposed to be an equitable and long-term commitment.

Solutions have also emerged, such as the realization of what has been crafted under the Paris Agreement regarding the commitment of states, business sectors, and other stakeholders to engage in a global carbon market. The creation of a carbon market and the standards that come with it are enabled by Articles 6.2 and 6.4 of the Paris Agreement. Both articles speak about two separate markets to help countries finance their emission reductions in implementing their NDCs. The interest in carbon markets from across the world, private sectors, governments, NGOs, and businesses escalated. The trend is to finance carbon-sink potential and territories including bodies of water and forests. The idea is to trade carbon credits generated by the reduction or removal of GHGs from the atmosphere, such as conserving carbon stocks in forest ecosystems, switching from fossil fuels to renewable energy, or safeguarding the oceans to keep the vitality of life underwater.

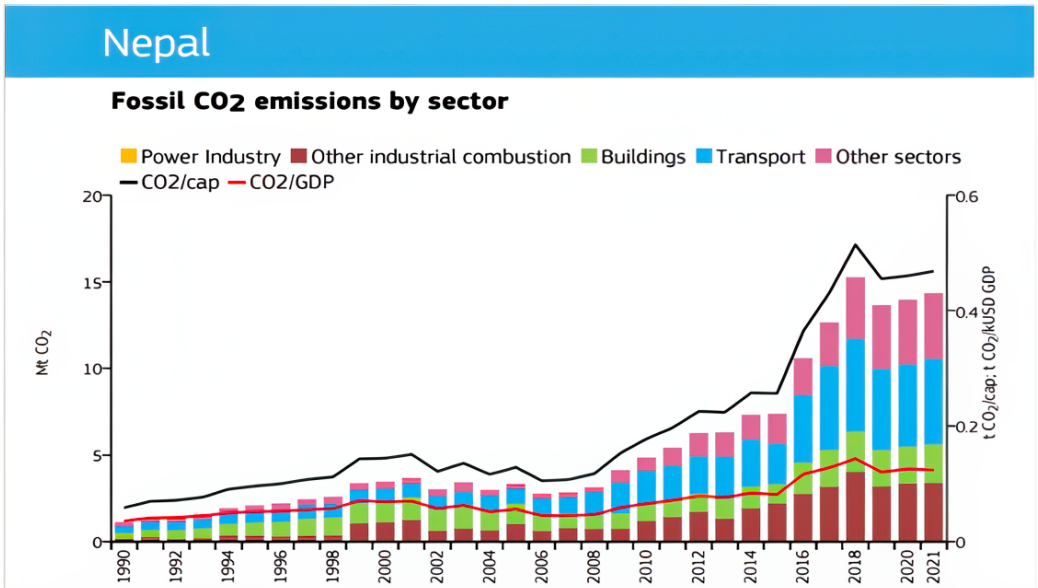
Carbon markets will allow carbon trading by which countries, companies, and individuals buy or sell units of GHG emissions. Trading may happen in “compliance or voluntary” markets. Compliance markets are created and regulated by mandatory national, regional, or international carbon-reduction regimes which usually involve the state. Voluntary markets on the other hand operate outside the compliance markets and enable companies and individuals to purchase carbon credits with no intended purpose or use for compliance. The existence of these markets is, without a doubt, being discussed with questions in anticipation of the possible risks to further the “business-as-usual” scenario where there is no significant reduction in emissions because of “carbon offsets” that may happen in the process. This is a big concern for many Indigenous Peoples and local communities as they are directly impacted by both the impact and solutions of climate change.

As nations take a proactive stance in addressing climate change, countries are keen on implementing their commitments as outlined in their NDCs. This means that countries will have to cover different choices of instruments such as taxes, trading and standards, and different technological mixes. As countries consider their NDCs, it is anticipated that the scope of work in combating climate change should be aligned with or consistent with their NDCs plus the differing legal and regulatory frameworks available in the country. Such existence of carbon markets is expected to draw out initiatives that reduce emissions and save money. This will also entail participation, promotion of efficiency, and equity while controlling quantities of emissions.

In the latest report by the Emissions Database for Global Atmospheric Research (EDGAR) from 1970 until 2021, together with CO_2 emissions and removals from land use and forestry for period 1990 to 2020, the six countries in the scoping study show an increasing trend in emissions, though these emissions are comparably low to those by top emitters from developed countries and emerging economies. Country trends of emissions are shown in Figure 1-6 below.

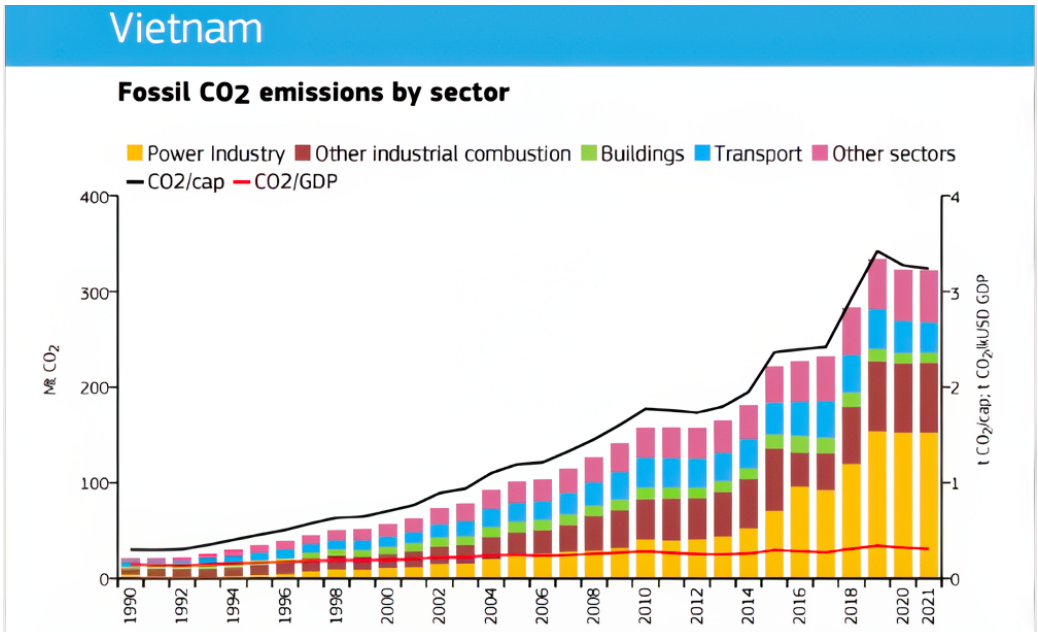
Among the top emitters, both the United States and Japan had 2021 fossil CO_2 emissions below 1990 levels, although in a lesser extent (by 6.2% and 7.4%, respectively). Conversely, fossil CO_2 emissions of the emerging economies of China and India remained well above their 1990 levels being 5.1 and 4.4 times larger, respectively, in 2021 than in 1990.

FIGURE 1



Year	CO_2 emissions Mt CO_2/yr	CO_2 emissions per capita t CO_2/cap/yr	CO_2 emissions per unit of GDP PPP t CO_2/kUSD/yr	Population
2021	14.314	0.468	0.124	30.578M
2020	13.927	0.460	0.126	30.260M
2005	3.300	0.129	0.056	25.640M
1990	1.098	0.059	0.036	18.749M

FIGURE 2

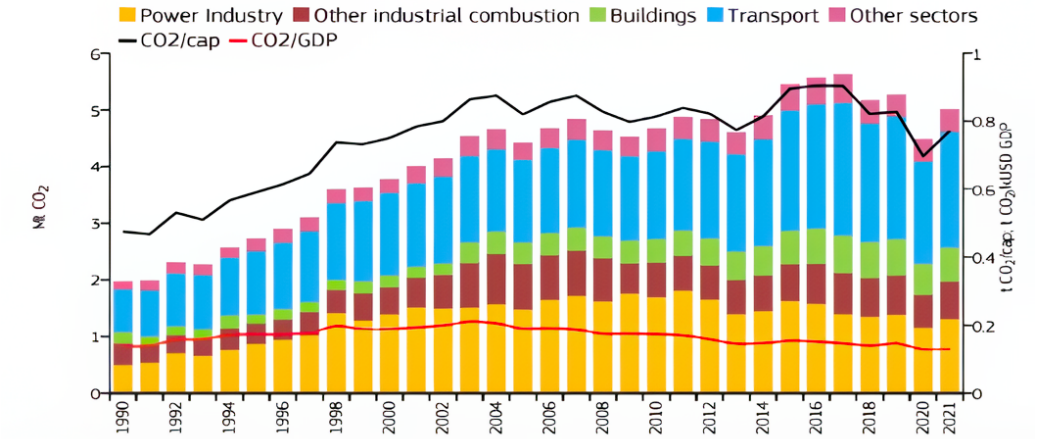


Year	CO_2 emissions Mt CO_2/yr	CO_2 emissions per capita t CO_2/cap/yr	CO_2 emissions per unit of GDP PPP t CO_2/kUSD/yr	Population
2021	321.413	3.237	0.311	99.284M
2020	322.018	3.274	0.320	98.360M
2005	100.432	1.191	0.247	84.309M
1990	20.525	0.301	0.146	68.210M

FIGURE 3

Nicaragua

Fossil CO2 emissions by sector

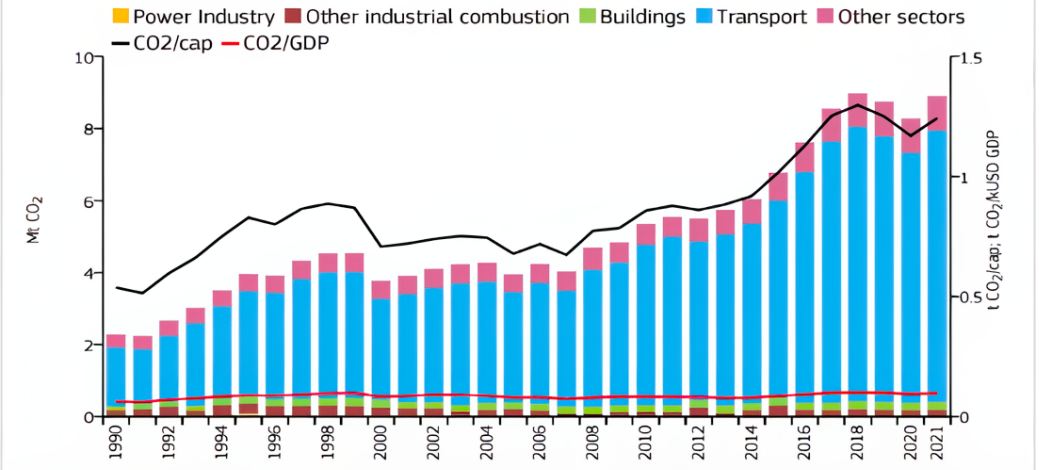


Year	CO_2 emissions Mt CO_2/yr	CO_2 emissions per capita t CO_2/cap/yr	CO_2 emissions per unit of GDP PPP t CO_2/kUSD/yr	Population
2021	5.002	0.772	0.130	6.481M
2020	4.470	0.697	0.128	6.417M
2005	4.408	0.819	0.188	5.379M
1990	1.969	0.475	0.137	4.145M

FIGURE 4

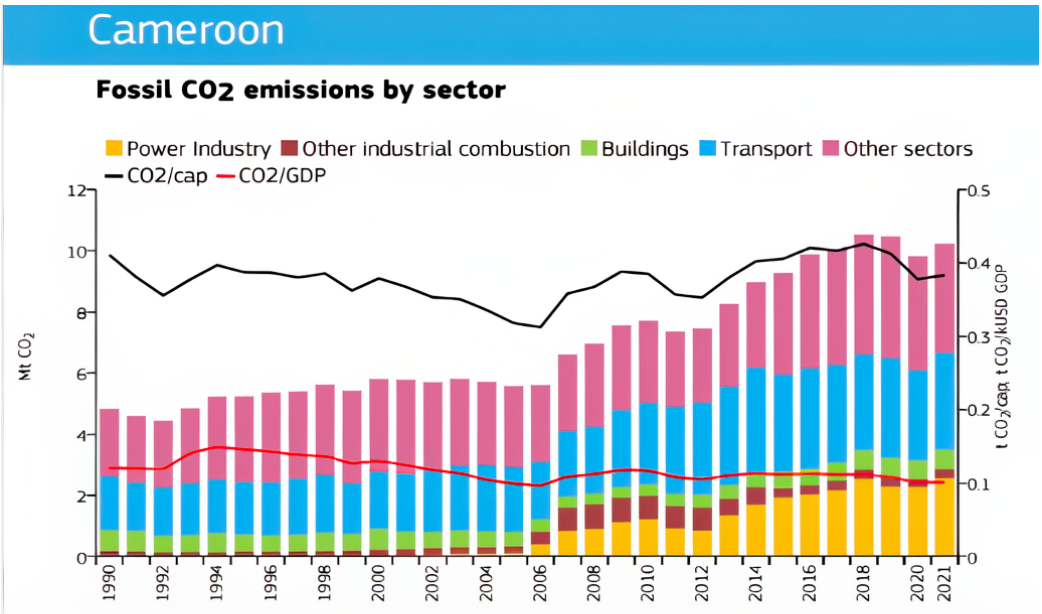
Paraguay

Fossil CO2 emissions by sector



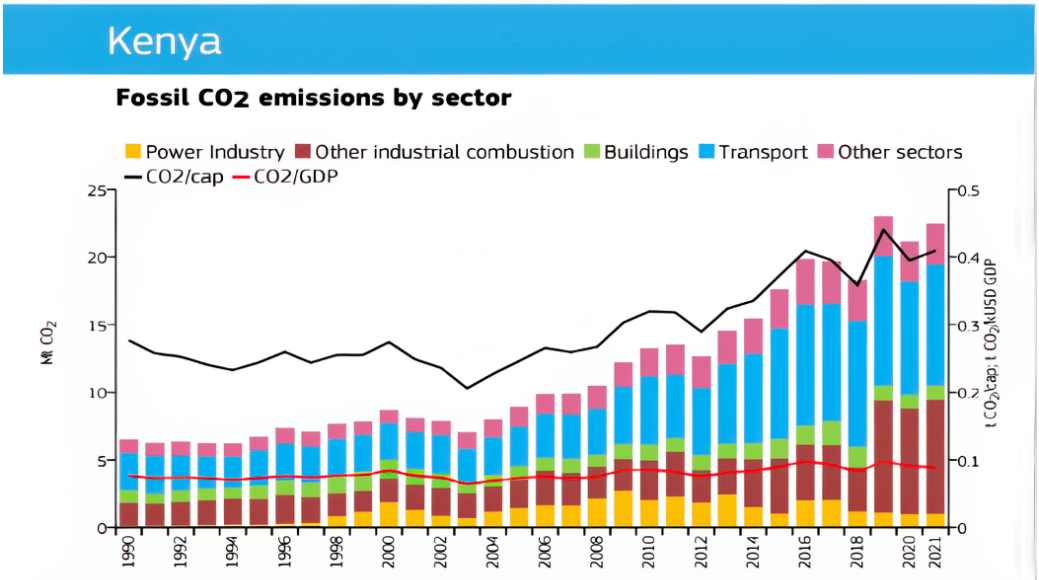
Year	CO_2 emissions Mt CO_2/yr	CO_2 emissions per capita t CO_2/cap/yr	CO_2 emissions per unit of GDP PPP t CO_2/kUSD/yr	Population
2021	8.891	1.244	0.097	7.149M
2020	8.266	1.170	0.094	7.066M
2005	3.930	0.678	0.079	5.795M
1990	2.266	0.538	0.063	4.214M

FIGURE 5



Year	CO_2 emissions Mt CO_2/yr	CO_2 emissions per capita t CO_2/cap/yr	CO_2 emissions per unit of GDP PPP t CO_2/kUSD/yr	Population
2021	10.203	0.383	0.101	26.613M
2020	9.806	0.378	0.101	25.958M
2005	5.541	0.318	0.099	17.421M
1990	4.811	0.411	0.121	11.715M

FIGURE 6



Year	CO_2 emissions Mt CO_2/yr	CO_2 emissions per capita t CO_2/cap/yr	CO_2 emissions per unit of GDP PPP t CO_2/kUSD/yr	Population
2021	22.430	0.409	0.089	54.781M
2020	21.109	0.395	0.090	53.492M
2005	8.872	0.246	0.073	36.048M
1990	6.476	0.277	0.076	23.402M

The six countries are highly vulnerable to the impact of climate change as indicated in the following information. The impending threat of climate change threatens adaptive capabilities of these countries, and as a result they are vulnerable to social and economic exclusion, exploitation, marginalization, and related climate-related shocks.

Susceptibility of these countries to climate change render Indigenous Peoples living here also more vulnerable to discrimination, exploitation, cultural damage and other social, economic, and environmental risks compared to other groups in society. As noted in the country studies, many Indigenous Peoples live in diverse topography and environments, and any change in the climate would bring about unprecedented effect to their everyday life.

Country	Vulnerability Rank	Description
Nepal	ranked 128th out of 181 countries in the 2020 ND-GAIN Index.	Nepal's varied topography and social vulnerability make the country particularly susceptible to geological and climate-related disasters. Weakness in effective response mechanisms and strategies for dealing with natural hazards has historically exacerbated this vulnerability
Vietnam	ranked 91 out of 191 countries by the 2019 INFORM Risk Index	Vietnam's long coastline, geographic location, and diverse topography and climates contribute to its being one of the most hazard-prone countries of Asia and the Pacific Region. Given that a high proportion of the country's population and economic assets (including irrigated agriculture) are located in coastal lowlands, deltas, and rural areas, and many people face issues of poverty and deprivation, Vietnam has been ranked among the five countries likely to be most affected by climate change.
Kenya	152 out of 181 countries in the 2019 ND-GAIN Index	Kenya is highly exposed to many natural hazards, the most common being floods and droughts. It is estimated that over 70% of natural disasters in Kenya are attributable to extreme climatic events. Typically, major droughts occur approximately every ten years, and moderate droughts or floods every three to four years. Repeating patterns of floods and droughts in the country have had large socio-economic impacts and high economic costs.
Cameroon	146 out of 182 countries on the 2020 ND-GAIN Index	Climate change in Cameroon is already placing increasing pressure on the key sectors of the country's economy, as well as increasing social vulnerabilities. The main sectors that are vulnerable to climate change include: agriculture and livestock; forestry, sylviculture and wildlife; water, sanitation and health; energy, mines and industries; fishing and aquaculture; urban development and public works; and tourism.
Paraguay	ranked 95 out of 181 countries in the 2019 ND-GAIN Index	Paraguay's economic reliance on agriculture, animal husbandry, and hydroelectric energy production make it particularly vulnerable to the impacts of increasing climate variability and climate change. The country's high rate of deforestation, especially for a growing agriculture and livestock sector, is significant. More frequent extreme events such as intense rainfall and heat waves are increasingly common, negatively impacting all sectors
Nicaragua	ranked 136th out of 181 countries in the 2019 ND-GAIN Index	Nicaragua is located in one of the regions most threatened by climate variability and climate change. It is exposed to a number of events linked to natural climate variability, such as El Niño and La Niña phenomenon, monsoon-related events in the Pacific, tropical waves and hurricanes, among others in the Caribbean coast. These generate serious threats, including droughts, floods, mudslides, water scarcity, and the destruction of crops, forests and homes.

The Carbon Market and State of Policy, Programs and Plans in Nepal, Vietnam, Kenya, Cameroon, Nicaragua and Paraguay

The Potentials of Carbon Markets

The Paris Agreement signed by 193 countries and ratified by 189 countries and trading blocs worldwide urges all nations and sectors to have an effective and progressive response to the increasing threat of climate change. However, instead of setting emission limits, Parties are required to submit a Nationally Determined Contribution (NDC). Reports from various sources highlighted that global average temperature should be limited to 1.5 °C above pre-industrial levels to achieve a net zero global greenhouse gas (GHG) emissions by 2050.

To address the worsening condition of the atmosphere and its impacts on societies, market-based mechanisms have been adopted by countries to reach their climate targets. These mechanisms which include emissions levies, emissions trading schemes, carbon offsetting frameworks, and carbon crediting schemes have been deployed as policy tools since the 1992 Kyoto Protocol to create incentives, valuations of the avoidance, and abatement and sequestration of emissions.

Additionally, carbon markets are divided into the "compliance" and "voluntary" segments as informed by the Paris Agreement. According to the UNFCCC, compliance markets are created and regulated by mandatory national, regional, or international carbon-reduction regimes and typically incorporate only the largest emitters, while voluntary markets function outside of compliance markets and enable companies and individuals to purchase carbon offsets on a voluntary basis with no intended use for compliance purposes.[1]

The Green Climate Fund also plays a key role in channeling new, additional, adequate, and predictable financial resources to developing countries. It is seen as a catalyst for both public and private climate finance at the national and international levels. The GCF may employ results-based financing approaches, like incentivizing mitigation actions, and payment for verified results where appropriate.

Types of Carbon Markets

The goal of the carbon markets is to ultimately limit global emissions and make countries accountable for their actions or inactions around reducing their carbon footprints. Carbon accounting is an important aspect of carbon markets. There are two types of carbon markets formalized in the Kyoto protocol – voluntary markets and compliance markets. Compliance markets may be also referred to as the "regulated markets" or the "emissions trading schemes" (or ETS for short).

For the regulatory market, Clean Development Mechanism (CDM), Joint Implementation (JI), and EU Trading Systems (ETS) are among the market-based mechanisms that persisted since the Kyoto Protocol. Some countries that have not legally accepted the Kyoto Protocol have developed legally binding state and regional reduction schemes.[2] Interestingly, the idea of carbon trading started in the 1970s in the form of "pollutant trade" in the United States.[3] The compliance market is created and regulated by mandatory national, regional, or international carbon-reduction regimes and usually involve the largest emitters.

Meanwhile, the voluntary market is based on bilateral or multilateral cooperation agreements between organizations, companies, or countries. This takes place between parties or organizations through GHG emission reduction projects. The common motivation for purchasing voluntary carbon credits (VER) is to perform corporate social responsibility and public relations, but not to discount the reasons such as certification,

1 UNFCCC document

2 E.g. the Australian New South Wales Greenhouse Gas Abatement Scheme (NSW GGAS) and the US Regional Greenhouse Gas Initiative (RGGI) involving ten states from the East coast.

3 https://www.climatelinks.org/sites/default/files/asset/document/2022-04/LEAP%20III%20-%20Carbon%20Markets%20Brief_final%20%28508%20Compliant%29.pdf

reputation, and the social and environmental benefits. The voluntary market is booming and can grow 100-fold by 2050 in a 1.5°C warming scenario.[4] To make the voluntary carbon market work, it should be large, transparent, verifiable, and environmentally robust.[5] Some projects forwarded to the carbon markets include renewable energy, energy conversion or efficiency, forestry, and the extraction of methane from landfills.

Status of Carbon Markets in 6 Countries

The 6 countries show varying levels of preparation and engagement in the carbon markets. All have included in their NDCs strategies to reduce emissions including engagement in the carbon markets and results-based payments. The carbon market is relatively small in each country, and includes carbon-emission-reduction projects using natural and technology-based carbon capture and storage techniques. Investors of carbon markets include the government, private sectors, individual households or communities depending on tenure arrangements, which leaves the indigenous communities within a very slim margin of engaging in this market.

The proposed measures to carbon dioxide removals (CDR) or enhance carbon sequestration include protection and expansion of natural carbon sinks, combat deforestation, improved land use, management practices, and use of technological processes that may prevent a fraction of emissions.

- REDD+ is a common experience shared by the 6 countries where it is considered as a climate action that can be incentivized in the carbon market. The implementation of REDD+ however is very keen in upholding results-based payments, which indicate compensation of climate action based on independently verified pre-agreed performance targets. There are noted flaws in incorporating views of Indigenous peoples in the implementation of REDD+, such as basic respect for the principle of FPIC as acknowledge in the UNDRIP and the inclusion of their knowledge and observations. These two are tied to protecting and sustaining healthy ecosystems and the resources found within.

- Nepal has signed an Emission Reductions Payment Agreement (ERPA) with the Forest Carbon Partnership Facility (FCPF). The Emission Reductions Payment Agreement (ERPA) between Nepal and the Forest Carbon Partnership Facility (FCPF) Carbon Fund is a 10-year agreement, signed in February 2021. The REDD+ project in Nepal is being implemented in the Terai Arc Landscape, which is a critical forest ecosystem that spans five provinces and 13 districts. The project aims to benefit over 1 million people, including indigenous communities and women, who depend on the forests for their livelihoods and well-being.

- Vietnam formulated a number of policies to prepare its national capacity and infrastructure in the implementation of REDD+, becoming a key factor in developing its forestry sector given its large forest reserve. Currently, the government through its ministries and local units are promoting robust programs to reduce forest emission reductions at large-scale. Government policies and laws recognize the importance of stakeholders, including local communities, in REDD+ implementation. It is emphasized that the success of the REDD+ initiatives is dependent upon the degree of participation and capabilities of local organizations and communities.

- Kenya has a number of on-going REDD+ projects, and most of these as mentioned in the report are located in areas where indigenous and local communities live (e.g., the Chyulu project, which is largely made up of Massai communities) to achieve low emissions. The REDD+ is seen as a key sector to achieve land degradation neutrality, and the forests are important resources to gain economic development, livelihood, and environmental and ecosystem services.

- Cameroon has embarked in REDD+ in 2005 concentrated around nearly all of the large forested National Parks in Cameroon, which represent over 7 percent of the forested land in the country. REDD+ was developed principally as a corrective measure to address the rapid exploitation and deforestation in the country, brought about by international and national investments in agroindustry, and associated expansion of cocoa and palm plantations, mining and infrastructure.

4 https://www.energymonitor.ai/carbon-markets/the-mission-to-mend-the-voluntary-carbon-offset-market/?cf-view&cf-closed

5 Ibid.

- In Nicaragua, a number of policies were developed to foster actions for afforestation, reforestation, conservation and regeneration of forests, with the national zoning map serving as guidance for the reforestation and natural regeneration of forests. It also developed the structure of the FCPF Monitoring and Evaluation Framework, its logical framework and Performance Measurement Framework (PMF), so as to facilitate and systematize data analysis. A National Strategy to address climate justice reparations, fair treatment of peoples, and recognition of territorial and social diversities was approved. It also seeks to strengthen the management of climate financing.

- Paraguay has a number of national commitments in compliance with the UNFCCC framework and signed conventions. Agriculture being the major carbon emitter, the government is considering the forestry sector and livestock activities to be opportunities for neutralizing carbon emissions. REDD+ implementation is done in a tri-partite agreement that involves an international NGO, the Paraguayan government (through a government agency responsible for protected areas), and a local organization.

The voluntary carbon market is at its initial phase in all the countries, but growing interest in carbon markets is apparent. Most of the governments are still setting the policy and regulatory framework to govern the carbon markets. Governments in the six countries are still in the stage of learning the dynamics of the carbon markets and preparing the policy or legal backdrop that will govern and guide implementation. The engagement in the carbon market by governments is a result of curbing further emissions and part of achieving commitments in their respective NDCs. The diverse initiatives and projects of these six countries, most of which are still at its conceptual or planning stage, are shown in the table next page.

Country	Initiatives	Focus/Priority Areas	Stakeholders	Standards/ Regulatory Framework	Payment/Incentive Scheme
Nepal	The Nepal Carbon Credit Exchange (NCCE), a soon-to-be-developed domestic market in Nepal, was established in 2018 with the support of FCPF.	Renewable energy, afforestation and reforestation, energy efficiency, sustainable agriculture, and forestry practices	Government of Nepal, the Ministry of Forests and Environment, the REDD Implementation Centre, Carbon credit buyers, Carbon credit sellers, Forest-dependent communities, NGOs, and private sector companies	LEAF	ERPA has been signed to reduce 9 million tons of carbon dioxide emissions in the Terai Arc Landscape. Nepal will receive $5 for every tonne of carbon dioxide emission reduced as country embarks on earning up to Rs5 billion by selling 9 million tonnes of CO_2 by 2025.
	The Nepal Climate Support Programme (NCCSP) was initiated in 2013 to prioritize the vulnerable communities living in remote areas and with limited access to resources. The idea is to support communities to adapt to climate change by implementing the Local Adaptation Plans of Action (LAPAs).	Irrigation, agriculture, forestry, and drinking water schemes[6]	Ministry of Forest and Environment (MoFE) District: 26 Local Bodies in 14 Project Districts	National laws and policies	More than 140 LAPAs have been implemented since the programme started in 2011, and over 300,000 people have benefitted from the programme since its inception and implementation.
	The Architecture for REDD+ Transactions (ART) aims to reduce deforestation and protect tropical forests in 2021	Sustainable agriculture and forestry practices	Government of Nepal, Ministry of Forests and Environment REDD Implementation Centre, LEAF Coalition, EMERGENT, CSOs, and private sector companies)	TREES	
Vietnam	As of December 5, 2022, the total number of carbon credit projects under the CDM mechanism in Vietnam is 258 projects and 15 project programs have been successfully registered. The total amount of credits issued from CDM projects in Vietnam is 30,736,808 CERs.	Recycled energy, economic and effective use of energy, and the use and recovery of associated gas, landfill gas, and biogas capture.	Ministry of Natural Resources and Environment of Vietnam is the Designated National Authority (DNA); CDM National Authority (CNA), project developers	CDM regime	Need more information

6 https://www.mottmac.com/article/67897/bringing-structure-to-nepals-climate-change-response

	The Emission reduction payment agreement (ERPA) covers the North Central region which includes Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri, and Thua Thien Hue provinces; this is an agreement between the Ministry of Agriculture and Rural Development, and the International Bank for Reconstruction and Development of the World Bank	Reducing emissions and absorbing greenhouse gases from the forests in the province	MARD, FCPF	ERPA	FCPF will pay for this service 51.5 million USD, with a unit price of 5 USD/ton CO_2. About 95 percent of its emission reduction results will be transferred back to Vietnam to contribute to the NDC. This is the first time in the forestry sector of Vietnam. Payments are sent to the provinces
	The LEAF Coalition was established in April 2021 with the view to putting an end to deforestation and forest degradation by providing financing for tropical forest protection on a scale of more than 2.5 million hectares	Sustainable forest management, socio-economic development of people (focus on natural forests and plantation excluded)	The South Central and Central Highlands regions include 11 provinces in this project, namely: Lam Dong, Dak Nong, Dak Lak, Gia Lai, Kon Tum, Quang Ngai, Binh Dinh, Phu Yen, Khanh Hoa, Ninh Thuan, Binh Thuan.	TREES	Vietnam transfers to LEAF/Emergent 5.15 million tons of CO_2 at 10 USD/1 ton of CO_2 to reduce emissions from forests in South Central and Central Highlands regions in the period 2022-2026.
Nicaragua	The CommuniTree Carbon Program by the Canadian NGO Taking Roots, which promotes forestry activities to restore ecosystems, improve livelihoods and reverse climate change. The project currently works with 280 smallholder non-indigenous farmers	Agroforesty, reforestation, and afforestation only in degraded areas; focus is on timber rather than energy or soil fertility	Carbon offsets generated by the project are certified by Plan Vivo – with a total of 256,604 certificates in 2015 (equivalent to one ton of CO_2 per certificate).	Plan Vivo Standards	Cash payments are made directly to farmers or individuals
	Rabobank's Carbon Bank Pilot program supports farmers and local communities by monetizing the "ecosystem benefits" of the trees they plant and generate carbon credits	Forestry, regenerative agriculture, and pilot solutions in dairy	Acorn partners with the Asian Forest Cooperation Organization (AFoCO) to help smallholder farmers in Asia transition to agroforestry. The aim is the onboarding of 2.5 million farmers in the next 10 years.	Verra's Verified Carbon Standard Program	Incentivize farmers and local communities

	Solidaridad-Nicaragua and Acorn Project supports smallholder cocoa farmers districts to enable them to overcome low productivity and crop loss from climate change by transitioning from cultivated land to agroforestry	Climate change adaptation strategies in cocoa landscapes	Small holder farmers in Jinotega and Matagalpa	Plan Vivo	Incentivize farmers. The carbon credits farmers receive for the trees planted in the project are ex-post based and will only be derived from one year before CRU issuance.
Paraguay	Promesa Chaco Project which aims to reduce the vulnerability of the population (selected family agriculture producers and indigenous communities) of the Chaco Region of Paraguay to the impacts of climate change on food security.	Ecosystem-based Adaptation- conservation and restoration of forests, agroforestry, silvopastoralism, agro-ecological farming (including reduction in the use of chemical fertilizers), and sustainable ranching practices	UNDP Paraguay, Ministry of Environment & Sustainable Development (MADES), indigenous communities, rural farmers, municipal governments	PES As informed by national laws	PES scheme was developed to incentivize farmers/ indigenous population
	Forests for Sustainable Development Project (BCS)	Completion of the REDD+ Preparation Phase in Paraguay - Forests for Sustainable Growth Project	Ministry of Environment and Sustainable Development (MADES) in coordination with other relevant entities such as the National Forestry Institute (INFONA)	PES As informed by national laws	PES scheme was developed to incentivize farmers/ indigenous population
Kenya	The Mount Elgon Region Conservation Programme (MERECP), under the supervision of the Lake Victoria Basin Commission is a trans-boundary ecosystem initiative under the auspices of the East African Community (EAC).	Conservation and development work by fostering transboundary natural resource management, trade, security, and tourism	East African Community Secretariat (EAC), governments of Kenya and Uganda through relevant national government agencies, local government/ districts, user groups, NGOs, private sector, local communities, conservationists, and researchers	Plan Vivo Verra's Verified Carbon Standard Program	Pilot for testing monitoring, reporting and verification systems at the ecosystem level as well as act as institutional and financial mechanisms (such as the proposed ECCF) for channeling carbon finance.

	Green Belt Movement in Mount Kenya conceptualized in 1977, which is best known for planting belt of trees and has developed many projects including carbon projects and REDD+	Protecting public land, improving household food security, civic education, income-generating activities, and improved cookstoves.	Rural communities formed the Community Forest Associations (CFAs), which is recognized by the Kenya Forest Service (KFS) through the 2005 Kenya Forest Act; NGOs	Plan Vivo Verra's Verified Carbon Standard Program	Under a 2006 agreement with the World Bank's BioCarbon Fund, the project could eventually sell 375,000 tons of carbon dioxide equivalent (CO_2e) emission reductions by 2017, with the possibility of selling an additional 150,000 tons.
	Northern Kenya Rangelands Carbon Project, dubbed as the world's largest soil carbon removal project for rangelands restoration and community-based development through the carbon market developed since 2009	The first project focused entirely on soil removals. It is also the first validated methodology to work with pastoralist communities who use land resources communally	14 community conservancies	Climate, Community Biodiversity Standard (CCBS)	The project spans 1.9 million hectares (4.7 million acres) and is an initiative that will improve grazing for pastoralists and generating additional revenue for 14 community conservancies, increasing the financial viability of conservation, and making community conservancies more resilient.
Cameroon	Reforestation project initiated by the Dutch Green Business Group (DBG) with local partner Green Zone to plant three million trees in Cameroon. The project is developed in Cameroon's Central Region, on the edges of the Congo Basin.	Forest regeneration over a surface area of between 2,300-3,000 hectares covering three villages in Yoko Sub Division of the Centre Region. The project will also manufacture and distribute 150,000 energy-efficient cookstoves in the country	Dutch Green Business (DGB), Green Zone International Cameroon (GZI), and the Kenya-based African Institute for Agriculture and Technology (AIAT)	Verified Carbon Standard (VCS), Climate, Community Biodiversity Standard (CCBS)	The carbon offset programs will involve farmers and communities in Cameroon and support them in planting and nurturing the plants; the recipients will exclusively benefit from the fruits and nuts harvested from their farms.

Indigenous Peoples and the Carbon Market

Of the various approaches to reduce carbon emissions, carbon offsets are increasingly being employed by various entities to compensate for their emissions by investing in carbon sequestration projects elsewhere. Many such offsets, which include reforestation and renewable energy projects, are occurring within lands and territories of Indigenous Peoples. Not only do lands of Indigenous Peoples contain some 80 percent of Earth's biodiversity and 40 percent of its intact ecosystems, these are also sources of carbon stock that have been transformed into a commodity of exchange, the carbon credit, now traded in the growing carbon market. According to the World Bank, recent studies show that forest lands under the stewardship of Indigenous Peoples and of local communities hold at least one fourth of all tropical and subtropical forest above-ground carbon.

These carbon-rich lands are among the targets of governments, big industry players, companies, non-profit organizations, and other project developers needing carbon credits to meet emissions reduction targets for corporate social responsibility programs or simply to profit. With carbon projects requiring vast tracts to be viable, protected areas, national parks, and conservation areas are therefore being secured as carbon credit resources. These are also the lands where Indigenous Peoples have long settled, or have been doing their traditional livelihoods and other activities before their designation as such.

The carbon market is seen as a way to help countries achieve their Nationally Determined Commitment on carbon emissions reduction in the global effort to mitigate climate change. Carbon projects especially those implemented in forest areas, however, may also potentially cause violations of the rights of Indigenous Peoples. Few governments recognize Indigenous Peoples' land rights and their customarily managed land and forests. There is also little official acknowledgment that their traditional forest management systems have contributed to nature protection and conservation of many existing forests today. Forest laws and regimes in most countries vest ownership and control of forest lands in the government. Without land tenure security, Indigenous Peoples, many of whom live in forests on which they depend for food and livelihood, face threats from carbon projects. They run the risk of eviction, displacement, disruption or loss of traditional livelihoods, and unwanted changes in their lifeways.

Impacts

Carbon Brief, which tracks news and NGO reports into carbon projects, noted that in some 70% of the reports it probed over the last 5 years, offset projects had caused damaging consequences to Indigenous Peoples and local communities in Africa, Latin America, and Asia. Among the impacts was the eviction of Indigenous Peoples from their lands in the Republic of Congo, Democratic Republic of Congo, Kenya, Malaysia, Indonesia, and in the Brazilian, Colombian and Peruvian Amazon.

In Africa for instance, a tree-planting project to gain carbon credits for a multinational energy and petroleum company reportedly forced off indigenous families from their farmland in the Bateke plateau in the Republic of Congo. In Borneo, state officials allegedly agreed to a nature conservation agreement with a foreign company that would sell off the rights to carbon and other ecosystem services in around 2 million hectares of the state's forests. This was reportedly done without consultation of the indigenous communities living there.

In other areas, carbon projects have limited the access of indigenous communities to resources they use for traditional livelihoods and food security. With the establishment of the Cordillera Azul national park in the Peruvian Amazon, members of the Kichwa tribe were restricted from entering the land they had been using to gather food. Carbon credits from the park run by a non-profit organization are said to have been sold to multinational energy and petroleum companies.

Carbon projects are also altering traditional livelihoods and endangering the food security of Indigenous Peoples. Further, related cultural activities long practiced are disrupted or changed with the potential of being lost. In Kenya, the 1.9 million-hectare Kenya Grassland Carbon Project is modifying the mobile pastoralism of Indigenous Peoples that entail their seasonal migration with their livestock. Touted as the world's first large-scale carbon removal from grasslands soil, the project by Northern Rangelands Trust (NRT) uses planned and

controlled grazing in order to grow more vegetation, and thus have more carbon stored in grasslands. But the method, which disrupts seasonal migrations and traditional grazing routes of Indigenous pastoralists such as the Samburu and Borana people, has raised concern among some advocacy groups. Survival International in a March 2023 report questioned the project's impacts on the Indigenous pastoralists' way of life and the credibility of its claims on the carbon removed from grasslands. This reportedly prompted the carbon verifier Verra to suspend carbon credits from the NRT project that had won awards in COP27, and to review its own methodology for carbon verification.

Issues and Concerns

Carbon projects to be profitable are undertaken at scale, at a minimum of 607 hectares (1,500 acres), and in some countries these involve huge areas that encompass numerous communities including Indigenous communities and their lands. This brings to fore the question of consultation and free prior and informed consent (FPIC) of Indigenous peoples covered by carbon projects. This is of particular concern, considering it is they who have sustainably managed and protected forest areas that are now eyed as carbon credit resource.

Community consultation is a requirement among many emerging carbon standards. Along with improving corporate image, this has made carbon project developers generally heedful of consulting affected communities at the start of their projects. The Corazón Verde del Chaco Project, Paraguay's flagship REDD+ carbon project spanning 187,916 hectares in its largest bioregion that covers rural and urban areas including 14 indigenous communities, set a FPIC protocol. The protocol includes institutional consultations and community gatherings, among others. The project developer, Quadriz, and its local partners also reportedly forged an alliance with the government's National Indigenous Institute, which is charged with ensuring the rights of Indigenous Peoples in the country.

Indigenous Peoples, however, are not always provided with sufficient information to comprehend and decide on projects implemented on their lands. On the carbon market, those especially in remote and isolated areas may likely be unaware that carbon dioxide can be sold. As the Nicaragua country report noted, the indigenous territorial authorities and officials of the Autonomous Regional Governments, when asked about carbon market, were ignorant of the topic. The experience in Nepal also revealed that indigenous women, often the biodiversity keepers and recognized traditional knowledge holders in their community, lack awareness on carbon markets including REDD+. The Baka, Bgyeli/Bakola, and Bedzang indigenous communities shared the same sentiments on nine REDD pilot projects implemented in the large national parks, which are located in the southeast forest zone of Cameroon constituting the ancestral lands of Indigenous Baka, Bagyeli/Bakola, and Bedzang. The projects implemented were devoid of transparency; genuine participation by local communities; and did not respect Free, Prior and Informed Consent (FPIC).

In situations where they are informed, they may not be given full disclosure of relevant project processes and activities, such as sharing systems of carbon credit benefits. In Nicaragua's so far largest reforestation initiative CommuniTree Carbon Program, the participants which count indigenous farmers in the north of the country are apparently uninformed of the entirety of the project, especially its aim for carbon credits, buyers and prices, and payment for environmental services. The foreign project developer and its local partner also later took a more cautious approach in dealing with farmers. Initially engaged with cooperatives, they shifted to individual farmers and required proof of land tenure rights, such as a legal land title, before signing carbon contracts to avoid land disputes.

Although their lands are a source of carbon credits sought by various entities, Indigenous Peoples are more of bystanders than active participants in the carbon market. They are largely outside the whole network of sellers, buyers, brokers and intermediaries, standard setters, verifiers, certifiers, and other actors spawned by the carbon market and profiting from it. Despite community consultations, they have virtually no say, much less participation, in the implementation and benefit sharing of carbon offset projects within their territories.

Where IP rights and land tenure are either tangentially recognized, limited, or absent in national laws and policies, as in the cases of Vietnam, Kenya, Cameroon, and Nepal, this poses a fundamental risk for communities to be excluded from land use decisions and management of projects in their own lands and territories.

The carbon market and commodification of carbon are also essentially at variance with the spiritual beliefs of Indigenous Peoples. To various indigenous groups worldwide, the forest holds spiritual and cultural values. Some indigenous communities maintain spirit forests, worship sites, sacred trees, ancestral burial grounds, and areas for performing cultural rituals marking a person's milestones in life inside their forests. The trading of carbon undermines these beliefs.

Ultimately, the carbon offset mechanism subverts the overall effort to cut carbon emissions at the source. It deflects the culpability and obligation of entities, especially governments and companies, to account for the carbon and other toxic gases emitted by their industries, economic activities and operations. It unfairly and unduly shifts this responsibility.

Opportunities

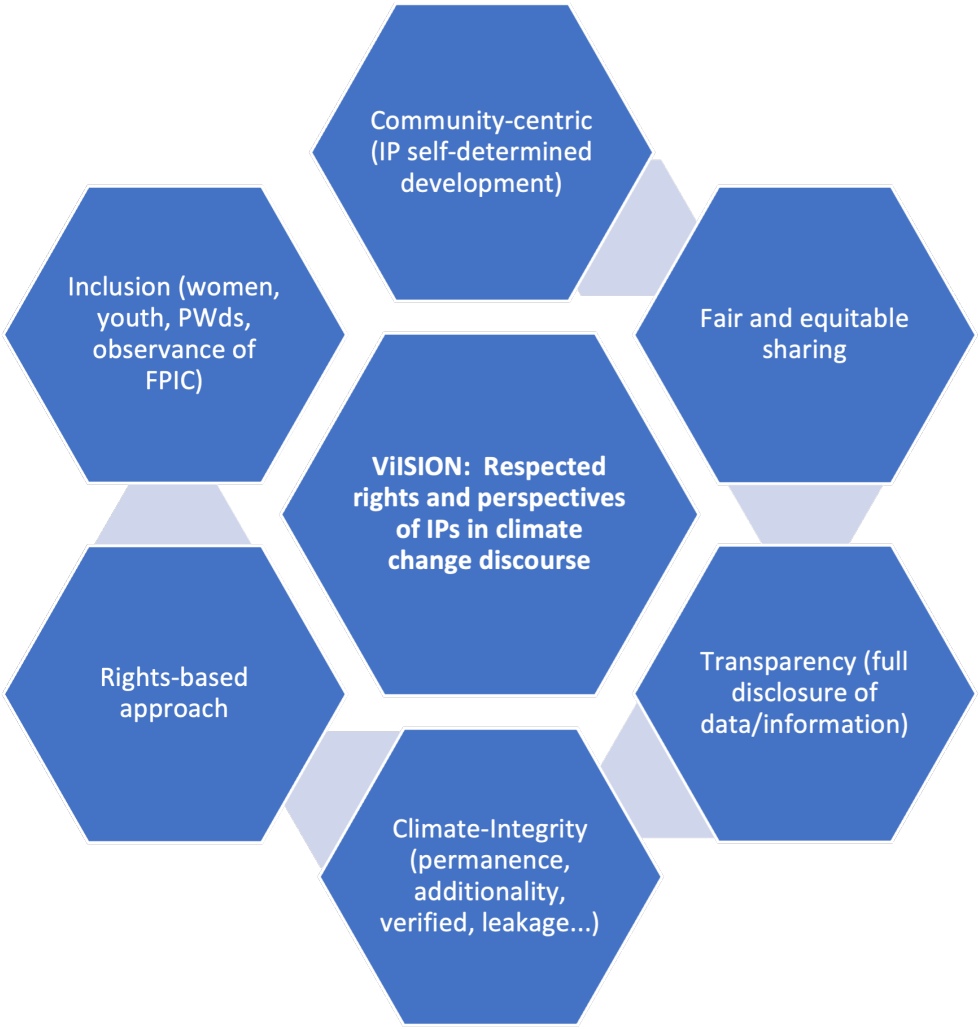
The carbon market, however, also offers opportunities and advantages to indigenous communities. Carbon projects provide additional income and livelihood, as well as heightened awareness on climate change and the indigenous knowledge systems for climate resilience. These enable Indigenous Peoples to enhance their own management of their forests and other natural resources, and to incorporate their customary forest management systems into mainstream management practices. These contribute overall to climate change mitigation through the cutting down of emissions.

Some Indigenous Peoples are open to engagement in carbon projects, but engagement should be on their own terms. As the country papers stress, their participation is contingent on the acknowledgment and respect for the fundamental rights of Indigenous Peoples, foremost to free and prior informed consent. As a source of tradable carbon credits on their lands, some Indigenous peoples go even further. They call to be treated not just as one of the stakeholders but as full partners involved in decision making from the project's outset, from design and implementation to monitoring, reporting, verification, and other processes. As partners, these include a fair, just, and equitable sharing of all monetary and socioeconomic benefits that accrue from the project.

But certain challenges need to be addressed. The carbon market system is highly technical and complex, and currently the Indigenous Peoples lack the knowledge, capacity, and technical and financial expertise in the intricacies of its various processes. A good grasp and understanding of the carbon trade would reduce vulnerability to pressure and influence that may be exerted to IP approval and consent. if they do consent, negotiation skills are essential to make sure they are not at the short end of any benefit sharing agreement, but that they get a rightful share and the best possible terms on carbon credit resources for their communities.

Recommendations

Through the review of impacts and challenges, below is an outline of the critical points to create the conditions for driving change of practices at scale for the benefit of Indigenous Peoples.



For Indigenous Peoples to effectively and competently decide on and participate in carbon projects, and to ensure respect for their indigenous knowledge systems, practices and values in their implementation, the following recommendation are made:

Among Indigenous Peoples

Develop Indigenous Peoples' knowledge, capacity, and skills in:

- Concepts on carbon credits and related processes, approaches to emission reduction, measurement, monitoring, reporting, verification, cost benefit analysis, risks and benefits, contracting and negotiations
- Financial and administrative project management
- Relevant policies and legislations on Indigenous Peoples' rights and safeguards
- Lobbying for carbon credit resources to be given directly to communities

B. Among Governments, Project Proponents and International Bodies

Ensure participation and representation of Indigenous Peoples:

- Recognize the role of Indigenous Peoples in any development agenda and climate change mitigation and adaptation measures
- Enable full, effective representation, and participation in decision making arrangements in projects and institutional arrangements at national and global levels
- Provide full project disclosure or conduct proper due diligence prior to embarking on or during the implementation of any project
- Include Indigenous Peoples in land issue discussions, and strengthen land tenure security of indigenous communities
- Strengthen and monitor safeguards including free prior and informed consent, community-based monitoring information systems, and community protocols
- Ensure respect for Indigenous Peoples' knowledge systems, practices, values, and belief systems
- It is worth including a recommendation on the need to create national public policies, ensuring the participation of Indigenous Peoples.

For future studies, the assessment of the policy mix involving carbon pricing and the inclusion of climate change effects on specific projects (e.g., forest growth, food security, practice of indigenous and local knowledge) are crucial for delivering more robust projections of any mitigation and adaptation measures, and for increasing the reliability and integrity of any carbon-related projects.

NEPAL

Indigenous Peoples Collaborative Perspective on Carbon Markets

Scoping Study Report

Pasang Dolma Sherpa, PhD (CIPRED) and Mankesh Gupta (CIPRED)



Executive Summary

Nepal, a developing nation with a low carbon footprint, is committed to further reducing greenhouse gas emissions, and achieving carbon neutrality. The main parameters for these include working to meet the nationally determined contribution to the climate fund, and simultaneously increasing it to build community resilience. However, the issues and concerns of Indigenous Peoples relating to the carbon fund mechanism remain the same. Indigenous Peoples have been demanding an equitable benefit-sharing mechanism in the result-based payment of the carbon fund; a full and effective participation in the decision-making process; and the preservation of customary governance, traditional knowledge, and cultural values as guaranteed by the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), and Convention 169 of the International Labor Organization (ILO C169). But these aspirations are fading away in the speed of flourishing carbon markets.

The country's emissions are primarily from the energy and forestry sectors. Nepal plans to address these emissions through renewable energy, energy efficiency, and forest conservation measures. It has developed a domestic carbon market, and has been participating in international carbon trading initiatives like the Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+) and the voluntary carbon market. The LEAF Coalition, a public-private partnership whose acronym stands for Lowering Emissions by Accelerating Forest Finance, is another initial engagement for Nepal to reduce deforestation and receive financial support for sustainable forest management. Unlike in the initial readiness phase of the REDD+ however, stakeholders' engagement has been gradually declining, and this is true especially with Indigenous Peoples' participation. This has unfortunately resulted in low levels of awareness and engagement in the mechanisms of present carbon markets, in which insufficient knowledge, time, and familiarity can be obstacles for Indigenous Peoples to ensure safeguards and redress faulty mechanisms in the new phase of the carbon market.

Indigenous Peoples' engagement in carbon markets should be based on Free, Prior, and Informed Consent (FPIC). The process of FPIC however, is often missed out as Indigenous Peoples are not allowed to decide on whether to fully engage, accept, or reject the carbon fund mechanism. This is still a problem with regard to participation in non-carbon markets in which recognition of customary forest and land tenure security founded on traditional governance continue to stands on shaky ground and needs to be addressed.

Introduction

Majority of Indigenous Peoples in Nepal are still dependent on natural resources for traditional livelihoods, where a symbiotic relationship exists between human beings and the surrounding landscape. The government of Nepal has already recognized 60 different Indigenous Peoples within the country, each with its unique traditional knowledge, cultural values, and languages (NEFDIN Act, 2002 & CIPRED, 2023).[1] Although the Indigenous Peoples of Nepal comprise more than 36% of the population (CBS 2021), their visibility in the carbon market both at the national and community levels is hardly seen. They are presented as vulnerable participants, rather than key actors, in the climate fund discourse that includes reports and studies about carbon markets as solution for the climate issue. This relegates them to being mere observers, and thus meaningful engagement has remained only in paper than in the practical level.

Nepal is among the most vulnerable countries to climate change and is at a high risk due to the country's fragile topography, climate-sensitive and subsistence livelihoods of the people, and their low adaptive capacity. Nepal has engaged in the REDD+ program since 2008. It has conducted pilot projects in Chitwan at the Terai lowlands, and the Himalayan districts of Gorkha and Dolakha as part of the readiness preparation phase. It is also about to implement an Emission Reductions Program in 13 Terai districts. Non-recognition of customary tenure practices, however, has undermined the prospect of the Indigenous Peoples fully benefitting from REDD+. Forestry laws and other relevant legal provisions are basically restrictive, focusing more on conservation than on social and cultural aspects. The Indigenous Peoples' contribution to forest conservation, and by extension to carbon emission reduction through their traditional customary practices, largely remains outside the REDD+ discourse due to limiting forest laws and regulations.

Indigenous Peoples in Nepal are stewards of a significant portion of the country's forests, which play a vital role in carbon sequestration. However, in the name of different forest regimes and relevant laws and policies such as those concerning national parks, conservation, and community forests, Indigenous Peoples' traditional governance systems in the sustainable management of forest resources is slowly disappearing. With the loss of traditional knowledge and cultural values, the symbiotic relationship of Indigenous Peoples with land and resources is in danger. Carbon market is expected to provide a financial incentive for communities to maintain and improve their forest management practices, with the possibility of increasing income, improving livelihoods, and increasing resilience to climate change. But with the provisions now in place that hardly recognize the role of indigenous customary institutions in the benefit-sharing mechanism, Indigenous Peoples are less likely to accrue their just share from these projects.

1 https://www.cipred.org.np/news-article/6/Publications

National Context

Nepal is a low-income country with relatively low greenhouse gas emissions. In 2019, its total emissions were estimated to be 15.2 million metric tons of carbon dioxide equivalent (MtCO2e), which is about 0.05 percent of global emissions. However, the country is highly vulnerable to climate change, and its emissions are expected to grow rapidly in the coming years, which is enough reason why it is committed to addressing climate change and reducing its emissions. In 2016, Nepal submitted its first Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC). While the target deadline of the NDC for reducing emissions in the energy and forestry sectors was set for 2030, an update of this that included ambitious goals were done in 2020. As signatory to the UNFCCC and the Paris Agreement, the country has committed to reducing its greenhouse gas emissions by 45 percent by 2030, compared to a business-as-usual scenario and committed to achieving net-zero emissions by 2045.[2]

The country's carbon emissions are dominated by the energy sector, which accounts for about 60 percent of total emissions. The main sources of emissions in the energy sector are electricity generation, transportation, and cooking. The forestry sector accounts for about 30 percent of emissions, mainly from deforestation and forest degradation, and the nation plans to address this by investing in renewable energy, improving energy efficiency, and protecting forests. Nepal has a significant potential for renewable energy development primarily those from hydroelectric, solar, and wind power sources, and is also working to improve energy efficiency in the transportation and building sectors. In the forestry sector, Nepal is working to reduce deforestation and forest degradation through different forest regimes such as the creation and maintenance of national parks, conservation, community forests, leasehold forests, religion or sacred forests, and government-managed forests, in which the priority is on restoration and tree planting. However, Indigenous Peoples' customary forest management is still not recognized under the Forest Act of 2019.

Nepal is also working to develop a domestic carbon market. This market would allow businesses to trade carbon credits among themselves. The government is currently developing the necessary regulations for this domestic market, but provisions that are supposed to be sensitive to the needs of Indigenous Peoples have not been visible. Whether or not these issues and concerns will be addressed sufficiently is still questionable. As such, the carbon markets in Nepal are still in their early stage of development, and the government is enthusiastic and committed to this project. Unlike in the readiness phase of REDD+ under the Forest Carbon Partnership Facility (FCPF) in Nepal, however, not enough consultation and engagement of Indigenous Peoples has been done in the preparation phase of the carbon markets.

Carbon markets in Nepal

The Carbon Markets in the country work under the basic principle that businesses and individuals who emit greenhouse gases can buy carbon credits to offset their emissions. Carbon credits are generated by projects that reduce greenhouse gas emissions, such as renewable energy projects and energy efficiency projects. The two main carbon markets in Nepal are the REDD+ market and the voluntary carbon market.

The REDD+ market

The REDD+ market allows countries to sell carbon credits generated from reducing deforestation and forest degradation. Nepal has signed an Emission Reductions Payment Agreement (ERPA) with the FCPF, which will allow it to sell carbon credits generated from REDD+ projects. Under the ERPA, Nepal will receive a payment of $5 for every ton of carbon dioxide emissions reduced. The readiness phase of emission reduction project started at the end of 2008 in Nepal.

The ERPA between Nepal and the FCPF Carbon Fund is a 10-year agreement which was signed in February 2021. Nepal is committed to reducing greenhouse gas emissions by 9 million tons of MtCO2e over the 10-year

2 https://unfccc.int/sites/default/files/NDC/2022-06/Second%20Nationally%20Determined%20Contribution%20%28NDC%29%20-%202020.pdf

period, in exchange for payments of up to $45 million. The REDD+ project in Nepal is being implemented in the Terai Arc Landscape, which is a critical forest ecosystem that spans five provinces and 13 districts. The project aims to benefit over 1 million people, including indigenous communities and women, who depend on the forests for their livelihoods and well-being. The REDD+ project in Nepal is being implemented by the REDD Implementation Centre, which is a government agency under the Ministry of Forests and Environment. The REDD Implementation Centre is responsible for overseeing the implementation of the project, monitoring and reporting on its progress, and distributing the benefits to the participating communities.

The voluntary carbon market

Voluntary carbon markets allow individuals and organizations to offset their emissions by purchasing carbon credits from projects that reduce or avoid emissions. Carbon credits are generated by projects that reduce emissions from activities such as renewable energy, energy efficiency, and forestry. Voluntary carbon markets work by matching buyers and sellers of carbon credits. Buyers are typically individuals or organizations that want to offset their emissions, while sellers are typically project developers who implement projects that reduce or avoid emissions. Buyers and sellers can trade carbon credits directly or through a carbon market intermediary, that help in matching buyers and sellers, and also provide services such as carbon accounting and verification.

There are a number of voluntary carbon market platforms that operate in Nepal, such as the Verra and the Gold Standard. Businesses and individuals can purchase carbon credits from these platforms and then retire them to offset their emissions. This type of carbon market is still relatively small, but interest in it is growing, and the government is committed to developing a robust and transparent carbon market system. Nepal is developing its carbon market, but there is no fully established market yet. However, there are a number of voluntary carbon market initiatives underway in the country.

Voluntary carbon markets are governed by a number of carbon standards, which help to ensure that carbon credits are generated from high-quality projects. The most widely used carbon standards are the Verified Carbon Standard (VCS) and the Gold Standard. These standards have strict requirements for project design, implementation, and monitoring.

Carbon standards provide a number of important things, including:

- Mechanisms for consultation and complaints from interested parties
- Specific environmental and social safeguard requirements
- Sound methodologies to determine baselines and project contributions
- Requirements for project review
- Participation of Indigenous Peoples in decision-making

Despite challenges such as meager awareness and understanding of carbon markets, insufficient capacity to develop and implement carbon projects, and lack of investment in carbon projects, there is growing interest in carbon markets in Nepal. The Government of Nepal is developing a national carbon market policy, and a number of private sector companies are developing carbon projects.

One voluntary carbon market initiative in the country is the Nepal Climate Change Support Program (NCCSP). The NCCSP is a program that provides support to project developers in the development and implementation of carbon projects. The NCCSP is open to all communities nationwide. However, the program is prioritizing the most vulnerable communities, which are typically those living in remote areas and with limited access to resources. It is implementing a variety of programs to support communities to adapt to climate change that mainly includes Local Adaptation Plans of Action (LAPAs) formulation and Implementation, climate-resilient agriculture practices, community-based forest management, and climate-resilient infrastructure development. The NCCSP aims at recognizing the unique vulnerabilities of indigenous communities to climate change and

takes steps to ensure that they are fully able to participate in the program through a culturally sensitive approach. However, indigenous representation in this initiative is seen as being part of the bigger marginalized population than being defined explicitly as people having unique cultural characteristics who have their own needs.

The LEAF coalition in Nepal is a public-private partnership that aims to reduce deforestation and protect tropical forests, and it involves the Government of Nepal through its Ministry of Forests and Environment and REDD Implementation Centre, EMERGENT, and other stakeholders such as civil society organizations (CSOs) and private sector companies. The country is a member of the LEAF Coalition, and has signed a Letter of Intent (LOI) with Emergent,[3] the transaction intermediary for the Coalition, to explore ways to lessen deforestation and receive payments for doing so. The LEAF Coalition and EMERGENT are working with Nepal to create carbon markets based on The REDD+ Environmental Excellence Standard (TREES) aimed at measuring, monitoring, reporting, and verifying greenhouse gas.[4] With the signing of LOI with LEAF and EMERGENT[5] in November 2021, capacity-building activities are expected to be implemented to raise awareness on TREES and facilitate engagements of indigenous communities. Pilot projects adapting the ART's TREES will also be conducted to further develop the carbon markets.

In addition to the financial benefits, the LEAF Coalition can also help Nepal to achieve its own climate and sustainable development goals. Nepal has committed to reducing its greenhouse gas emissions by 45 percent by 2030, and to increase its forest cover to 45 percent of its land area. The LEAF Coalition can help Nepal in its goals by providing financial support for sustainable forest management and by helping to reduce the demand for forest products. However, in the name of carbon markets and sustainable management of the forest, the issues and concerns of Indigenous Peoples rights especially for the protection, promotion and recognition of customary governance systems of forest and resources should not be undermined. The meaningful engagement of Indigenous Peoples to maintain their symbiotic relationship with land and forest needs to be addressed in the creation of carbon markets.

Indigenous Peoples and the carbon market: Community experiences

Indigenous Peoples in Nepal have mixed opinions with carbon and other environmental markets, such as the REDD+ and Payments for Ecosystem Services (PES). Initially when the REDD+ concept started, the condition of "*No Rights No REDD*" became the basis for Indigenous Peoples to have a voice in the implementation of the REDD+ both at national and international levels. Some groups in the indigenous community sector rejected REDD+ because there was no assurance of including provisions about Indigenous Peoples' fundamental human rights in line with Cancun safeguards and international instruments. However, there has also been efforts among indigenous groups to understand the process of REDD+ and engage fully with the objective of ensuring rights promotion and protection through the social and environment safeguards in REDD+. This has resulted in regular engagement of both Indigenous peoples and local communities' representatives through multi-stakeholders' engagement in the readiness phase of REDD+ through the Forest Carbon Partnership Facility (FCPF) and World Bank (WB) in Nepal. Some of the additional activities in REDD+ were also carried out through UN-REDD program to enhance the readiness phase of REDD+ in Nepal.

Furthermore, gender sensitivity within the indigenous peoples discourse should also be highlighted in initiating carbon markets. In 2011 the Forest Carbon Trust Fund (FCTF) was established through the pilot phase of REDD+ in three districts to institutionalize the project payment mechanism. As a project incorporating the

3 Emergent is a US non-profit created to address the urgent climate and biodiversity crises by accelerating finance to support reductions in deforestation at scale, and serves as the initiative's administrative coordinator and facilitates LEAF transactions.

4 This is patterned after the standards of the Architecture for REDD+ Transactions (ART), a global initiative of the REDD+ that seeks to incentivize governments to reduce emissions from deforestation and forest degradation (REDD), as well as restore forests and protect intact forests (+).

5 https://redd.gov.np/page/introduction

concerns of the indigenous, it was commendable. It will be more inclusive if it can meet the challenge of giving priority to more disadvantaged sectors, such as Indigenous Women, and there is an opportune time for this in the phase of implementing the Benefit Shaping Plan (BSP) to be done in 13 districts of the Emission Reduction Program (ERP) areas.[6]

Rights of Indigenous Peoples and the Carbon Market

The rights of Indigenous Peoples to own, use, control, access, and develop customary lands, territories, and resources are often missed out in project proposals of carbon market in Nepal. In the Forest Act, 2019 there is no direct provision that stipulates management of the forest by indigenous customary governance systems. This existing legal provision can only guarantee that national forests as administered by the government can be classified according to their nature and use as government-managed forest, forest conservation area, community forest, collaborative forest, leasehold forest and religious or sacred forest.

Apart from few efforts for the recognition of Indigenous customary institutions by local laws,[7] in the existing pilot area of emission reduction program of Nepal there is no recognition of customarily managed forest by Indigenous Peoples. Furthermore, in the protected areas and national parks such as Chitwan, Bardiya and Suklaphanta, the situation of Indigenous communities becomes more precarious as they continue to get their basic needs and resources from traditional livelihoods. In such a situation, ensuring the rights of Indigenous Peoples in carbon markets does not look promising. Therefore Article 6.4 of the Paris Agreement on carbon markets with its clear-cut methodology and potentials for safeguards is important. Participating in its discussions and negotiations can help in upholding traditional knowledge, cultural practices, and rights of Indigenous Peoples.

The potential impacts of carbon and other environmental market projects on Indigenous Peoples' traditional livelihoods need to be assessed, which is critical to the issue of access to forests and the management of natural resources. This is crucial before making any decisions on whether or not to participate in these projects. Indigenous Peoples are not always involved in the monitoring, reporting, and verification of carbon credits. This can be a problem, as it can make it difficult for Indigenous communities to ensure that their benefits are being accurately accounted for. It is important to ensure that Indigenous Peoples are involved in the monitoring, reporting, and verification of carbon credits. This means providing them with the training and resources they need to participate in these processes effectively.

The terms of benefit-sharing in carbon crediting schemes and carbon market projects are often set by the project developers. This can be a problem, as Indigenous communities may not have the bargaining power to negotiate favorable terms. It is important to ensure that Indigenous Peoples are involved in setting the terms of benefit-sharing in carbon crediting schemes and carbon market projects. This means giving them a meaningful say in how the benefits from these projects are distributed. As mentioned above, a carbon market based on human rights approach is necessary to make sure the dissemination of information about the project starts from the very beginning. As such, this will effectively raise the level of awareness and build capacity for Indigenous Peoples to understand, negotiate and decide during the phases of the project. This would not only be helpful for Indigenous communities to continue traditional livelihoods, knowledge, and values but also for the rest of the stakeholders, as it builds a good working environment and harmonious relationships among them.

6 Indigenous women and benefit sharing in Emission Reduction Program (case study of Nepal) , TEBTEBBA, 2022

7 https://www.cipred.org.np/uploads/files/CIPRED%20Coffee%20Table%20Magazine,%202023.pdf

Challenges and Opportunities

Overall, there opportunities and challenges that Indigenous Peoples face in participating in carbon crediting schemes and carbon market projects. The key idea is to ensure that Indigenous Peoples are treated as partners and decision makers in these projects, and that their rights are respected and protected if these are to be successful. The safeguards already formulated to uphold and promote the rights of Indigenous Peoples should form part of the cornerstone in the formation of carbon markets.

Challenges:

- Lack of capacity and expertise: Nepal is a developing country with limited capacity and expertise in carbon markets.
- Lack of data on forest carbon stocks: There is a lack of reliable data on forest carbon stocks in Nepal, which makes it difficult to develop and implement carbon market projects; more importantly, forests managed by customary practices are not in database of the Nepal Government.
- Complex and bureaucratic procedures: The procedures for developing and implementing carbon market projects in Nepal can be complex and bureaucratic.
- Risk of land grabbing: There is a risk that carbon market projects could lead to land grabbing, as investors may seek to acquire land from Indigenous communities for the purpose of developing carbon projects.
- No recognition of Indigenous Peoples' rights over their land and resources, and the lack of customary land tenure security
- No inclusion of Indigenous customary institutions in the formation of sustainable forest management systems, which should stipulate the benefits to Indigenous Peoples in a result-based payment of the carbon market.
- Absence of rights-based approach of the carbon market system in Nepal.

Opportunities:

- Additional Income: Carbon markets can provide additional income for Indigenous communities; the existing benefit sharing mechanism does not ensure it however, as it does not recognize customary institution of Indigenous Peoples as part of the forest governance systems.
- Improved forest management: Carbon market projects can help to improve the management of Nepal's forests and other natural resources by incorporating Indigenous customary forest management systems founded on traditional knowledge and cultural values.
- Reduced greenhouse gas emissions: Carbon markets, implementation of which should be based on equitable benefit sharing mechanism, can help reduce greenhouse gas emissions in Nepal.
- Raised awareness: Carbon markets can help to raise awareness of climate change and the role of Nepal in addressing climate change and sensitization; and also highlights the roles and contributions of Indigenous Peoples' knowledge and cultural practices for adaptation and mitigation by mainstreaming Indigenous Peoples in each and every step of the project design and implementation.

Recommendations

In the existing benefit sharing modalities, the legal recognition of customary land tenure security in the implementation of carbon markets is absent. Indigenous Peoples have been demanding for the rights-based approach to be part of the process of carbon markets that is guided by international conventions such as UNDRIP and ILO Convention 169. Because the domestic laws are not revised, none of the present legal frameworks such as the Forests Act, 2019 and National Parks and Wildlife Conservation Act have provisions ensuring the rights of Indigenous Peoples to enjoy the customary governance of surrounding landscapes and resources. Therefore, there is a need for carbon market regulations to embody not only environmental and social values but also principles that uphold the rights of Indigenous Peoples. The last one most especially should include customary tenure security in carbon markets, in which Indigenous Peoples have meaningful participation and their decision-making role is significant.

Indigenous Peoples in Nepal should be engaged in carbon markets in a way that respects their rights and interests. This can be done by:

- Ensuring free, prior, and informed consent (FPIC): Indigenous Peoples must be given FPIC before any carbon market projects are developed on their lands or territories. This means that they must be provided with clear and comprehensive information about the project, its potential impacts, and the benefits that they will receive from the project. They must also be given the opportunity to express their views on the project and to withhold their consent if they wish.
- Providing capacity and expertise: Indigenous Peoples may lack the capacity and expertise to participate in carbon markets effectively. It is important to provide them with the training and support they need to develop and implement carbon market projects. This can be done through government programs, civil society organizations, and the private sector.
- Ensuring equitable benefit sharing: Indigenous Peoples must receive an equitable share of the benefits from carbon market projects. This can be done through a variety of mechanisms, such as direct payments, community investment funds, and joint ventures.
- Protecting the environment: Carbon market projects must be designed and implemented in a way that protects the environment and the natural resources that are important to Indigenous Peoples. This includes ensuring that projects do not have a negative impact on biodiversity, water resources, and cultural heritage sites.

Specific examples of how Indigenous Peoples can be engaged in carbon markets in Nepal:

- Indigenous communities can develop and implement their own carbon market projects. This can be done through community-based forest management programs, community-led conservation initiatives, and other programs that promote sustainable land management practices.
- Indigenous communities can partner with the private sector to develop and implement carbon market projects. This can be done through joint ventures, investment agreements, and other partnerships.
- Indigenous communities can sell carbon credits to governments and other buyers. This can be done through direct sales or through carbon market registries and brokers.

The Government of Nepal, civil society organizations, and the private sector can all play a role in engaging Indigenous Peoples in carbon markets. The government can develop policies and regulations that support Indigenous participation in carbon markets. Indigenous Peoples contribution to emission reduction should be acknowledged by encompassing them in benefit sharing plans. Civil society organizations can provide training and support to Indigenous communities. The private sector can partner with Indigenous communities to develop and implement carbon market projects.

Here are some specific steps that can be taken:

- The Government of Nepal can develop a national policy on carbon markets that includes specific provisions for meaningful participation of Indigenous communities.
- Civil society organizations can develop training programs on carbon markets for Indigenous communities.
- The private sector can form joint venture agreements and other partnerships with Indigenous communities to develop and implement carbon market projects.
- Carbon market registries and brokers can develop appropriate procedures to facilitate access of Indigenous communities to carbon markets.
- There should be development and implementation of programs and mechanisms that finance rights-based compensation for Indigenous Peoples and local community organizations linked to historical stewardship of their ecosystems and carbon.
- There should be a comprehensive and widespread recognition of Indigenous Peoples and local communities' tenure rights to above- and below-surface carbon in land and forests that are a part of their homelands and territories.
- What is needed is support for research on the function and significance of rights-based terrestrial carbon sequestration, equity-based engagement between Indigenous peoples and local communities and outside actors, and mechanisms to reinforce current Indigenous Peoples' and local communities' successes in terrestrial carbon sequestration.

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VIETNAM

Ethnic Minorities Collaborative Perspective on Carbon Market in Vietnam

Vu Thi Hien – Research consultant

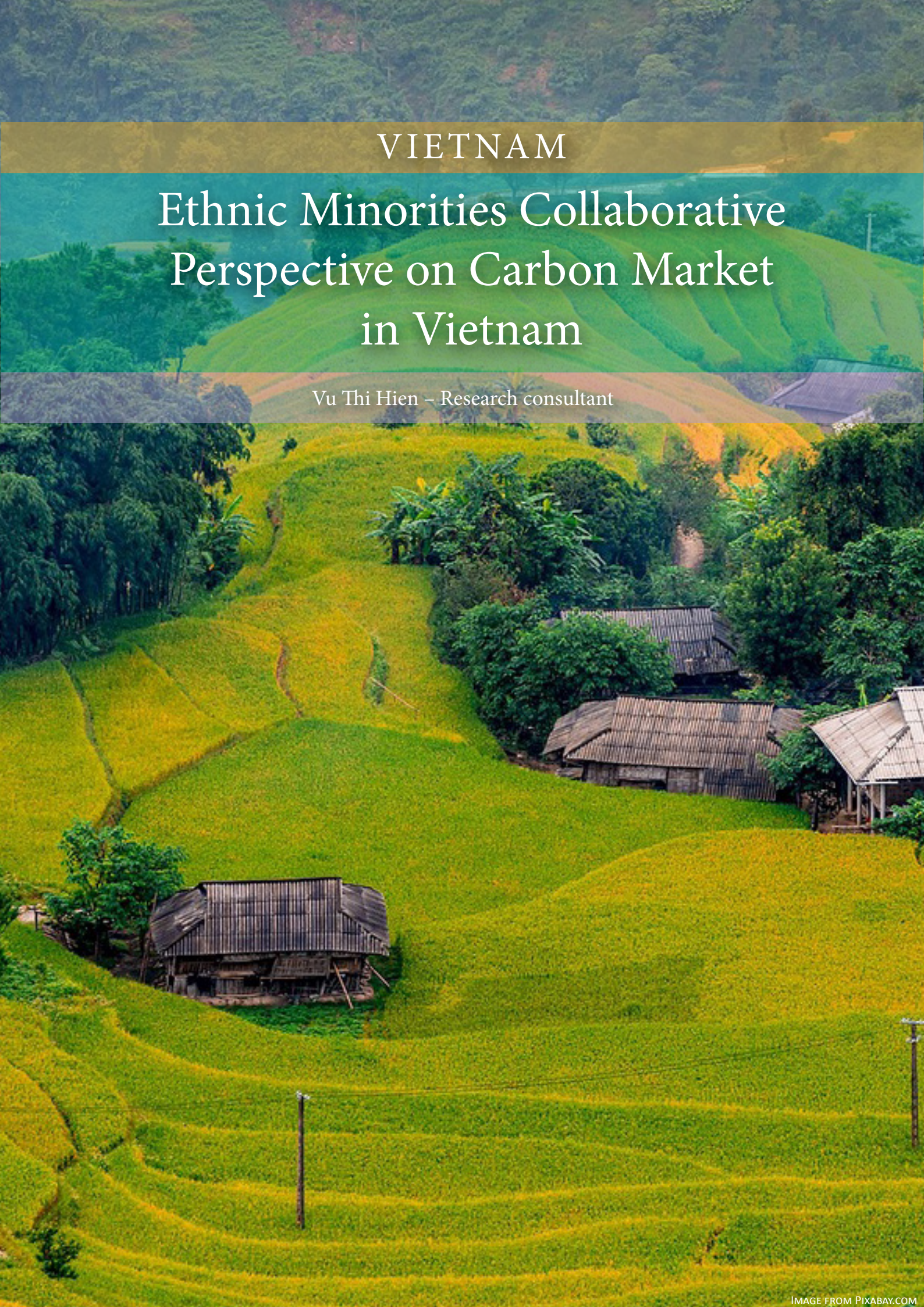


Image from Pixabay.com

Introduction

The report of the scoping study aims to understand the perspectives of ethnic minorities in Vietnam about carbon markets, including the experiences on results-based payments (RBP); review the relevant policies; and explore the challenges and opportunities for ethnic minority communities in participating in the carbon market effectively, efficiently, and equally.

Objectives of the Study

The overall objective of the study is to understand the issues and concerns about carbon markets. Specifically, the scoping study aims to:

- Determine the country's engagement with the carbon market and/or carbon market's design elements found in the country;
- Identify barriers to the ethnic minorities' access to carbon markets, challenges they encounter, and opportunities; and
- Seek recommendations from ethnic minorities on their own engagements (or non-engagement) in carbon markets (particularly voluntary carbon markets).

Methodology

The author conducted the literature review and analysis on the existing documents including reports from government agencies, and academia. Policy analysis was also employed to review and analyze the current policies, regulations and legal frameworks relevant to the carbon market in general, and to forest carbon markets in particular. Interviews with the relevant stakeholders, the ethnic minorities, were conducted to find out perspectives about carbon market. Lastly, the study gathered the experiences and good practices from a number of projects that the Centre of Research and Development in Upland Area (CERDA) implemented at the ground.

Overview of the Country's Carbon Emissions

According to the report by the Prime Minister, Vietnam has implemented and announced six national GHG inventories for the years 1994, 2000, 2010, 2013, 2014, 2016, 2018, and 2020 based on aggregated national and sectoral-level data. In the period from 1994-2020, total GHG gas emissions in Vietnam (including Land Use, Land-Use Change and Forestry, or LULUCF) increased rapidly from 103.8 m tons of CO_2 equivalent to about 413.5 million tons of CO_2 equivalent. It can be seen that Vietnam's total national GHG emissions have increased rapidly over time, with an average increase of over 11 million tons of CO_2 equivalent per year. This level of increase has been especially rapid in recent times, as will be discussed.

The energy sector was recorded to have the fastest growth rate in the national greenhouse gas inventories. The total greenhouse gas emissions from the energy sector increased from 25.6 million tons of CO2 equivalent in 1994 to 286.5 million tons of CO2 equivalent in 2020. In this sector, the emissions mainly came from fuel burning activities, and emissions from fossil fuels only account for a small part, about 10 percent. In addition to fossil fuel emissions, industrial activities also emitted greenhouse gases, with an increase from 3.8 million tons of CO2 equivalent in 1994 to 52.7 million tons of CO2 equivalent in 2020. The growth rate of emissions in this sector is proportional to the growth rate of industries, mainly from the construction materials production industry, especially cement and lime production, and the metallurgical industry.

Meanwhile, the greenhouse gas emissions from the waste sector increased rapidly from 2.6 million tons of CO2 equivalent in 1994 to 20.7 million tons of CO2 equivalent in 2016, and increased sharply to 30 million tons of CO2 equivalent in 2018. These continued to increase to 31 million tons of CO2 equivalent in 2020 despite slowing down. In particular, the main greenhouse gas contribution to this sector is still emissions from solid waste landfills.

The emissions from the agricultural sector are mainly from rice cultivation and other farming activities. The emissions from rice farming activities in the agricultural sector are relatively stable, especially in the period 2010 - 2016, and tended to decrease slightly in recent greenhouse gas inventories. The emissions from forestry and land use changes since 2010 have shifted from emitters to sinks, thereby helping to reduce the country's total greenhouse gas emissions. However, the total emissions of the Agriculture, Forestry, and Other Land Uses (AFOLU) sector still increased slightly during the inventory periods due to two main reasons: the increasing contribution of the livestock sector, as well as the decline in forest area and quality of forest.

Current status and forecast of Vietnam's greenhouse gas emissions according to NDC

To date, Vietnam has implemented and announced six national greenhouse gas inventories for the years 1994, 2000, 2010, 2013, 2014, 2016, 2018, and 2020 based on the aggregated national and sector-level data. In the period from 1994 to 2020, the total greenhouse gas emissions in Vietnam (including LULUCF) increased rapidly from 103.8 million tons of CO2 equivalent to about 413.5 million tons of CO2 equivalent. It can be seen that Vietnam's total national greenhouse gas emissions are increasing rapidly over time, with an average increase of over 11 million tons of CO2 equivalent per year. This level of increase has been especially rapid in the recent times, as the following shows:

Table 1. Results of the greenhouse gas inventory over the inventory periods[1]

#	Sector	1994	2000	2010**	2013	2014**	2016**	2018	2020
Unit: Thousand tons of CO_2 equivalent									
Total net emissions		103,839.30	150,899.73	264,210.67	259,024.10	278,659.70	316,734.94	350,555.27	413,496.76
1	Energy	25,637.09	52,773.46	151,879.06	151,402.52	17,.540.20	205,832.20	236,596.03	286,512.52
2	Industrial processes	3,807.19	10,005.72	25,844.05*	31,767.38	38,732.71*	46,094.64	44,679.31	52,689.74
4	Agriculture	52,450.00	65,090.65	68,710.81***	89,407.82	44,997.92***	44.069,74***	39.053,14	89,047.96
5	LULUCF	19,380.00	15,104.72		-34,239.83				-45,815.32
6	Wast	2,565.02	7,925.18	17,776.73	20,686.21	19,388.87	20,738.38	30,226.79	31,061.86

*Note: Negative value (-) shows the GHG mass of the absorption tank. * Results calculated according to IPPU (Greenhouse gas emissions from the industrial process sector and product use) ** Recalculated results according to BUR3 (Biennial Update Report – 3rd edition (BUR3) to the United Nations Framework Convention on Climate Change (UNFCCC))*

Greenhouse gas inventories are considered a foundation for carbon markets and carbon taxes by the Vietnamese government. Laws, decrees, decisions, and circulars related to the greenhouse gas inventories have been issued by the Government and its Ministries to enable protection of the environment.

Table 2: Forecast of national greenhouse gas emissions for the period 2020-2030

Year	Energy	Agriculture	LULUCF	Wast	IP	Total
2020	347,5	104,5	-35,4	31,3	80,5	528,4
2025	500,7	109,2	-37,9	38,1	116,1	726,2
2030	678,4	112,1	-49,2	46,3	140,3	927,9

According to the updated 2022 NDC Technical Report of the Ministry of Natural Resources and Environment, the emission trend forecast according to Vietnam's Business-Usual Development Scenario in the period 2020 - 2030 will continue to increase. The total national emissions in 2030 is estimated to reach 927.9 million tons of CO2 equivalent. Among them, the energy sector is still the sector with the largest emission level with 678.4 million tons of CO2 equivalent, followed by the fields of industrial processes, agriculture, and waste. The LULUCF sector still absorbs about 50 million tons of CO2 equivalent.

Fields and facilities as required by government to account for their emissions include the sectors of energy, transportation, construction industry, industrial processes, and AFOLU (See Annex for the list). Additional details about this requirement can be seen in Clause 1, Article 6, Decree 06/2022/ND-CP dated January 7, 2022 provided by the Government. From this decision, the total number of the facilities required to inventory greenhouse gases by October 2023 is 2,893 facilities. This is an increase of 981 facilities, equivalent to an increase of 51.3% compared to 2022, and estimated to account for about 34.5 % of total national greenhouse gas emissions. These are the facilities with high levels of greenhouse gas emissions in all industries and fields that need to be strictly managed on greenhouse gas emissions. They need to carry out measures to reduce greenhouse gas emissions from now until 2030 to contribute significantly in achieving the NDC emission reduction targets by 2030.

1 Source: First national announcement, Ministry of Natural Resources and Environment, 2000; - Second national announcement, Ministry of Natural Resources and Environment, 2000; - First biennial update report, Ministry of Natural Resources and Environment, 2014; - Second biennial update report, Ministry of Natural Resources and Environment, 2017; - Third national announcement, Ministry of Natural Resources and Environment, 2019; -Third biennial update report, Ministry of Natural Resources and Environment, 2020;

The same facilities from 2025 will have to submit reports on greenhouse gas inventory results to specialized agencies under the People's Committee for appraisal. At the same time, these facilities must develop and implement plans to reduce greenhouse gas emissions. The ministries in charge of their fields are also responsible for guiding greenhouse gas inventories and appraising its inventories at facilities within the scope of their management.

Some provinces have also issued regulations on the implementation of greenhouse gas inventory to mitigate greenhouse gas emissions, such as the Tien Giang province.[2] The Ministry of Agriculture and Rural Development also issued a circular on measurement, reporting, appraisal, results of greenhouse gas emission mitigation, and greenhouse gas inventory in the forestry sector.[3] The regulations on greenhouse gas inventory are mandatory for facilities listed by the Prime Minister, who encourage other facilities outside the list to proactively conduct greenhouse gas inventory and reduce emissions of greenhouse gases in its production and business activities.

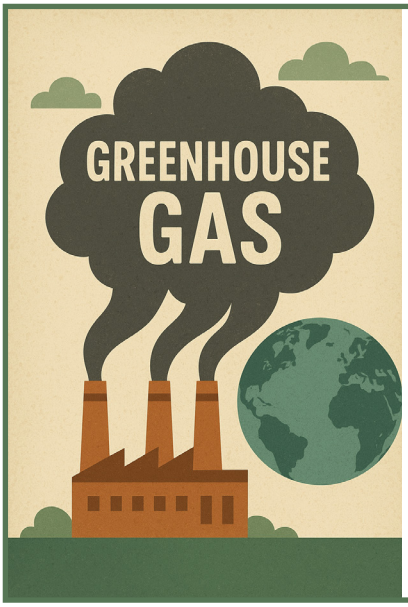
Sectors	Description/Scope
Construction	energy consumption in the construction industry; industrial processes in construction production, manufacturing enterprises and commercial buildings
Industrial Processes	metallurgy; chemical production; electronics industry; use substitutes for ozone-depleting substances; production and use of other industrial products
Energy	coal, oil, natural gas exploitation; energy production industry; energy consumption in industry, services, commerce and residential areas
Waste	solid waste treatment using biological methods; solid waste landfill; burning and exposing waste; wastewater treatment and discharge
Transportation	energy consumption in transportation, freight transport companies
Agriculture	livestock; forestry and land use change; crop; energy consumption in agriculture, forestry and fisheries; other emission sources in agriculture

One of those with increasing emission is the livestock sector under agriculture and rural development. The Prime Minister issued emission quotas to various sectors ad facilities, and this will continue as informed by GHG inventories. If Vietnam continues towards a low-carbon development path, a net zero emissions goal by 2050 can be reached.

A roadmap for the GHG inventories was drawn by the government with the following timetable and targets. As included in the road map of the Vietnam government, conduct of inventory is set to be achieved by 2024. By 2025, a complete report of GHG inventory should be done and a plan for GHG reduction is expected to be completed. The Ministry of Natural Resources and Environment, Ministry of Management, and the Provincial Department of Natural Resources and Environment are expected to have active involvement in the implementation of these plans.

2 Issued the Announcement No. 1437/TB-STNMT, April 15, 2022

3 Circular No. 23/2023, dated 15/12/2023



Procedure for conducting greenhouse gas inventory.

The process of conducting a greenhouse gas inventory goes through 9 steps:

1. Choose a greenhouse gas inventory method.
2. Select emission coefficient, absorption coefficient, and other coefficients.
3. Select, collect, and process operational data.
4. Calculate greenhouse gas emissions and absorption.
5. Assess uncertainty.
6. Recalculate greenhouse gas inventory results
7. Develop a report on greenhouse gas inventory results.
8. Quality control.
9. Assess greenhouse gas inventory results.

The conduct of GHG inventories is not easy for Vietnam for they still lack the facilities, technical expertise, human resources, funds, and other resources to come up with comprehensive and up-to-date GHG inventories. To set up the work in the conduct of GHG inventories, the State began information dissemination (e.g. disseminate the 2020 Environmental Protection Law, regulatory documents); delivery of training on emission inventory calculation methods in the sectors of cement, food and beverages, and waste management; discussions among the different facilities to exchange and share their experiences; and various government Ministries coordinated to issue guiding documents (i.e. the Department of Trade and Industry (DTI) issued guiding documents to provinces).

The Country's Commitment, Plans and Strategies in curbing its Carbon Emissions

As one of the countries most heavily affected by the impacts of climate change, Vietnam is strongly committed to joining the international community in responding to this phenomenon. The total greenhouse gas (GHG) emissions of Vietnam accounted for a small proportion of global GHG emissions (0.7% in 2014) but the country still reaffirms a strong commitment to mitigate climate change. The country has signed the Paris agreement, committed to reduce methane emissions by 30 percent to achieve the 2030 target, according to Emissions Reduction Commitment Global Methane. It has expressed commitment to shift to clean energy, reverse deforestation and land degradation by 2030, and to mobilize resources in reducing hydrofluorocarbons (HFC) emissions.

Currently, Vietnam has a policy system related to the mitigation of the GHG emissions. The Vietnam Government and other agencies, ministries and branches have issued more than 300 important documents, including 67 documents issued by Government directly or indirectly which are related to climate change. This are creating opportunities to promote GHG emission reduction at various sectors. (See Annex)

Nationally Determined Contributions (NDC)

The unconditional contributions of Vietnam in NDC 2022 have increased significantly compared to NDC 2020 in both the amount of emission reduction and the percentage of emission reduction compared to Business As Usual (BAU). The amount of emission reduction in NDC 2022 is 146.3 million tons of CO2eq as compared to 83.9 million tons of CO_2eq in NDC 2020, with a difference of 62.4 million tons CO_2eq. The percentage of emission reduction compared to BAU in NDC 2022 is 15.8% compared to 9% in NDC 2020 (additional reduction rate is 6.8% compared to BAU).

The conditional contributions in NDC 2022 have increased significantly compared to NDC 2020. Accordingly, the quantity of the emission reduction in NDC 2022 is 403.7 million tons CO2eq compared to 250.7 million tons CO_2eq in NDC 2020 (with an additional reduction of 153.0 million tons CO2eq). The percentage emission reduction compared to BAU in NDC 2022 is 43.5% compared to 27.0% in NDC 2020 (additional reduction rate is 16.5% compared to BAU). Sectors from energy,[4] agriculture,[5] LULUCF,[6] waste, and industrial processes[7] will be monitored closely.

To implement the NDC, Vietnam has identified 67 inter-sectorial measures of which 42 measures will be implemented through domestic resources to achieve an estimate of 529.7 million tons CO_2eq reduced GHG emissions costing about 17.3 billion USD. When additional support is available, outside domestic resources with an estimated cost of about 30.6 billion USD additional GHG reductions (and amounting to 864.3 million tons of CO_2eq emissions) can be done by various sectors.

When analyzing in detail the measures of all five sectors, there are many that have negative net emissions reduction costs. For example, the measure “burying solid waste with landfill gas recovery for electricity generation” has an emission reduction cost of -0.5 USD/ton CO2eq. These are measures that benefit from reducing greenhouse gas emissions. When implemented, other benefits can also be created (for example, providing gas for electricity generation), and therefore the total benefit is greater than the total cost of implementation. Therefore, the net emissions reduction cost of the measure is negative.

There are 24 priorities with negative net cost emission reduction measures for the period of 2021–2030 in the sector of energy, LULUCF, agriculture, waste and Industrial Processes (IP). These include:

Sector	Activities
Energy	Optimize clinker burning cycle; reduce heat loss of clinker kiln; recover waste heat from cement production; applying the improved technology in the production of fired bricks; spraying powdered anthracite coal into the blast furnace; preheat steel scrap before putting it into the electric arc furnace (EAF); heating in steel rolling mill; limit fuel consumption for new manufactured, assembled and imported motor vehicles; changing the mode of passenger transport from using private vehicles to using public transport; convert from road transport to inland and coastal waterways; use electric motorbikes; use high-performance electrical equipment in commercial services; improve energy use efficiency in industrial sub-sectors; increase the load factor of trucks; convert mode of transport from road to the railway;
Agriculture	Converting rice-rice land into rice-aquaculture land; convert rice land into dry crop land
LULUCF	Preserve and protect the existing natural forest areas in the mountainous areas; conserve and protect the coastal forests; improve productivity and carbon stocks of large timber plantations; sustainable forest management and forest certification
Waste	Burying solid waste with landfill gas recovery for electricity generation; semi-aerobic landfill; production of organic fertilizer from solid waste; production of RDF (Refuse Paper and plastic fuel) fuel panels
IP	Grinding fly ash to replace clinker in cement composition; grinding Pozzolana replaces clinker in cement composition; grinding limestone replaces clinker in cement composition

4 Emissions from fuel combustion includes energy industry; industrial production and construction; transportation; other: household appliances, agriculture and commercial services

5 Rumen digestion; organic fertilizer management; rice cultivation

6 Forestry land, cultivated land, grassland land, flooded land, other land

7 Building materials, chemical industry, consumption of HFCs (hydrofluorocarbons)

The financial need for this group of measures is estimated at 3.9 billion USD in the period 2021–2030. The total estimated GHG reduction in 2030 alone is 45.5 million tons of CO2eq, equivalent to a reduction of 4.9% compared to National BAU Scenario, or more than half (54.2%) compared to the committed level of 9% (83.9 million tons CO2eq). If there is international support, 24 measures can be implemented in which the financial need is estimated at 8.84 billion USD (international support accounts for about 56%). The estimated total emission reductions due to these measures is equivalent to about 10.4% of total emissions forecast for 2030, reaching 38.5% compared to the commitment of 27%.

These measures, which ensure a sure profit when implemented, will contribute from 38.5% to 54.2% of the GHG emissions reduction commitment according to the updated NDC of Vietnam. Meanwhile, the positive externalities of these measures helping to promote efforts to reduce GHG emissions in other sectors of the entire economy have not yet been taken into account. Thus, Vietnam has many opportunities to successfully implement commitments in the updated NDC.

However, there are still challenges to reducing GHG emissions in Vietnam such as the following:

- Lack of guidance, mechanisms and plans to implement GHG emission reduction according to NDC at the local level;
- Initial investment capital for GHG emission reduction solutions is often high, but financial resources for GHG emission reduction activities are limited;
- There is no policy mechanism attractive enough for the private sector to participate in GHG emission reduction activities; and
- Enterprise capacity (both financial and technological) is limited, and the general awareness about solutions to reduce GHG emissions is still limited.

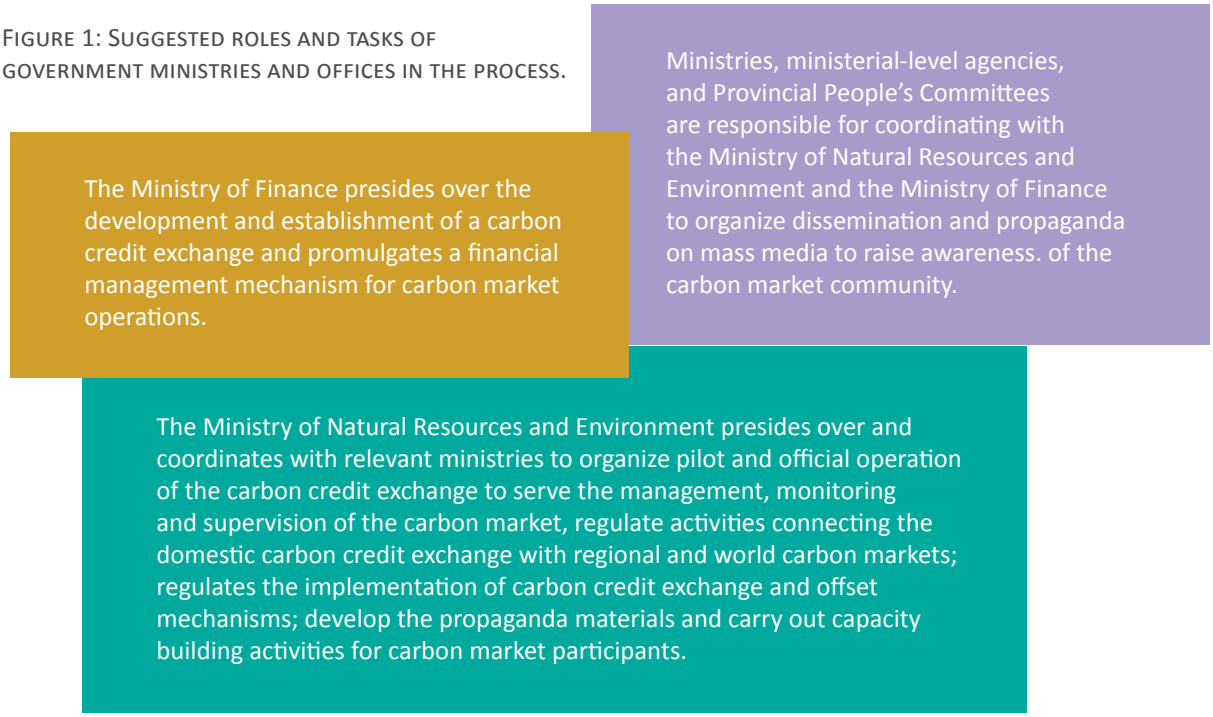
Overview of Carbon Markets in Vietnam

Vietnam is a country with a lot of potential in engaging with the carbon markets, both voluntary and involuntary. Currently, the carbon market that Vietnam is trying to build is a mandatory market. This means that the facilities will have their greenhouse gas emissions controlled. If they discharge more than the set quota, the facilities can buy additional carbon credits on the mandatory market, or a small portion from the voluntary market to offset carbon credits. In contrast, the voluntary carbon credit market has been operating for some time, mainly from forestry.

In Vietnam's NDC, resource mobilization is an important component to support all the plans and programs to achieve its commitments for reducing GHG emissions. The carbon market is an opportunity to leverage for transforming the national economy toward a low carbon economy. The development of the carbon market is divided into 2 phases – the first is from the present until the end of 2027, and the second is from 2028 onwards. The first phase aims to develop regulations for the carbon market, raise awareness, conduct capacity-building activities, and implement pilot for credit exchange. The next phase is seen as the period for the carbon trading itself where regulatory mechanisms are already in place.

Aside from those laws mentioned above, specific provisions to govern the operation of the carbon market were developed. The Law on Environmental Protection laid out the roles and tasks of government ministries and related offices to actively participate in the process (Figure 1).

Figure 1: Suggested roles and tasks of government ministries and offices in the process.



Exchange of carbon credits and quotas among entities were also tackled in the decree, and it reinforced that these quotas of emissions will be applied to the listed sectors and facilities that are obligated to have their GHG inventories. All entities that will engage in the carbon market are required to comply with all the government's provisions and requirements. The Ministry of Natural Resources and Environment (MONRE) should be notified of any initiatives. The recognition of issued carbon credits should be according to internationally and nationally recognized methods.

MONRE will be responsible for certifying carbon credits. The organizations and individuals wishing to certify carbon credits need to comply with the prescribed procedures, and must complete the application according to the prescribed form and send the application to the MONRE via the online public service system. Participants in the domestic carbon market can include all organizations, households, individuals, and communities specified in Article 8 of the decree. Article 8 requires the lessening of emission levels in different sectors and fields, including the agriculture and the rural development sector (mainly agriculture, forestry, and land use sub-sectors) to 129.8 Mt CO_2e. It calls for organizations, households, individuals, and communities that are the forest owners or land users to develop and implement measures for sustainable forest management; and protect and improve forest cover, biomass, and quality in order to increase capacity to absorb greenhouse gases.

To register a program or project under the carbon credit exchange and offset mechanism, participants must develop and submit a registration application requesting approval of the project to the Ministry of Natural Resources and Environment either directly, online, or through postal service. Rules and regulations in the exchange and trading of carbon credits allow facilities to:

- Bid to own more GHG emission quotas in addition to their allocated quotas in the same commitment period;
- Transfer any unused GHG emission quota amounts from the previous to the following year in the same commitment period;
- Borrow GHG emission quotas allocated for the following year for use in the previous year in the same commitment period;

- Use carbon credits from projects under carbon credit offset and exchange mechanisms to compensate for GHG emissions in excess of the allocated GHG emission quota in one commitment period (not exceeding 10%).

In case the facility stops operating, the MONRE will automatically withdraw any allocated GHG emission quotas. The state encourages facilities to return any unused GHG emission quotas voluntarily to contribute towards achieving national targets. At the end of each commitment period, the facilities must make payments for any GHG emissions in excess of their allocated quotas after the application of bidding, transferring, borrowing and/or using carbon credits to offset emissions. In addition to such payments, any GHG emissions in excess of the allocated quota shall be deducted from the quota for the subsequent commitment period.

A Training and Simulation of Emission Quota Trading System (ETS) in Vietnam was also launched in September 2023 by the Southeast Asia Energy Transition Partnership Program in collaboration with the Department of Climate Change (of the Ministry of Natural Resources and Environment). It aims to raise awareness of ETS for policy makers, research institutes, universities, financial institutions, media representatives and especially large emitters (who will participate directly in Vietnam's ETS in the future). An ETS website will also be built to provide knowledge and raise awareness for those who will participate in this market in the future.

National Experiences on Carbon Markets

Clean Development Mechanism (CDM)[8]

Vietnam is a signatory to the Kyoto Protocol and is actively seeking to attract Clean Development Mechanism (CDM) projects from capital sources. The Ministry of Natural Resources and Environment of Vietnam is the Designated National Authority (DNA) of CDM through the activities of the Department of Hydrological Climate Change. The department conducts general assessment of CDM projects, evaluates CDM ideas/proposals, develops CDM projects and manages climate change-related activities. The scope of CDM projects include the use and promotion of renewable energy sources; recovery and use of methane gas at waste treatment plants, coal mines and wastewater treatment plants; reclamation and gas exploitation as included in petroleum production activities; develop afforestation; and regenerate bare land and hills. CDM projects can be prepared or proposed by local companies or foreign companies.

From the UNFCC Report as of December 5, 2022, the total number of carbon credit projects under the CDM in Vietnam is 258 projects, and 15 projects have been successfully registered. The total amount of credits issued from CDM projects in Vietnam is 30,736,808 CERs. Below are the data on the project types and credits issued in Vietnam according to UNFCC as of December 5, 2022 (Table 1).

Table 1: Project types and credits in Vietnam as of December 5, 2022

#	Project type	Number of CERs issued
1	Recycled energy	19,273,569
2	Use energy economically and effectively	408,109
3	Use and recovery of associated gas	8,856,673
4	Landfill gas	1.003.285
5	Biogas capture	1,195,172
	Total	30.736.808

Source: Trinh Nam Phong

8 Legal documents have been issued and gradually being completed. See Annex

Payment for Forest Environmental Services (PFES)

Vietnam has issued many legal documents about the payments made for forests under the regulations of the Payments for Forest Environmental Services (PFES).[9] According to the PFES, payments can be received when forests meet the criteria of an ecosystem, having forest plants, forest animals, fungi, microorganisms, forest soil, and other environmental elements; and that the main component of the forest should be one or several species of woody plants, bamboo, or palm trees, the height of which is determined according to the flora that is supposed to grow in a particular type of forest ecosystem.

The policy on PFES in Vietnam was officially implemented nationwide on January 1, 2011. A report from the Vietnam Forest Protection and Development Fund shows that, over the past 10 years, the total amount of payment for the forest environmental services has reached more than 25,000 billion Vietnamese Dong (VND). In 2021, forest environmental service fees have reached more than VND 3,000 billion, an increase of 20% compared to 2020. From 2011 to 2022, the forest area receiving forest environmental service payments increased from nearly 1.4 million hectares to more than 7 million hectares. For the year of 2023, the amount was 3,200 billion VND. In the first eight months of that year, the Ministry of Agriculture and Rural Development said that the amount of forest environmental services collected was around 2,000 billion VND for the whole country, thus reaching 59.8% of the estimated amount for the year.

As an illustrative case, consider the information from the Forest Protection and Development Fund of Dien Bien province for 2023. In that year, the total amount of advance payments for forest environmental services to the forest owners in Tua Chua district is nearly 6.6 billion VND. Tua Chua district has a total forest area of more than 22,097 hectares, wherein the area for which forest environmental services are paid is around 21,989 hectares. The district has 400 household forest owners, 103 community forest owners, and 12 Commune People's Committees (who are assigned to manage the forest area) who receive payments for forest environmental services.

North Central Region Emission Reductions (ER) Program

The Ministry of Agriculture and Rural Development signed the North Central Region greenhouse gas Emission Reduction Payment Agreement (ERPA) with the International Bank for Reconstruction and Development of the World Bank group, a trustee of the Forest Carbon Partnership Facility (FCPF), that took place on October 22, 2020. In this agreement, the FCPF will pay $51.5 million (equivalent to 1,235 billion VND) for 10.3 million tons of carbon in the North Central region covering the provinces of Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri, and Thua Thien Hue. The North Central region was selected because of its special importance in biodiversity. The entire area has a total natural area of about 5.1 million hectares; of which 80% is mountainous, including 5 internationally recognized conservation corridors.[10] The area's forest area is over 3.1 million hectares, and the forest coverage rate in 2019 reached 57.76%.

With this agreement, Vietnam transferred to FCPF 10.3 million tons of CO2 to reduce emissions from forests of these six provinces during the period of 2018-2024. FCPF paid 51.5 million USD for this service, with a unit price of 5 USD/ton of CO_2. About 95% of the emission reduction results will be transferred back to Vietnam to contribute to the NDC.

To implement the above agreement, Vietnamese Government has issued Decree No. 107/2022/ND-CP entitled *On piloting the transfer of emission reduction results and financial management of payment agreements for reducing greenhouse gas emissions throughout the North Central region*. This Decree applies to state agencies, forest owners, organizations, households, individuals, and communities that have activities

9 Law on Forestry 2017; Decree 156/2018/ND-CP- Decree detailing the implementation of a number of articles of the Law on Forestry; Circular No. 04/2018/TT-BTC, dated January 17, 2018: Instructions for management and use of forest environmental service fees.

10 Ben En (Thanh Hoa province), Pu Mat (Nghe An province), Vu Quang (Ha Tinh province), Phong Nha-Ke Bang (Quang Binh province) and Bach Ma (Thua Thien Hue)

related to reducing emissions and absorbing greenhouse gases from natural forests in the mentioned six North Central provinces.

For the first time in the forestry sector, Vietnam has completed the procedures to successfully transfer 10.3 million tons of carbon emission reduction to the FCPF through the World Bank, for a unit price of 5 USD/ton carbon equivalent that amounts to 51.5 million USD. This is equivalent to 10.3 million carbon credits. Vietnam Forest Protection and Development Fund has received the first payment from the World Bank amounting to 41.2 million USD (equivalent to 997 billion VND), and has fully disbursed it to the provinces in the North Central region. This is 80 percent of the total funding. The central budget is more than 34 billion VND, and the remaining funds amounting to more than 962 billion VND were sent to the provinces. The funds received by the provinces were coordinated by the Vietnam Forest Protection and Development Fund so that the provinces can make plans to pay forest owners. The amounts are as follows: Thanh Hoa, more than 162.5 billion VND; Nghe An, more than 282.5 billion VND; Ha Tinh, nearly 123 billion VND; Quang Binh, nearly 235.7 billion VND; Quang Tri, more than 51 billion VND; and Thua Thien Hue, more than 107 billion VND.

Up to now, the provinces have issued the legal documents to concretize the planning and implementation of the greenhouse gas emission reduction payment agreement (ERPA) in the North Central region. These are through: Government Decree No. 107/2022/ND-CP (*piloting the transfer of emission reduction results and financial management of payment agreements for greenhouse gas emission reduction in the North Central region*); and Decision No. 641/QD-BNN-TCLN dated February 21, 2023 of Ministry of Agriculture and Rural Development on promulgating the *Plan for sharing benefits from the payment agreement to reduce greenhouse gas emissions in the North Central region to the grassroots level*. Some specific information is as follows:

Thanh Hoa province

Thanh Hoa Provincial People's Committee issued Decision No. 3943/QD-UBND on approving the plan to implement the greenhouse gas emission reduction payment agreement (ERPA) in the North Central region. The recipients include: State agencies, forest owners, organizations, households, individuals, communities, and other subjects with activities related to reducing emissions and absorbing greenhouse gases from the forests in the province according to the provisions of Clause 2, Article 5 of Decree No. 107/2022/ND-CP of the Government and Point 1, Section II Benefit sharing plan from ERPA issued together with Decision No. 641/QD-BNN-TCLN dated December 21 /02/2023 of Ministry of Agriculture and Rural Development.

The payment categories are implemented through specified activities according to the provisions of Article 6 of Decree No. 107/2022/ND-CP of the Government: i) Support forestry activities to reduce greenhouse gas emissions; ii) Activities that directly contribute to reducing greenhouse gas emissions; iii) Livelihood development support activities; and iv) Management activities.

- Regarding the group of the Support for forestry activities to reduce emissions, payments are made at activities such as: reviewing, developing, supplementing, and completing the guidelines, mechanisms, and policies on reducing greenhouse gas emissions in the forestry sector; reviewing, monitoring, and evaluating the changes in forest carbon reserves; checking the conversion of natural forests to other purposes; organizing and deploying solutions on sustainable forest management; strengthening law enforcement on sustainable forest protection and development; and enhancing the capacity of organizations and individuals directly participating in forest management and protection activities.

- Regarding the group of the Activities that directly contribute to the reducing greenhouse gas emissions, included are: protecting the natural forests; silviculture measures complying with the current regulations, and approved by competent authorities according to the provisions of law.

- Regarding the Livelihood development support activities, included are: supporting agricultural and forestry extension activities, plant varieties, and animal breeds; site management and economic development of planted forests; agricultural and forestry product processing equipment; study tours and build demonstration models on livelihood development associated with forest protection and development; supporting the construction of public works of residential communities such

as: clean water projects, lighting, communication, village roads, village meeting houses, and other projects; supporting propaganda activities and technical training; and developing village conventions, regulations, and commitments to law enforcement.

- Regarding the Management activities, included are: managing and coordinating revenue sources; inspection, monitoring and evaluation activities; communication and propaganda; and activities to resolve inquiries, complaints and feedback.

For the Provincial Forest Protection, the Development and Natural Disaster Prevention Fund is allowed to be deducted a maximum of 10% (about 0.8389 million USD) of the total coordinated amount and the deposit interest (if any) for management activities and for other activities, where the remaining amount (about 7.5501 million USD) is paid to the forest owners, the commune People's Committees, and the other organizations assigned by the State to manage natural forests according to the provisions of Clause 2, Article 8 of Decree No. 107/2022/ ND-CP.

Based on the annual financial plan approved by the Provincial People's Committee, Provincial Forest Protection, Development and Natural Disaster Prevention Fund pays the forest owners, Commune People's Committees, and other organizations assigned by the State to manage forests according to regulations, as specified in Clause 2, Article 10 of Decree No. 107/2022/ND-CP. Regarding the use of payment money, the regulations are as follows:

- Provincial Forest Protection, Development and Natural Disaster Prevention Fund manages and uses the money according to the provisions of Clause 2, Article 8 of Decree No. 107/2022/ND-CP;
- Forest owner is an organization that manages and uses the money according to the provisions of Clause 3, Article 8 of Decree No. 107/2022/ND-CP;
- Forest owners are households, individuals, and communities that use the entire amount of money paid to manage, protect, develop the forests, and improve the quality of life according to the provisions of Clause 4, Article 8 of Decree No. 107. /2022/ND-CP;
- Commune People's Committees and other organizations assigned by State to manage the forests use the money paid according to the provisions of Clause 5, Article 8 of Decree No. 107/2022/ND-CP;
- Commune People's Committee has an agreement to participate in the forest management activities with the forest owners who are organizations specified in Point c, Clause 2, Article 5 of Decree No. 107/2022/ND-CP, with the money paid according to the provisions of Clause 6, Article 8 of Decree No. 107/2022/ND-CP; and
- Communities participate in the forest management activities with forest owners who are organizations, with the money paid according to the provisions of Clause 7, Article 8 of Decree No. 107/2022/ND-CP to manage, protect, and develop forests, and improve the quality of life.

The disbursement and payment are carried out based on the annual financial plan approved by Provincial People's Committee, which regulates the number of advances, advance rate, and the payment time according to the guidance of the Ministry of Agriculture and Rural Development.

Form of payment:

- For forest owners who are households, individuals, and communities, payments can be made through bank accounts, money transfers through businesses providing public postal services, or by other non-cash payment methods as prescribed by law;
- For forest owners who are organizations, Commune People's Committees, and other organizations assigned by the State to manage forests, payments are made through bank accounts.

Quang Binh

According to the representative of Quang Binh Department, more than 2.4 million tons of CO_2 were transferred, with about 235 billion VND paid in the period 2023-2025. In 2023 alone, Quang Binh received 82.4 billion VND. The area covered is 469,317 hectares of natural forest, and the average amount paid per unit area is about 170,000 VND/ha.

With the above-mentioned amount, the payment to beneficiaries who are forest owners, including households, individuals, communities, organizations, and Commune People's Committees is 80 billion VND, and the funds deducted from the Provincial Forest Protection and Development Fund is 2.4 billion VND.

Emission reduction trading initiative between Vietnam and Lowering Emissions by Accelerating Forest Finance (LEAF)

On October 31, 2021 during the business trip of Vietnamese high-level delegation led by Prime Minister Pham Minh Chinh to attend the United Nations Climate Change Conference (COP26), taking place in Kingdom of England, the Minister of Agriculture and Rural Development and Director of Emergent (a trustee of Lowering Emissions by Accelerating Forest Finance - LEAF) signed a Letter of Intent (LOI) to establish cooperation between Vietnam and LEAF.

With this Letter of Intent (LOI), Vietnam transfers to LEAF/Emergent 5.15 million tons of CO_2 to reduce emissions from forests in the regions of the South Central and the Central Highlands in the period 2022-2026. The South Central and Central Highlands regions include the 11 provinces of Lam Dong, Dak Nong, Dak Lak, Gia Lai, Kon Tum, Quang Ngai, Binh Dinh, Phu Yen, Khanh Hoa, Ninh Thuan, Binh Thuan. This is a forest area of special importance in terms of forest resources and the biodiversity, and has been selected to implement the LEAF initiative.

The LOI will contribute to integrating the value of forests and promoting the sustainable forest management associated with improving the quality of life for people, local communities, and ensuring the ecological safety and the socio-economic development in Vietnam.

The two sides agree to develop, negotiate, sign, and implement the Emission Reductions Payment Agreement (ERPA). It is expected that Vietnam will transfer to LEAF/Emergent 5.15 million tons of CO_2 to reduce emissions from forests in Central Highlands and South Central regions in the period 2022-2026 at a minimum price of 10 USD/1 ton of CO_2. The entire amount of the credits transferred to LEAF will be counted towards Vietnam's emission reduction contribution (NDC) commitment. The carbon standard applicable to LEAF is the REDD+ Environmental Excellence Standards (TREES) that is managed by the Architecture for REDD+ Transactions (ART). TREES ensure environmental quality and social safety at the highest level. It also creates a pathway to recognize the contributions of Indigenous Peoples to protecting forests and reducing associated emissions.

To implement the LOI and proceed to negotiate and sign the ERPA, the Department of Forestry in coordination with UNREDD Program through the FAO and the UNEP organized a consultation workshop to implement the LEAF initiative with the TREES Registration Documents. The objective of the workshop is to share information about the LEAF initiative, and introduce the TREES standard and consultation plan for the TREES Registration Document, and presenting the emission reduction report in 2021 and 2022 of the Central Highlands and South Central regions.

The workshop had the participation of more than 80 delegates representing units under the Ministry of Natural Resources and Environment, Ministry of Finance, Ministry of Agriculture and Rural Development, the eleven provinces in Central Highlands and South Central region which are Lam Dong, Dak Nong, Dak Lak, Gia Lai, Kon Tum, Quang Ngai, Binh Dinh, Phu Yen, Khanh Hoa, Ninh Thuan, Binh Thuan; representatives of British and Norwegian Embassies; international and domestic non-governmental organizations; and research units, universities, and relevant experts.

In the conclusion of the Workshop, it was recommended that the provinces coordinate with the Forestry Department to organize a series of consultation activities at the local level to complete the TREES Registration Document, and at the same time request the UNREDD Program, and both local and international organizations to continue their cooperation and support for the Forestry Department in implementing the LEAF initiative.

To prepare for the implementation of LEAF, Emergent organized a working delegation to Vietnam from September 26 to 29, 2023 to share information about the LEAF initiative with relevant parties and state management agencies centrally and locally. This meeting also included representatives of local communities and ethnic minorities in the South Central and Central Highlands regions, and discussed the cooperation and technical support for LEAF implementation.

The Emergent delegation worked with the Department of Forestry, the focal agency implementing the LEAF initiative of the Ministry of Agriculture and Agricultural Development, to exchange and discuss the contents of the Emission Reductions Payment Agreement (ERPA) to serve as a basis for planning, completing the preparation work, proceeding to negotiate, and signing and implementing the ERPA. This was on September 27, 2023. The Department of Forestry and Emergent also had a working session with sponsors including the FAO, UNEP, US Forest Service, and Environmental Defense Fund (EDF) to discuss technical assistance to support the implementation of the LEAF initiative in Vietnam.

The Department of Forestry and Emergent have signed the ERPA for the Central Highlands and South Central regions. According to documents submitted to LEAF, the 11 provinces of the two regions have a total area of 4.26 million hectares of forest, of which 3.24 million hectares are natural forests and 1.02 million hectares are planted forests. However, according to the regulations on the TREES credit types, Vietnam only counts the emission reduction results for natural forests. The plantation forests are excluded. The reference period of this is 2016-2020, and the credit granting period is 2021-2025. The estimated volume of the emission reduction proposed to participate in LEAF is 11 million tons CO_2eq, and the minimum price is 10 USD/1 ton CO_2eq.

The Forest Investigation and Planning Institute said that with the results of calculations, the amount of the emission reduction in 2022 in the 11 provinces was 5,949 million tons of CO2eq. According to TREES requirements, the emission reduction results need to be calculated after deduction for uncertainty, risk inversion deduction (10%), and deduction due to risk of emissions leakage (10%). Therefore, the forests of the five Central Highlands provinces and six South Central provinces have a total amount of tradable credits of over 4 million tons.

Principle of benefit sharing

Four principles need to be ensured in benefit sharing: Fairness, openness, and transparency; Efficiency and effectiveness; Flexibility; and Democracy. The workshop proposed a draft with two benefit sharing options. Option 1 is based on the provisions of Decree 156/2018/ND-CP dated November 16, 2018 of Government. Option 2, on the other hand, applies the mechanism as prescribed in Decree 107/2022/ND-CP dated December 28, 2022 of Government.

Both options are basically consistent in terms of the beneficiaries receiving 90% of the revenue from selling the CO2 credits to Emergent, wherein the forest owners may be households, individuals, and communities; an organization such as a forest management board, state forestry company, and the like; or Commune People's Committees and other organizations assigned responsibilities for forest management.

Ethnic minority peoples' understanding of the Carbon market and their perspectives

Through interviews with a number of key farmers who worked with projects implemented by the Center for Upland Research and Development (CERDA) in the provinces of Thai Nguyen and Thanh Hoa, a general understanding of the carbon market is very limited. Currently in these areas, there are still no any training courses that should be provided by the Forestry Extension Agencies. Knowledge about carbon markets is only acquired through snippets of information from the mass media. The challenges thus noted are the following:

- Living in remote areas of these provinces precludes good internet access
- In practice, the forest area assigned to the ethnic minority communities, households, and individuals is usually very small, especially in the northern and central mountainous provinces, where each household is usually only allocated two to three hectares
- The small forest owners have yet to cooperate with each other for them to have a larger, consolidated forest area that can qualify for participation in the carbon market
- Ethnic minority communities have yet to form legal organizations, cooperatives, and enterprises
- With planted forests, currently most households plant forests for only short-term cycles of five to six years per cycle, making its economic efficiency low
- There is limited technical capacity in the area of measuring the amount of carbon absorbed by the forests
- There is limited capacity in the area to develop projects that can be certified for carbon credits as required by Decree 06

Conclusion and Recommendation

1. Refine the policy framework

Vietnam has created a large number of policies to move towards operating in the voluntary and mandatory carbon markets. However, some policies will require time to complete and to issue the detailed instructions for implementation.

The general awareness of the different social groups on greenhouse gas emissions mitigation and carbon market is still limited. It requires time to design and implement training, and awareness-raising programs for many different audiences in society. The financial, technical and human resource issues also take a lot of time to improve, and mobilizing these resources often requires prior policies to create the appropriate conditions.

2. Participation and benefits of ethnic minorities in the Carbon market

Vietnam is a multi-ethnic country which includes the majority groups and ethnic minorities. The results of the 5th Population Census in Vietnam show that as of on April 1, 2019, Vietnam's total population reached 96,208,984 people. Vietnam has 54 ethnic groups, including 53 ethnic minorities, with a total population of 14,119,256 people, and this accounts for 14.7 percent of the country's total population. Most ethnic minorities live in rural areas and mountainous areas, far from the center, in or near forests, where their livelihoods come mainly from agricultural and forestry production.

Current status of access to forest use rights of ethnic minorities

The state of forests in 2023 are as follows:[11]

- The forest area (including forest area that does not meet the criteria for calculating coverage rate) reached 14,860,309 hectares, of which 10,129,751 hectares is natural forest and 4,730,557 hectares is planted forest
- The forest area meeting the criteria for calculating the coverage rate reached 13,927,122 hectares. Of these, 10,129,751 hectares is natural forest, and planted forests cover 3,797,371 hectares. The national forest coverage rate reached 42.02 percent.

Classification of natural forests by owner or temporary manager

***State organizations*:** The state organizations managing natural forests and planted forests include: Special-use forest management board; Protection forest management board; Armed Forces and Organizations of Science and Technology, Training, Education. The forest area that these organizations are managing include:

- Total management area: 5,476,751 hectares of the forest (accounting for 37.03% of the total national forest area nationwide), of which:
    a. Special-use forest management board: 2,165,089 hectares
    b. Protection forest management board: 3,025,632 hectares
- Among 5,476,751 hectares of the forest, the natural forest and the planted forest as follows:
    a. 4,711,428 hectares of the natural forest (accounting for 46.49% of the total national natural forest area)
    b. 765,323 hectares of planted forests (accounting for 16.44% of the total national planted forest area)

***Commune People's Committees*:** The total area of forests that the Commune People's Committees temporarily manage is 3,422,191 hectares of forest (23.14% of the total national forest area), of which:

a. 2,139,948 hectares is natural forest (21.12% of the total national natural forest area)
b. 1,282,243 hectares is planted forest (accounting for 27.54% of the total national planted forest area)

***Households, communities and individuals*:** The households, individuals, and communities are currently assigned the forest use rights as follows:

a. 2,193,997 hectares of natural forest (21.65% of the total national natural forest area)
b. 1,986,766 hectares of planted forests (accounting for 42.67% of the total national planted forest area);

11 Based on the data from Decision No. 816/QD-BNN-KL dated March 20, 2024

Recommendations for a Better Access to the Carbon Market

For ethnic minorities to meet the provisions of Decree 06 and other related regulations governing carbon markets, the following recommendations are proposed:

i. Forest areas that can be used by ethnic minorities (4,180,763 hectares)

- *For the natural forest*: There should be policies to encourage the small natural forest owners, especially those whose areas are next to each other, to consolidate their holdings to make it large enough to participate in the carbon market. Existing forest use rights of each individual, household, or community should be retained, and a benefit sharing mechanism should be developed.
- *For the planted forest:* There should be more effective measures (such as technical training, preferential loans, and demonstration models) to encourage households involved in afforestation to switch from short-term timber plantation to long-term timber plantation. This will make it easier for them to gain participation in the carbon market.

ii. For the area of forest land and forests that the Commune People's Committee is temporarily managing

- There should be a policy and a financial source to prioritize the allocation of this forest area to communities.

iii. Inter-community, landscape, and customary law approach in forest protection

- Because the natural forest areas are often far from residential areas, it should apply the "intercommunity, landscape-customary law forest management approach" so that forests are protected at low cost.
- This approach should also be applied to forest areas that are temporarily managed by the Commune People's Committee, when these forests are allocated to the communities.

iv. Develop community-led organizations of forest owners with legal entities

- When forest owners unite to form a large enough forest area to be able to participate together in the carbon market, they should be guided to form legal entities (in the form of cooperatives) with a community-led approach.
- Simultaneously with the establishment of legal organizations, there should be a capacity building process so that the community is capable of operating the organization to be able to actively participate in the carbon market.

v. Contents of capacity building and a capacity building methods for ethnic minorities in order to participate in the Carbon market

- The forest owner communities need to be trained in the following areas:
    a. Legal framework: policies and regulations related to carbon markets and forest carbon credit
    b. Technical capacity: greenhouse gas inventory, measurement, calculation, and report of the forest carbon credits and skills to participate in the carbon market
    c. Project proposal writing skills and ability to complete forms according to the provisions of Decree 06 and other related regulations to be certified for forest carbon credits
- Training methods: The training methods should be suitable to the educational level of the ethnic minority groups, especially women. The method should:

a. Apply participatory training methods;

b. Have training materials that are specific, in easy-to-understand language, and capable of being applied in practice;

c. Use audio-visual tools and illustrations;

d. Apply the training method "farmer experts-farmer experts teaching farmers": Here, the local volunteer farmers are selected who are trained to be the "farmer experts" in relevant knowledge and skills that will enable them to train others and to give advise to their communities.

e. Combine indigenous knowledge and modern science to reduce the cost of creating carbon credits. The ethnic minorities have an indigenous knowledge about forests, and they are willing to learn and acquire useful knowledge, such as the use of a Global Positioning System (GPS) device.

vi. <u>For the natural forest areas that are managed by the state organizations (Special-use forest management board, Protection forest management board and Commune People Committee)</u>

Currently, the participation of communities and households living around and near the forest is in the form of short-term forest protection contracts among the state forest owners consisting of households and communities. To improve the quality of life of ethnic minorities, it is encouraged that all households in the community be allowed to participate, contribute, and benefit from the carbon market. The approach of "Cooperation between the community-based organizations and the state forest owners through partnerships" should be piloted to protect the forests, create forest carbon credits, and for them to be able to participate in carbon market. Important, too, is a benefit sharing mechanism that should be developed and agreed upon by the parties.

Annex A List of Sectors for Inventory of GHG as provided in the Explanatory Report "Development of Decision issued by the Prime Minister List of fields and facilities requiring updated greenhouse gas inventories" (Implementing Article 91 of the Law on Environmental Protection) - Ministry of Natural Resources and Environment - Department of Climate Change, 2023.

STT	Sectors that must inventory greenhouse gases
I	Energy
1	Energy production industry
2	Energy consumption in industry, commerce, services and residential areas
3	Coal mining
4	Oil and natural gas exploitation
II	Transportation
1	Energy consumption in transportation
III	Construction industry
1	Energy consumption in construction industry
2	Industrial processes in the production of construction materials
IV	Industrial processes
1	Production of chemicals
2	Metallurgy industry
3	Electronic industry
4	Use products that replace substances that deplete the ozone laye
5	Production and use of other industrial products
V	Agriculture, Forestry and Land use
1	Livestock
2	Forestry and Land use
3	Cropping
4	Energy consumption in agriculture, forestry and fisheries
5	Other sources of emissions in agriculture
VI	Waste
1	Solid waste landfill
2	Treatment of solid waste using biological methods
3	Incineration and open burning of waste
4	Wastewater treatment and discharge

Annex B Laws on Reducing GHG Emissions

The laws and strategies that related to reducing greenhouse gas emissions are as follows: Environmental Protection Law (2020); Law on Forestry (2017); Law on Economical and Efficient Use of Energy (2011); National strategy on climate change for the period up to 2050 (2022); National green growth Strategy for the period of 2021-2030 (2021); Forestry development strategy Vietnam for the period of 2021-2030 (2021); Vietnam's renewable energy development strategy to 2030, vision to 2050 (2015); Vietnam's transportation development strategy to 2020, vision to 2030 (2013); National energy development strategy to 2020, vision to 2050 (2007).

Programs, planning, plans and projects directly related to the greenhouse gas emission reduction includes: Action plan to reduce methane emissions until 2030 (2022); Ministry of Foreign Affairs' climate diplomacy action plan implements Vietnam's commitments at COP26 for the period 2022-2025 (2022); Action program on green energy conversion and reduction of carbon and methane emissions in the transportation sector (2022); Action plan of the Construction industry to respond to climate change for the period 2022-2030, vision to the year 2050 to implement Vietnam's commitment at COP26 Conference (2022); Action plan of Ministry of Industry and Trade to implement Vietnam's commitments at COP26 Conference (2022); Environmental protection plan of the Industry and Trade sector for the period 2025-2030 (2020); Regulations on mechanisms to encourage solar power development in Vietnam (2020); National action program on sustainable production and consumption for the period 2021-2030 (2020); National program on economical and efficient use of energy for the period 2019-2030 (2019); Organic agriculture development project for the period 2020 - 2030 (2018); Project for sustainable forest management and forest certification (2018); Plan to implement the Paris Agreement on climate change (2016). Recently, some decree and circular related to the greenhouse gas inventories and Carbon market has been issued as discussed in the succeeding sections.

The targets for reducing greenhouse gas emissions described in the National Climate Change Strategy with Vision to 2050 (Vietnam PM 2022) includes:

- Ensuring a total national greenhouse gas emissions reduction of 43.5% compared to a business as usual (BAU) scenario by 2030. In which, the forestry and land use sector reduces the emissions by 70%, and increase the carbon sequestration by 20%, the total emissions and sequestration should reach at least -95 $MtCO_2eq$;
- Ensuring the facilities with the annual greenhouse gas emissions of 2,000 tCO_2eq or more reduce their greenhouse gas emissions;
- Ensuring total national greenhouse gas emissions reach net-zero by 2050, with emissions peaking by 2035, then declining rapidly. Under this target, the forestry and land use sector will reduce emissions by 90% and increase the carbon sequestration by 30%, with total emissions and sequestration reaching at least -185 $MtCO_2eq$;
- Ensuring facilities with annual greenhouse gas emissions of 200 tCO_2eq or more reduce their greenhouse gas emissions.

ANNEX C Provisions related to PFES

Subjects eligible to be paid for forest environmental services are specified in Clause 1, Article 61 of the 2017 Law on Forestry, including:

- Forest owners are regulated in Article 8 of the 2017 Forestry Law:
    - » Special-use forest management board, protection forest management board;
    - » Economic organizations include enterprises, cooperatives, cooperative unions and other economic organizations established and operating according to the provisions of law.
    - » Units of the people's armed forces are assigned the forests.
    - » Science and technology organizations, training and vocational education in forestry.

  - » Domestic households and individuals.
  - » Residential community.
  - » Foreign-invested enterprises are leased land by the State to plant production forests.
- Organizations, households, individuals, and communities that have contracts to protect and develop forests with forest owners who are organizations established by the State;
- Commune-level People's Committees and other organizations assigned by the State are responsible for forest management according to the provisions of law.

Subjects who must pay for forest environmental services are specified in Clause 2, Article 61 of the 2017 Law on Forestry, including:

- Hydropower production facilities must pay for services to protect soil, limit erosion and sedimentation of lake beds, river beds, stream beds, regulate and maintain water sources for hydropower production;
- Clean water production and supply facilities must pay for services to regulate and maintain water sources for clean water production;
- Industrial production establishments must pay for services to regulate and maintain water sources for industrial production;
- Organizations and individuals doing business in ecotourism, resort, and entertainment services must pay for services to protect and maintain natural landscape beauty and conserve biodiversity of forest ecosystems;
- Organizations and individuals engaged in production and business activities that cause large greenhouse gas emissions must pay for forest carbon absorption and storage services;
- Aquaculture establishments must pay for services to provide spawning grounds, food sources, natural breeds, water sources and factors from the environment and forest ecosystem for aquaculture;
- Other subjects as prescribed by law

Forms of payment for forest environmental services: Forms of payment for forest environmental services are specified in Clause 3, Article 61 of the 2017 Law on Forestry:

- The user of forest environmental services pays directly to the provider of forest environmental services;
- The user of forest environmental services pays the forest environmental service provider through the Forest Protection and Development Fund
- The State encourages the application of direct payments in all cases if the supplier and user of forest environmental services agree on the basis of the service payment level prescribed by the Government.

Payment level and determination of payment amount for forest environmental services stipulated in Article 59 of Decree 156/2018/ND-CP (Decree detailing the implementation of a number of articles of the Forestry Law):

- The level of payment for forest environmental services applied to the hydroelectric power production facilities is 36 VND/kwh of commercial electricity. The electricity output used to calculate payments for forest environmental services is the electricity output of hydroelectric power generation facilities sold to the electricity buyer under the electricity purchase contract. The amount to be paid for forest environmental services within the payment term is determined by the commercial electricity output within the payment term (kwh) multiplied by the payment rate for forest environmental services calculated on 1kwh (36 VND/kwh).
- The level of payment for the forest environmental services applied to the clean water production and supply facilities is 52 VND/m3 of commercial water. The water output used to calculate payments

for the forest environmental services is the water output of the clean water production and supply facilities sold to consumers. The amount to be paid for the forest environmental services within the payment term is determined by the commercial water output within the payment term (m3) multiplied by the payment rate for forest environmental services calculated per 1 m3 of water (52 VND). /m3).

- The level of payment for the forest environmental services for the industrial production facilities that use water from water sources is 50 VND/m3. The volume of water used to calculate the payment for the forest environmental services is the volume of water used by the industrial production facility, calculated according to the water meter or according to the amount of water licensed by a competent authority or according to the purchase documents between the industrial production facilities and the water business units. The amount to be paid for forest environmental services within the payment term is determined by the volume of water (m3) used by the industrial production facility multiplied by the payment rate for forest environmental services calculated per 1m3 of water (50 VND/m3).
- The level of payment for the forest environmental services by organizations and individuals providing ecotourism, resort, and entertainment services is at least 1% of the total revenue made in the period; The specific payment level is based on the basis and practical conditions, agreed upon by the supplier and user of forest environmental services. The level of payment for the forest environmental services by the aquaculture enterprises or enterprises associated with aquaculture households and individuals is at least equal to 1% of the total revenue made in the period; the specific payment level is based on the basis and practical conditions, and is mutually agreed upon by the supplier and user of forest environmental services.

ANNEX D: Decree No. 107/2022/ND-CP of the Government

According to Decree No. 107/2022/ND-CP of the Government: On piloting the transfer of emission reduction results and financial management of payment agreements to reduce greenhouse gas emissions in the North Central region, there are 5 beneficiaries of ERPA, including:

i) Forest owners as prescribed in Article 8 of the Law on Forestry are assigned to manage the natural forests, and include the following matters:

   1. Special-use forest management board, protection forest management board;
   2, Economic organizations include enterprises, cooperatives, cooperative unions and other economic organizations established and operating according to the provisions of law, except for the cases specified in Clause 7 of this Article;
   3. Units of the people's armed forces assigned forests;
   4. Organization of science and technology, training and vocational education in forestry;
   5. Domestic households and individuals;
   6. Residential community;
   7. Foreign-invested enterprises are leased land by the State to plant production forests.

ii) Commune-level People's Committees and other organizations assigned by the State are responsible for managing the natural forests according to the provisions of law;

iii) Residential communities and commune-level People's Committees have agreements to participate in forest management activities with forest owners who are organizations;

iv) Vietnam Forest Protection and Development Fund and Forest Protection and Development Fund of 06 provinces in the North Central region;

v) Other subjects have activities related to reducing emissions and absorbing greenhouse gases from forests in 6 provinces in the North Central region.

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CAMEROON

The Perspectives of Forest Indigenous Peoples (Baka, Bagyeli/Bakola and Bedzang) Around Carbon Markets in Cameroon

Consultancy Report prepared by Lelewal for Tebtebba Foundation Research Program

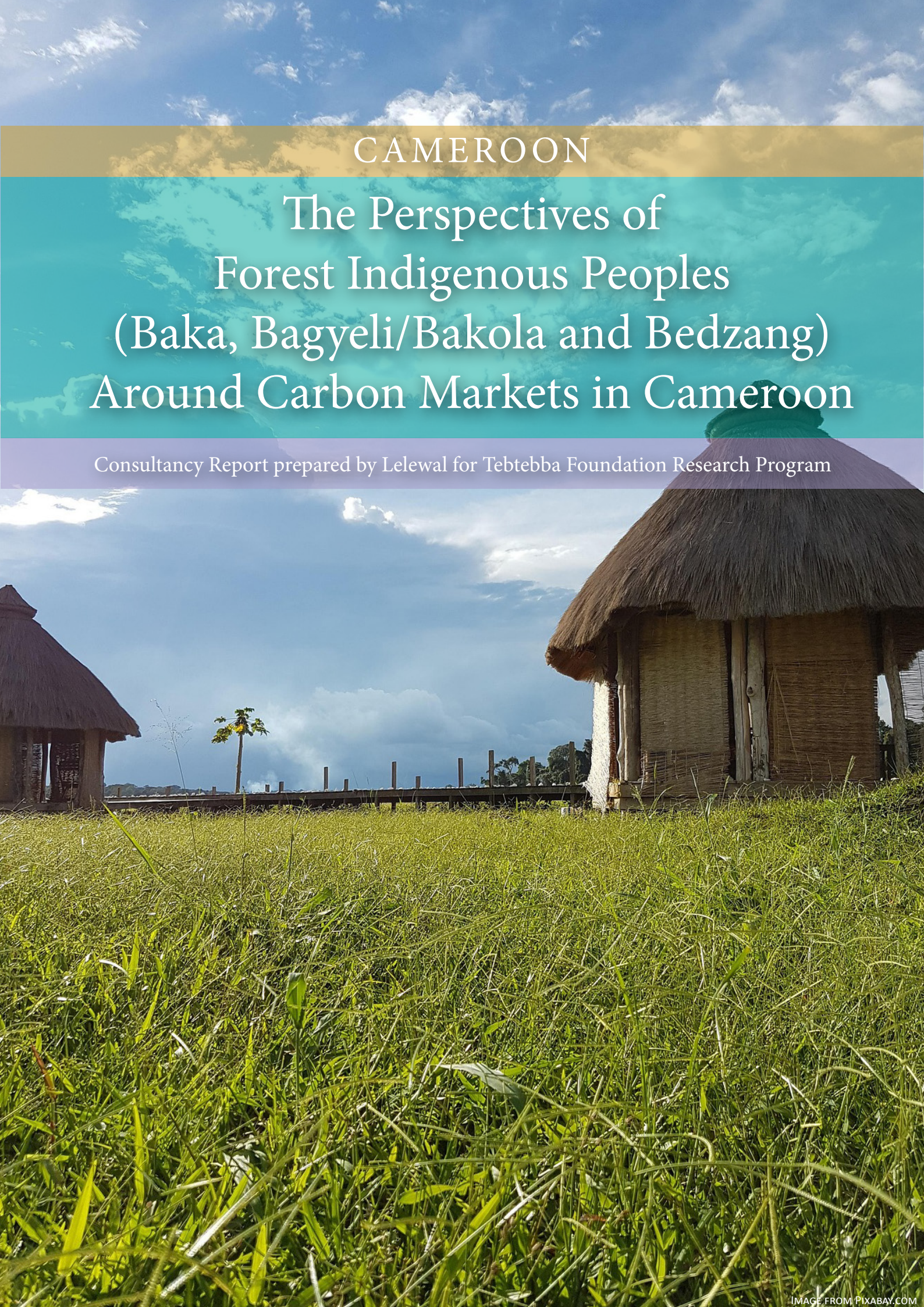


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Chapter 1: General Introduction

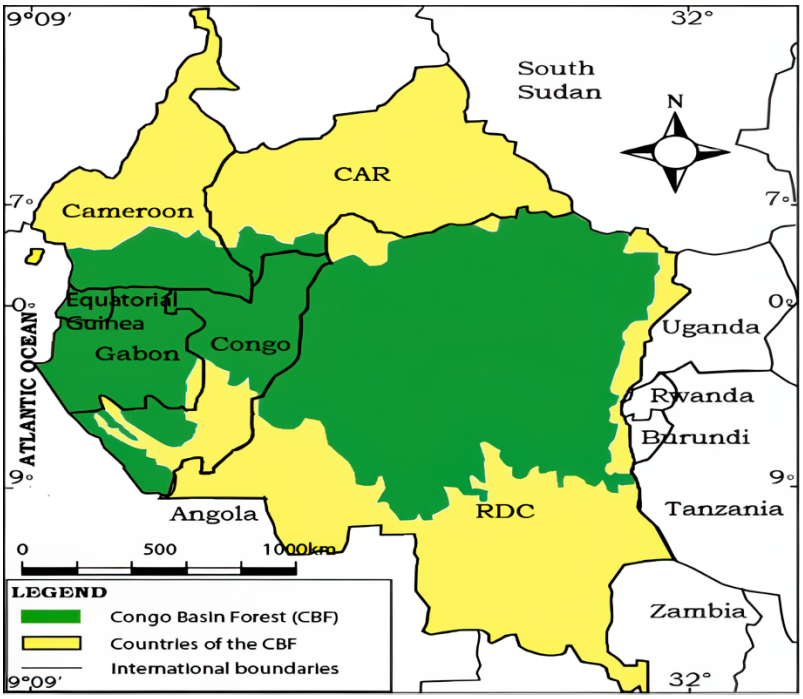
1.1 Context of the carbon markets in Cameroon and relation of projects to indigenous communities

The nexus between climate change, carbon emissions, carbon markets, and indigenous peoples in Cameroon and Africa remains critical and pre-occupying. Carbon markets have become tools for putting a price on carbon emissions and a system for buying and selling carbon credits as used by companies, governments, and other organizations to address their greenhouse gas emissions through the funding of projects that reduce or remove carbon dioxide from the atmosphere. In this set-up, the existential realities of Forest Indigenous Peoples (FIPs) and pastoralists are likely to be compromised. Such carbon market mechanisms are socio-culturally insensitive and dispossess Indigenous Peoples of their existential resource base and reduce forest only to its carbon value. FIPs in Cameroon increasingly perceive carbon markets more as a source of forest-value problems than a solution to the multifaceted emissions-related environmental challenges to which they are subjected. The request for this study entitled "Perspectives of Forest Indigenous Peoples around Carbon Markets in Cameroon" by the Climate Land Use Alliance (CLUA 7) is not just laudable but timely, especially as Cameroon Minister of Finance projected 2023 as the baseline year for the country to start earning money on carbon markets (Guest Author, 2022).

Cameroon is a country in the Central African subregion often described as Africa in miniature as it exhibits all the major human and physical (climates, soils and vegetation types) characteristics of the continent. The country is located between longitudes 8° and 16° east of the Greenwich Meridian and between latitudes 2° and 13° north of the Equator. Its surface area is 475,650 square kilometers and borders Chad, the Central African Republic, Equatorial Guinea, Gabon, Nigeria and the Republic of Congo. The current population of Cameroon is estimated at over *28,974,661* million inhabitants (UN Macrotrends, 2023), among whom are both Mbororo Pastoralists and Forest Indigenous Peoples of the Baka, Bagyeli/Bakola and Bedzang extractions (Enchaw & Njobdi, 2013 and Ngo, 2011). Baka and Bagyeli/Bakola are among the first inhabitants of the Congo Basin Forest (CBF), 10.24% of which is within the borders of Cameroon (Figure 1).

The luxuriant CBF being also known as the second lung of the world, is indicative of the fact that a significant proportion of carbon credits of Cameroon and the other countries hosting the CBF is likely to come from nature-based solutions. Unfortunately, current carbon credit methodologies are not tailored towards continued preservation as forest/natural resource monetization is associated with threats of destruction rather than conservation efforts (Kemplay, 2023).

FIG. 1: LOCATION OF THE CONGO BASIN FOREST



1.1.1 Objectives of the Study

The objectives of this scoping study are the following:

1. To determine the engagement of Cameroon with the carbon market and/or carbon market's design elements found in the country;

2. To identify barriers to indigenous peoples' access to carbon markets, their challenges, and opportunities; and

3. To seek recommendations from indigenous peoples concerning their engagement (or non-engagement) in carbon markets (particularly voluntary carbon markets).

1.1.2 Statement of the problem

Forest Indigenous Peoples in Africa in general, and Cameroon in particular, still occupy the status of a forgotten people (ACHPR and IWGIA, 2006) in all issues related to carbon markets and climate financing. The current definition that captures climate finance is yet to integrate the recognition and support for Indigenous Peoples' rights, priorities and perspectives in the discourse, development and design of Nature Based Solutions to climate change, carbon market and non-market approaches. Compensations for residual emissions are conceived beyond the borders of the geographic spaces hosting the lungs of the world (Amazon Basin Forest, Congo Basin Forest and Mekong-Borneo Basin Forest), and therefore, such carbon market mechanisms dispossess Baka, Bagyeli/Bakola and Bedzang, and Mbororo Indigenous Peoples of their rights, priorities and perspectives vis-à-vis climate financing, and reduces the forest only to its carbon value. The methodologies of the carbon market are exclusionary in character.

In Africa, indigenous peoples and local communities are seldom part of the Africa carbon market participants, who in their good consciences, are of the view that the needs of private sector financing should not outweigh those of local communities. This being laudable, the participants who come from across Africa under the umbrella body of the Africa Carbon Markets Initiative (ACMI), think for and do what they imagine is best for indigenous peoples and local communities. Unfortunately, their understanding of the economics of those

opportunities inherent in climate financing is limited. It is difficult to say how much of the capital generated through climate financing is being invested, how much is going to local and/or indigenous communities, and how much is going to intermediaries (Assembe-Mvondo, Wong, Loft, and Tjajadi, 2015).

By reducing forests to their carbon value alongside the threats of forest resource destruction being the parameter for climate financing, guardianship efforts put in by Baka, Bagyeli/Bakola and Bedzang to conserve carbon sinks in the CBF is not only being deemphasized but their engagement in the voluntary carbon market arena is shunned. Whereas 2023 was earmarked as the baseline year for Cameroon to start earning money on carbon markets, no carbon offsets project has been launched in the ancestral lands of Forest Indigenous Peoples in Cameroon (Stratline, 2022). The lone carbon offsets project associated with the generation of high-integrity carbon credits known as Verified Carbon Units (VCU), is located in Yoko Sub-division in the Centre Region of Cameroon where large expanses of forest are alleged to have been deforested.

From the issues raised so far, this scoping study is intended to provide answers to the following research questions, formulated below after presenting the aims of the scoping study. The questions will shape the presentation order of the scoping study.

1.1.3 Research questions

1. What is the present context of carbon markets in Cameroon vis-à-vis emissions and how is country level commitment in terms of carbon offsets projects relevant to Indigenous Baka, Bagyeli/Bakola and Bedzang, and Mbororo?
2. What is the appraisal of the overview of carbon markets in Cameroon in relation to emission targets and allowances, covered sectors, monitoring, reporting, verification, compliance, and enforcement?
3. What are the relevant experiences of Indigenous Baka, Bagyeli/Bakola and Bedzang, and Mbororo, and what opinions and perspectives do they hold about carbon markets?
4. What are the inherent challenges and opportunities of carbon markets vis-à-vis Indigenous Baka, Bagyeli/Bakola and Bedzang, and Mbororo?
5. Which recommendations are costly, and which are cause-effective?

1.1.4 Definition of key concepts

Before providing relevant answers to these research questions, it is necessary to provide operational definitions of some key concepts used in this write-up. Such definitions will put our scoping study in Cameroon into context for easy reading and understanding.

i. Indigenous Peoples

Though there is no universally accepted definition of indigenous peoples, the United Nations holds that *Indigenous communities, peoples, and nations* are those which have a historical continuity with pre-invasion and pre-colonial societies that developed in their territories. They consider themselves distinct from other societies now prevailing on those territories, or parts of them. In 2003, the African Commission on Human and Peoples Rights Working Group on Indigenous Populations provided some criteria for the identification of Indigenous Peoples in Africa. While self-identification remains a fundamental criterion in Article 1(2) of ILO Convention 169 for defining Indigenous Peoples, other criteria can be cited, such as having cultures/livelihoods systems that are closely attached to particular lands and territories, and marginalization from national development. In this regard, Pygmies and Mbororo pastoralists constitute Indigenous Peoples in Cameroon as presented by the country representative in the ACHPR Regional Sensitisation Seminar on the Rights of Indigenous Populations/ Communities (RIP/C) in Central Africa from the 13 – 16 September 2006, Yaoundé - Cameroon (ACHPR, 2006), and the findings of a 2009 study initiated by the Ministry of External Relations which were validated in 2011 in the coastal town of Kribi (GoC, 2009).

ii. Indigenous Peoples' engagement

Indigenous Peoples' engagement *is contextual and country specific. In the case of Cameroon, it means recognition of their existence in the country* beginning with the ratification of ILO Convention 169. *Together with this is* securing their free, prior, and informed consent; having *consultations with them; and having their participation* in decisions that affect their communities and traditional territories. These will allow them to contribute significantly to carbon emission reduction (carbon offsets projects), cause-effective carbon markets, and in the overall development of themselves and their country, Cameroon.

iii. Carbon markets

It refers to the trading in carbon credits, in other words, carbon certificates are obtained and sold within defined standards for the prevention of emissions or reduction of Greenhouse Gases (GHGs) in the atmosphere. There are two types of carbon markets: the compliance carbon market, which is regulated by governments through the interface of international agreements; and the voluntary carbon market (VCM), which is non-regulatory. Developing countries, particularly African countries such as Cameroon, are more comfortable with the VCM.

iv. Voluntary carbon markets

Unlike the compliance carbon markets or **compulsory** market established and regulated by governments using international agreements, a voluntary carbon market (VCM) is a decentralized or non-regulatory market where private actors voluntarily buy and sell carbon credits that represent certified removals or reductions of greenhouse gases (GHGs) in the atmosphere. Through this trading system, carbon emitters offset their emissions by purchasing carbon credits generated by projects targeting the removal of greenhouse gas from the atmosphere. Voluntary carbon markets support a wide variety of environmental projects with the ultimate aim of being able to reduce greenhouse gas emissions or remove carbon dioxide from the air. These projects can be anything from small, local initiatives to large-scale industrial projects (Jack, and Clarke, 2022).

v. Carbon offset projects

They are projects aimed at compensating for the emission of carbon dioxide into the atmosphere from industrial or other human activity, especially when quantified and traded as part of a commercial scheme. They involve the buying of credits generated by carbon-sequestering projects. A reforestation project such as the one in Yoko Sub-division in the Centre Region of Cameroon by the Dutch Green Business Group and Green Zone Cameroon falls within this scope. Carbon offsets projects allow individuals, businesses or governments to compensate for their emissions, by supporting projects that reduce emissions elsewhere. In theory, after cutting their emissions as much as possible, offsets can pay for low-carbon technologies or forest restoration to "cancel out" emissions they cannot avoid (https://interactive.carbonbrief.org/carbon-offsets-2023/).

vi. Carbon credits

Carbon credits, also known as carbon offsets, are permits that allow the owner to emit a certain amount of carbon dioxide or other GHGs. Carbon credits are a transparent, measurable and results-based way for companies to support activities, such as protecting and restoring irrecoverable natural carbon sinks, like forests or marine ecosystems, and scaling nascent carbon removal technology, thus keeing global climate goals within reach. Carbon credits are said to be cheap because they are low-quality projects without all the rigorous checks and precise development to ensure real-world climate impact. They have much lower running costs, and therefore are able to afford to sell credits cheaply.

vii. Carbon standards and Verified carbon standards

Carbon standards refer to a set of regulations and requirements that carbon credit certification companies must adhere to in order to claim that they reduce carbon emissions and mitigate the impact of climate change. Verified carbon standards are groups that verify carbon offsetting projects of all types. Using rigorous screening and following a carbon certification process, carbon standards ensure that all verified carbon offsetting projects positively impact the environment (and oftentimes, the community involved) leaving a lasting impact. There are two different types of verified carbon standards – voluntary and mandatory – each with its unique approach to carbon reduction. So far, carbon offsetting programs use carbon credits in a completely voluntary carbon market. Without a standardized way of validating these voluntary carbon offsets, many companies claim to be carbon neutral without actually being so (Ecocart, 2023).

viii. Verified carbon units (VCUs)

A **Verified Carbon Unit (VCU)** is the name that Verra gives to one tonne of carbon dioxide (CO_2) removal and/or reduction which they have verified as meeting the criteria of their standard. Each VCU represents a reduction or removal of one tonne of carbon dioxide equivalent (CO_2e) achieved by a project. VCUs are characterized by a number of quality assurance principles which are confirmed through the project validation and verification process, and Verra's review and approval. Verra, formally known as Verified Carbon Standard, is a nonprofit organization that operates the *Verified Carbon Standard (VCS*) used to certify carbon credits in the offset CO_2 emissions (https://www.carboncure.com/).

1.1.5 Significance of the study

Cameroon as all other African countries is facing the severity of climate change, with local communities and Indigenous Peoples being the most affected. At country and continent levels, efforts made to enhance the removal of GHGs from the atmosphere through the carbon market vector is exclusionary in character and is insufficiently understood. Even at the level of Africa carbon market participants, an understanding of the economics of those opportunities inherent in climate financing is limited. The government of Cameroon has, however, committed itself to the international goal of climate change mitigation and adaptation through its nationally determined contributions. But the commitment still suffers from insufficient accountability and citizen engagement (World Bank Group 2022). The apparent non-engagement of Indigenous Peoples in climate-related issues in Cameroon continues to cloud any understanding and awareness of their participation, contribution and benefits vis-à-vis carbon market and non-carbon market approaches. By extension, discussions around climate finance, REDD+, and Results Based Payment and Voluntary Carbon market mechanisms take place in the absence of Indigenous Peoples and decisions on carbon credits and carbon offsets projects are not only devoid of their inputs, but do not secure their free prior and informed consent (FPIC), carbon benefit sharing, and welfare. In response, therefore, this scoping study is timely as it offers a pathway for citizen engagement, particularly for Indigenous Peoples, in climate actions in Cameroon.

1.1.6 Methodology

The scoping study was basically qualitative where an in-depth desk review of secondary data was conducted. Some interviews were also done to enrich the discussion on experiences of Indigenous Peoples in carbon markets in Cameroon. There were five phone surveys with the CEO of Green Zone Cameroon International, the Focal Point of Lelewal Foundation in Djoum, the two Baka Councillors in Djoum and Mintom, and the Programme Coordinator of Mbororo Social and Cultural Development Association (MBOSCUDA) of northwest Cameroon. Representatives from the Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED) and from the Ministry of Social Affairs (MINAS) were also interviewed.

Oral histories of Indigenous Peoples were processed using the *in vivo* approaches of Anselm L. Strauss (1987), Meghan Cope (2003), and Miller-Rosser and colleagues (2009). The different narratives were transcribed and interpreted to derive meaning from the testimonies. The narratives of the respondents from the two

State ministries, civil society organisation (CSO), and the Councils composed of Indigenous Peoples were cross-validated using content analysis for the identification of common grounds and inconsistencies (Basupi et al. 2017). This was in line with concerns about their engagements in the Cameroon carbon market, barriers to indigenous peoples' access to carbon markets, and recommendation for indigenous peoples' engagement. The common themes were extrapolated for their connections to the theoretical framework which delved into the historical literature. These concerns international legal instruments and country level jurisprudence which have been relevant to indigenous peoples' consultation and participation in their decision-making regarding access to carbon markets.

Findings and Discussion

1.2 Carbon Emissions of Cameroon

1.2.1 Cameroon's Carbon Emissions and Ambitious Targets

The carbon emissions of Cameroon have been fluctuating as shown below (Figure 2).

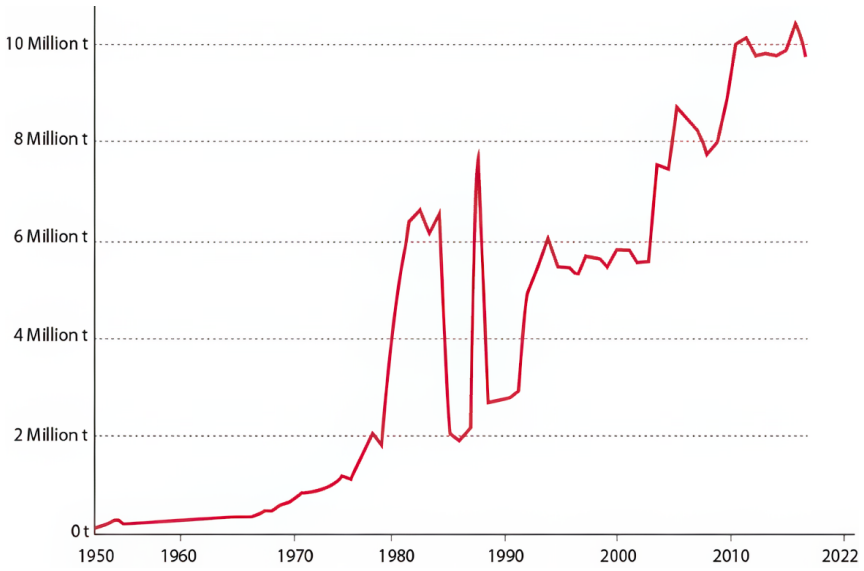
Cameroon carbon (CO_2) emissions for 2020 was **9,928.40**, a **3.88% increase** from 2019.

Cameroon carbon (CO_2) emissions for 2019 was **9,557.30**, a **1.97% decline** from 2018.

Cameroon carbon (CO_2) emissions for 2018 was **9,749.70**, a **7.42% increase** from 2017.

Cameroon carbon (CO_2) emissions for 2017 was **9,076.00**, a **1.13% increase** from 2016.

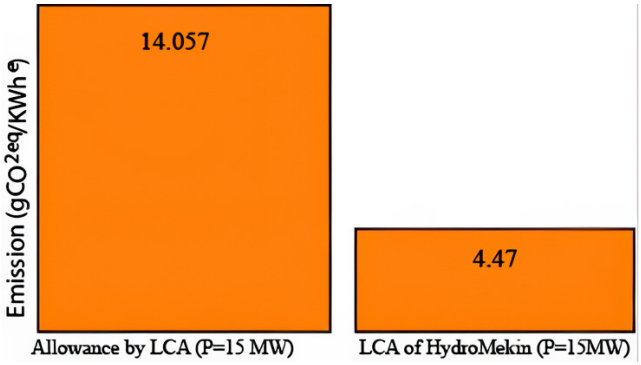
FIG.2: CAMEROON EMISSIONS FROM FOSSIL FUELS AND INDUSTRY



DATA SOURCE: CLIMATE WATCH (2023)

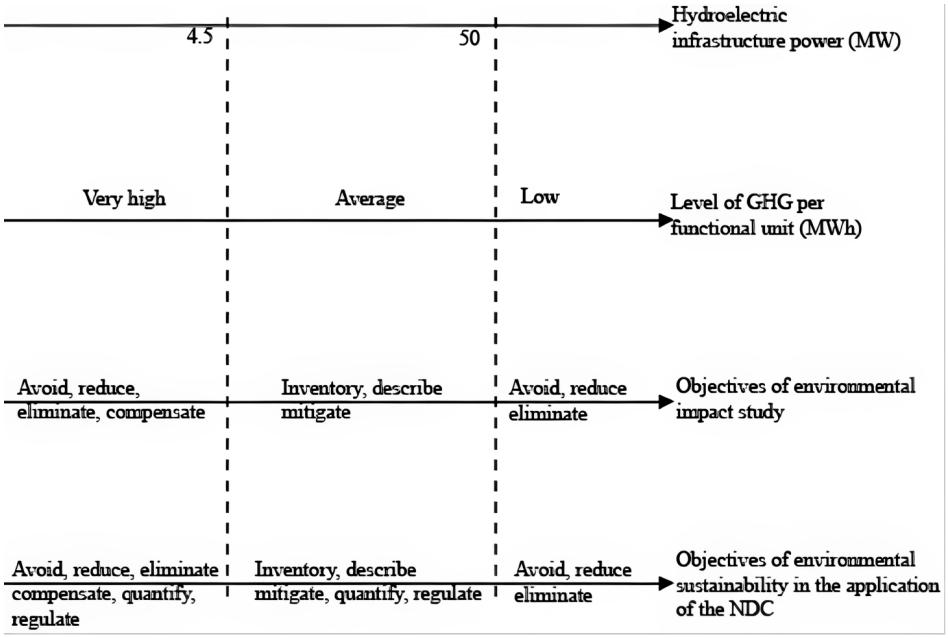
As literature attests, the per capita emissions of Cameroon went from 9.32 tonnes of CO2e in 1998 to 4.89 tonnes in 2018, above the 2018 Sub-Saharan African average of 3.45 tonnes, but below the 2018 world average of 6.45 tonnes (World Bank Group, 2022). Emissions per unit of GDP for Cameroon stood at 3.19 kilotonnes in 2018, higher than both the Sub-Saharan African and world averages, at 2.13 kilotonnes and 566.17 tonnes, respectively (Figure 1.8).11 The business-as-usual scenario for GHG emissions predicts a sharp increase by 2030, to reach 119.08 metric tonnes of CO2e in 2030, a sharp increase compared to the 2010 level (Figure 3) mainly from deforestation and waste generation.

Fig. 3: Carbon reduction effort



Being a relatively unindustrialized country sharing part of the CBF, a significant proportion of the carbon credits of Cameroon is likely to come from nature-based solutions to climate change. Such nature-based solutions are an eloquent pathway for development partners and organizations to gain access to emission allowances. They could exploit carbon sequestration potentials within Cameroon in obtaining certificates or permits granting them legal rights to emit a certain number of tonnes of GHG emissions. This is where Indigenous Baka, Bagyeli/Bakola and Bedzang, who have greater aptitude in contributing to nature-based solutions could have been at the centre of carbon markets in Cameroon. Unfortunately, current carbon credit methodologies (Figure 4) typically do not support continued preservation of existing forests as they are more geared towards those that are under threat (Marie Kemplay, 2023).

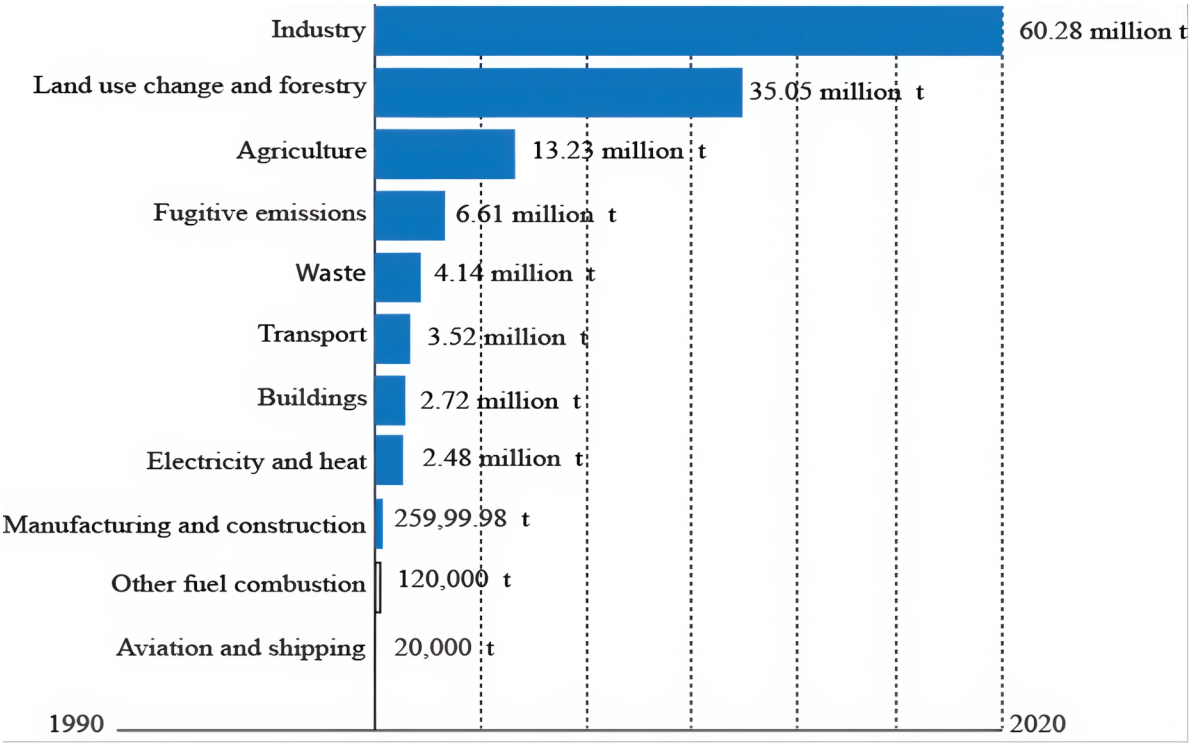
Fig. 4: Comparison of methodologies in the Post CoP 21 era, showing the case of Cameroon.



Source: Adopted from Melingui et al. 2023:520

Cameroon is a *low GHG emitter,* but its ambitious development strategy of becoming an emerging economy by 2035 will result in a sharp increase in emissions with the sectors of industry, land use change, and forestry contributing more (Figure 5). This is confirmed by the fact that when the National Refining Company (SONARA) went operational in 1980 just before its inauguration in 1981, Cameroon industrial emissions unprecedentedly scaled up (see Figure 2). The political upheavals that started in 1990 that resulted in numerous ghost towns led to a sudden drop in industrial and transport activities, which is reflected in a corresponding drop in carbon-based fuels and the carbon emissions of Cameroon during this period (Figure 3).

FIG. 5: CAMEROON GREENHOUSE GAS EMISSION BY SECTOR (1990-2020)



SOURCE: CLIMATE WATCH (2023)

The steady rise of carbon emissions after 1990 is indicative of the country's vulnerability. Cameroon is quite exposed and sensitive to climate change challenges and has low adaptive capacity (GoC NDC, 2021), ranking 146th in a list of 182 countries in the 2020 ND-GAIN Index (https://gain.nd.edu). On this score, Cameroon is one of the most vulnerable countries in the world to climate change, particularly as it has experienced a temperature increase of 0.86°C between 1974 and 2020, with more significant warming experienced in the north of the country between 1991 and 2020 (https://dicf.unepgrid.ch/cameroon/climate-change).

1.3 Commitments of Cameroon

The climate commitment of Cameroon towards emission reduction is governed by the core principles of GCF which include 1) country ownership; and 2) country-driven approach. As a signatory to the Paris Agreement and other climate change-related treaties (table 2), Cameroon has set its targets, priorities, and responses (referred to here as Cameroon's ambitions) to reduce its national emissions of 10.2 million tonnes in 2021 and adapt to the impact of climate change as crafted in the Nationally Determined Contributions (NDCs).

Table 2: Climate change-related treaties to which Cameroon is a signatory (list needed)

No	Title, Date and place of adoption	Date of signature	Date of ratification	National legal reference
1	United Nations Framework Convention on Climate Change of 9 May 1992 in New York	14 June 1992	19 October 1994	Law No. 93/010 of 22 December
2	Convention on Climate Change of 11 December 1997	-	28 August 2002	19 October 1994
3	Paris Climate Agreement of 15 December 2015	22 April 2016	29 July 2016	Law No. 2016/008 of 12 July 2016
4	African Convention on the Conservation of Nature and Natural Resources of 15 September 1968 in Algiers		29 November 1978	
5	United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa **(UNCCD)** 14 October 1994 in Paris	-	29 May 1997	-
6	Convention on Biological Diversity	14 June 1992	19 October 1994	Law No. 93/010 of 22 December 1993
7	Cartagena Protocol on Biosafety to the Convention on Biological Diversity of 29 January 2000	9 February 2001	20 February 2003	-
8	Protocol on Substances that Deplete the Ozone Layer of 16 September 1987		30 August 1989	
9	UNESCO Convention on the Protection of Cultural and Natural World Heritage of 16 November 1972 in Paris		7 December 1982	Law No. 91/0081 of 30 July 1991
10	Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region of 23 March 1981 in Abidjan		5 August 1984	
11	International Convention for the Protection of Plants of 6 Dec. 1951 Entry into force 3/4/1952			5 April 2006
12	International Tropical Timber Agreement of 27 January 2006 in Geneva	13 February 2007	27 August 2009	Law 2008/002 of 14 April 2008

Source: Extracted from the list of environment related conventions ratified by Cameroon pages 10-12 of Cameroon legal texts compilation (GoC, 2018)

In accordance with the Paris Agreement, Cameroon has prepared and communicated its NDCs, which has been received and recorded in a public registry by the United Nations Framework Convention on Climate Change (UNFCCC). The first NDC of Cameroon was prepared in 2016, while on 12 October 2021, the NDC was revised with more ambitious commitments made. In the first NDC in which the intended nationally determined contribution (INDC) was the focus, Cameroon pledged to cut its GHG emissions by 2035 to below a business-as-usual (BAU) scenario of 32% with international support which was the conditional target. Cameroon did not set an unconditional target at the time. Unfortunately, it has not been very easy for the government to mobilise domestic and external resources to meet the measures of the NDC. Despite efforts to allocate

domestic resources to climate actions, implementation of the first NDC measures showed that only few of these were adequately funded, as the phenomenon of donor dependency still reigns supreme. For this reason, carbon tax was neither mentioned in the INDC nor the NDC (Ngwome, 2023). When budgeting for climate programs was done by sector ministries, little or no domestic funding was mobilised. Though Cameroon applied to mobilize funding available under global funds (such as in REDD+, Green Climate Fund, Adaptation Fund), limited technical capacity, staff, and resources undermined the country's ability to advance on accreditation processes. In addition, REDD+ governance issues related to corruption, limited transparency, stakeholder identification, and engagement delayed the application process (World Bank Group, 2022).

Neither in the INDC nor the updated NDC did Cameroon's commitment towards emission reduction considered Baka, Bagyeli/Bakola and Bedzang, and Mbororo Indigenous Peoples as significant stakeholders in carbon markets and in nature-based solutions to climate change. In the updated NDC, indigenous peoples have been mentioned just thrice (pages 3, 22 and 44). But while indigenous peoples are mentioned, their substantive participation and engagement in contributing knowledge, skills, and leadership are not clear.

Some Texts in the NDC

- *« La contribution de la déforestation aux changements climatiques et à la vulnérabilité des populations locales et autochtones est indéniable »* (The contribution of deforestation to climate change and to the vulnerability of local and indigenous populations is undeniable ; NDC, page 3).
- *« Arrangements institutionnels nationaux, participation du public et engagement avec les communautés locales et les peuples autochtones, d'une manière sensible au genre… »* (National institutional arrangements, public participation and gender sensitive engagement of local and indigenous peoples; NDC, p 22)
- *"Campagnes régulières de communication sur la CDN à partir de fin 2021, en direction des CTD, des ONG, des peuples autochtones et communautés locales,…»* (Regular educative campaigns on the NDC since the end of 2021 with decentralized territorial collectivity, NGOs, indigenous and local communities; [what page?])

Though the second and third mentions are indicative of expressed engagement, no such engagement has been realised vis-à-vis Baka, Bagyeli/Bakola and Bedzang Indigenous Peoples in consultations, policy design and implementation (Focal Point, pers. comm.). This has just replicated the historical injustices of engaging the Indigenous Peoples of Cameroon in the climate change-related arena. They were excluded at the very beginning since the early policy documents through which government expressed its readiness to commit itself in the global climate change mitigation and adaptation targets. They were not involved in issues related to the Forest Carbon Partnership Facility (FCPF), REDD+, and monitoring of forests and deforestation. In Cameroon therefore, the foundation is weak when it comes to starting climate change-related forest stewardship projects with Indigenous Peoples.

Chapter 2: Overview of Carbon Markets in Cameroon

Carbon markets in Cameroon are still at their embryonic stage. Cameroon is still in the process of working its country level carbon balance sheet that entails estimating the amount of carbon stores in a country using various climate-friendly measures. Currently, the carbon market arena in Cameroon still faces some limitations. Cameroon has no legislation specifically adopted to address climate change, and this has made it difficult to operationalize a carbon tax in the country that could effectively reduce GHG emissions to conform with country level pledges under the Paris Agreement. Its sectoral climate mitigation actions are dependency-oriented as they need the support of the international community when it comes to financing, enforcement of capacity, and transfer of technology (GoC, 2021; World Bank Group, 2022 and Ngwome, 2023).

2.1 Carbon markets and/or voluntary carbon markets in Cameroon and how they work

Cameroon, a country encompassing at least 11% of the CBF is bracing up to engage with the compliance carbon market, **compulsory carbon** market, and the voluntary carbon market (VCM). On 25 October 2022, the government of *Cameroon* through its Minister of Finance, Louis Paul Motazé, made a pertinent declaration on the strategy the country was developing to start earning money on the carbon market. During a workshop chaired by the Minister to discuss the issue with authorities, he explained the Cameroon approach to the carbon market. "Our plan is to assess our current situation, identify solutions, and implement them to finalize the carbon market entry process," the official said.

Interview data threw more light on this declaration. An interviewee from MINEPDED was of the view that the declaration of the minister was probably motivated by earlier cooperation agreements signed by the Dutch Green Business Group N.V. ("DGB" or "the Group") with Green Zone Cameroon and the Applied Institute of Agriculture and Technology ("AIAT") in Kenya. This was for a two 30-year forest carbon offset projects to sequester emissions, and to protect critical primary forest. The interviewee noted that the Minister's words were clear, as to assessing our current situation, identifying solutions, and implementing these to finalize the carbon market entry process. Part of the assessment could be a follow up from the ranking of Cameroon as 146 out of 182 countries in two lists: the 2020 ND-GAIN Index and the 2021 updated NDC. Both sources had similar conclusions on the high vulnerability of Cameroon to climate change. Because it is concerned with identifying solutions, the government through Green Zone and its partner is focusing on forest regeneration over a surface area of between 2,300-3,000 hectares covering three villages in Yoko Sub Division in the Centre Region.

This habitat restoration project that will safeguard the future of biodiverse ecosystems and mitigate climate concerns in Cameroon falls within the arena of voluntary carbon markets. The project, which is to be financed through the generation of high-integrity carbon credits known as Verified Carbon Units ("VCUs"), will engage over 20,000 farmers in both Kenya and Cameroon, though it does not specifically target Indigenous Peoples in Cameroon. However, it will create employment opportunities for thousands of people in local communities, and will profit Indigenous Peoples when extended to their communities. The projects will also see the manufacture and distribution of 300,000 energy-efficient cookstoves in communities where the tree planting takes place. The cookstoves will reduce by more than half the use of charcoal and wood as the primary energy source in these local communities. The manufacturing and distribution of cookstoves will be designed as a stand alone carbon offsetting project under the Gold Standard Methodology ("Technologies and Practices to Displace Decentralized Thermal Energy Consumption"). The projects have the character of Verified Carbon Standard ("VCS") as they are being designed by a team of experts with a wealth of experience in VCS and the Climate, Community and Biodiversity Standard ("CCBS").

This reforestation project initiated by the Dutch Green Business Group with Green Zone Cameroon is oriented towards habitat restoration, which has little to do with habitat conservation, the *modus operandi* of Indigenous Baka, Bagyeli/Bakola and Bedzang in the CBF. Phone survey with the two councilors in Djoum and Mintom revealed that these Indigenous Peoples could not identify the fruit and nut trees (avocado, mango, orange, apple, macadamia and cashew) earmarked to be planted. They were unanimous that even if the

project was to extend to their territories, the trees to be planted are not among the timber and non-timber forest products to which their forest economy and pharmacopeia industry are adapted. The interviewees cited timber trees such as Moabi (*Baillonnella toxisperma*), Sapelli (*Entandrophragma cylindicum*), Bibolo (*Lovoa trichilioides*), Iroko (*Milicia excels*), and non-timber forest product trees such as Ando'o (*Irvingia gabonensis*), Njangsang (*Ricinodendron heudelotii*), Onié (*Garcinia cola*), Kola (*Cola nictida*), and Okok (*Gnetum africanum*) to be among those that enhance the forest economy and pharmacopeia industry of indigenous peoples. The Council Development Plans (CDPs) of Messamena in the East Region, established in 2012, and Djoum in the South Region, established in 2015, confirm these assertions (CDP Djoum 2015 and CDP Messamena, 2012).

2.2 Emission targets and allowances

Though Cameroon is a *low GHG emitter*, its ambitious development strategy of becoming an emerging economy by 2035 will result in a sharp increase in emissions (World Bank Group, 2022). That notwithstanding, following the ratification of the Paris Agreement by Cameroon on 29 July 2016, the government began responding positively in the emission targets and allowances arena. With emission targets being simply the proposed percentage reduction of emissions in a given period aiming to attain net zero at a given year, Cameroon began with a first emission reduction target of 32% for 2035 in its 2016 INDC. After five years, in 2021, the country made some progress which instigated the government to believe that it could do better in cutting down its emissions despite the fact that 2035 is also the year earmarked for emergence. In response, therefore, a more ambitious target of 35% GHG emission reduction still for 2035 was set in its updated NDC. According to the NDC of Cameroon, the business-as-usual (BAU) scenario is 119,084.45 Gg CO_2EQ with a target of 76,825.72 GgCO_2EQ, corresponding to 35% reduction in its emissions (NDC, 2021 and Melingui et al. 2023) which is its current defined baseline. The government is focusing this ambitious decarbonization target on four covered sectors, none of which engage Indigenous Peoples.

2.3 Covered sectors

The government of Cameroon has embarked on carbon assessment. In the updated NDC, the stride made is related to the setting up of an unconditional greenhouse gas (GHG) emission reduction target of 12% and a conditional reduction target of up to 35% of the BAU scenario by 2030. The 35% cut would limit GHG emissions by more than 42 MtCO_2EQ to 77 MtCO_2EQ. Similarly, 45% of the savings (over 19 MtCO_2EQ) would be reached in the forestry and land use sectors, while these would be nearly 32% in the energy sector, 16% in agriculture, and over 6% in the waste sector (Table 1). Transport is responsible for half of these emissions (49%), while the energy and industry sectors produce 14% and 2%, respectively.

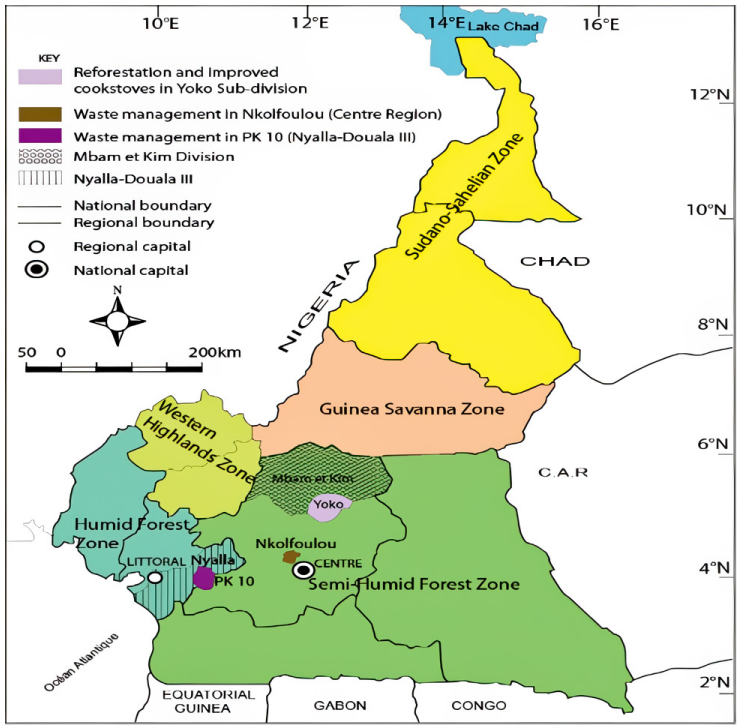
Table 1: Proportion of Reduction by sector in 2030

Sectors	Agriculture	Forestry and Other Land Use (FALU)	Energy	Waste	Total
Quantitative reduction (Gg CO_2EQ)	6808.48	19378.63	13369.85	2701.78	42258.73
Percentage reduction proportion from total	16.1%	45.9%	31.6%	6.4%	100.0%
Sector percentage reduction (%.)	5.7%	16.3%	11.2%	2.3%	35.5%

Source: Cameroon revised NDC, page 13

In this regard, extant literature holds that Cameroon has identified 32 mitigation actions in four key sectors (forestry, agriculture, energy, and waste) in an attempt to achieving its target within the framework of mitigation and adaptation to climate change (World Bank Group, 2022). Effort on these sectors is concentrated within two of the five agro-ecological zones of Cameroon (Figure 6).

Fig. 6: Agroecological zones with carbon assessment projects in Cameroon



Source: Adapted from IRAD Annual report (2007) and the works of DGB and Green Zone International, Cameroon (2023)

2.3.1) Forestry and Energy sectors

Cameroon has great potentials in the forestry and energy sectors for achieving its target. Close monitoring of its emission reduction performance within the past two decades indicates that Cameroon's GHG emissions have diminished on the average, although they remain higher than the Sub-Saharan African average. This was achieved through reforestation and a shift of its energy mix toward renewables (World Bank Group, 2022). Reforestation meanwhile is taking place with lots of tenure challenges. The CEO of Green Zone Cameroon International was of the view that the land on which they are carrying out reforestation and afforestation does not belong to them, but to the communities. In reality, however, the land does not belong to the communities, considering the legal classification and ownership of land and forests in Cameroon. For this reason, a scholar pondered on what criteria or indicators lawmakers could apply to identify these owners: would it be land tenure (including ancestral rights), operating rights, use rights, or capital investment (Dkamela, 2010)?

Here two categories of land are involved. The first is the national domain forest, which is being deforested through small scale agriculture by local and indigenous communities, and also through large-scale agriculture by agro-industrial corporations. The second category is the State production forests known as forest management units or *unités d'aménagement forestiers* (UFAs), which is being degraded by logging companies. In line with the legal classification and ownership of land and forests in the country, two Cameroon lawyers, Nchunu Sama and Bih Tawah (2009), concluded that carbon credits should belong to whoever owns the land (Dkamela, 2010). This is probably the reason for which local and indigenous peoples are not included in carbon credit generation projects. Thus, the state remains the owner of nearly all the REDD+ credits in Cameroon (Dkamela, 2010).

Legally, local and indigenous communities do not own the national forest domain, and probably that is why they are less engaged in the reforestation process through which carbon credits are generated. Similarly, reforestation of UFAs has been going on in the southeast forest zone of the country but to the exclusion of forest Indigenous Peoples. Be it the UFA-Reforest project funded by the EU and which started in early

2022 and will run until 2026 (Atibt, 2023), Indigenous Peoples are excluded. This forest compartment, which constitute the ancestral lands of Indigenous Baka, Bagyeli/Bakola and Bedzang were confiscated, classified as State permanent forests, and legally opened to logging companies for wood exploitation. At the close of such logging activities, various companies and organizations with public utility status are reforesting these UFAs and afforesting parts of the forest in an attempt to generate carbon credits. Knowing that a significant proportion of the country's carbon credits are likely to come from nature-based solutions, it is an opportunity to engage Baka, Bagyeli/Bakola and Bedzang who have enviable aptitude in contributing to nature-based solutions.

Despite the potentials of Indigenous Peoples to contribute to nature-based solutions in the climate change issue, they are not an integral part of the forest restoration programmes. Even the Bonn Challenge, an initiative on forest restoration launched by the International Union for Conservation of Nature in 2011 and which is scheduled to run until 2030, has not yet removed exclusionary features maintaining the ambiguity of Indigenous Peoples' participation. The project kicked off in 2011 with the participation of 183 bodies nationwide, including 74 local councils, 36 nongovernmental organizations, and business bodies (https://www.voanews.com). Local councils, which are decentralized organs of the administration, are leviathan in character vis-à-vis local populations and Indigenous Peoples. The two Baka councilors in Djoum and Mintom, as well as the Lelewal Focal Point in Djoum, were of the view that their local councils and even those in the East Region such as Messamena, Ngoyla and Somalomo seldom allow participation of Indigenous Baka, Bagyeli/Bakola and Bedzang or the local communities of Bangado in forest restoration projects. In corroboration, the council development plan (CDP) of Yaounde I Council (2015: 57) states that even municipal counsellors seldom work closely with the local populations, stating *faible implication des conseillers municipaux dans l'accompagnement des populations* (low involvement of municipal counsellor with the population).

2.3.2 The energy sector

The energy sector of Cameroon is driven by hydro-electrical energy, carbon-based fuels, and fuel wood, with a consumption capacity that is still quite low. Total energy consumption per capita is 0.4 ton of oil equivalent (toe), which includes 255 kilowatt hours (KWh) of electricity for the year 2021. Total energy consumption has increased by 3 percent yearly since 2016, reaching 10.6 millions tonnes of oil equivalent (Mtoe) in 2021. This was after a more rapid growth between 2010 and 2015, which shows as 5.5 percent per year (GoC, 2022). These fluctuations in energy consumption notwithstanding, the energy demands of Cameroon are bound to increase, particularly with the steady march towards emergence in 2035. According to the National Development Strategy30 (SND30), government is aiming at an access rate of 90 percent by 2030, up from the current 63 percent. Similarly, the updated NDC indicates that GHG emissions resulting from the provision of energy services are contributing 18 percent of total emissions, and only the shift to renewable energy can provide wider benefits (World Bank Group, 2022).

Following this increase in energy consumption, Cameroon is taking some measures to cut down on its emissions by shifting its energy mix toward renewables such as hydropower and improved cookstoves. The Sawa Cookstoves Project, which is a sustainability initiative developed by DGB, is intended to address the issue of deforestation and carbon emissions in Cameroon's central region. The project aims to reduce deforestation by providing 150,000 efficient, locally-manufactured cookstoves to the region, one of Cameroon's most densely populated regions. The project also supports reforestation efforts and improves overall sustainability in the region by encouraging the use of more sustainable methods for heating and cooking, thus reducing the amount of firewood needed and decreasing the negative health impacts associated with traditional cooking methods (Enchaw, 2000; and Atibt, 2023 https://www.green.earth).

This improved cookstoves project is rather taking place outside the communities of Indigenous Baka, Bagyeli/Bakola and Bedzang or the Mbororo, though some local communities in Yoko Sub-division of the Centre Region are benefiting from it as observed by the CEO of Green Zone International Cameroon. As DGB pointed out, the tree planting projects will also see the manufacture and distribution of 300,000 energy-efficient cookstoves in communities where the tree planting takes place in Cameroon and Kenya. The manufacturing and distribution of cookstoves will be designed as a stand-alone carbon offsetting project under the Gold Standard Methodology-Technologies and Practices to Displace Decentralized Thermal Energy Consumption.

The project aims to reduce by more than half the use of charcoal and wood as the primary energy source the local communities concerned (DGB Group, 2021).

2.3.3 The landfill sector

The landfill sector in Cameroon is dominated by the landfill gas (LFG), which is a significant source of global warming as it contains a high share of the greenhouse gas methane. In order to avoid the uncontrolled release of LFG in the atmosphere, Cameroon sets two Landfill Gas Recovery Projects or Plants, in Nkolfoulou-Yaounde and in PK 10 Nyalla-Douala III. Both projects are on-going and are run by the state-owned Hygiene and Sanitation Company Cameroon (HYSACAM), and are registered to sell carbon credits via the UN Clean Development Mechanism (CDM). They focus on GHG avoidance and generate carbon credits by capturing, flaring, and consequently destroying LFG in highly efficient flaring stations. The slump CDM offset price has blunted prospects for the landfill improvement scheme (UNFCCC/CCNUCC, 2010).

2.3.4 Monitoring, reporting, and verification (MRV)

Even with the birth of *the National Observatory on Climate Change* (NOCC) or *Observatoire National sur les Changements Climatiques* (ONACC) in Cameroon, country level capacity for monitoring, reporting, and verification of emissions remains critical. Though Cameroon is a low carbon emitter, the country is still grappling with issues of ineffective MRV mechanism. The country has an underlying lagging permanent emissions reduction capacity, and is less responsive to reference levels clarification, apprenticeship systems, feedback, and leakage control mechanisms. It was only in October 2022 that high level pronouncements were made on the strategy the country was developing to start earning money on the carbon market. This means that the design of the MRV system of Cameroon as part of the REDD+ national strategy is ongoing within ONACC as confirmed by the representative of MINEPDED.

The literature is clear that within some ministerial departments, some useful data in developing a monitoring mechanism exist. The computerised forestry information management system of the Ministry of Forest and Fauna (MINFOF) known as *Système Informatique de Gestion de l'Information Forestière* (SIGIF) has data on the number of forest concessions, wood production data, management plans, inventory of managed and unmanaged species, and the interactive forest atlas that carries interesting information. The Institutional Site for Ministry of Finance of Cameroon (MINFI) Programme which is the Securing Forestry Revenue (Programme de Sécurisation des Recettes Forestières, of PSRF) has data on land tax and redistribution. The National Institute of Statistics (INS) of the Ministry of Economy, Planning and Land Planning (MINEPAT) has micro- and macroeconomic data and development indicators. The Ministry of Agriculture and Rural Development (MINADER) has data on crop growing areas (Dkamela, 2010) within the 5 agro-ecological zones as carried in the updated NDC in its page 9, and the National Development Strategy30 (SND30). There is also data generated by the REDD+ Cameroon Pilot Projects and the Alternative to Slash and Burn (ASB) initiative about options for reducing emissions from all land uses (REALU). These are helpful in the MRV systems being built in the country (Dkamela, 2010).

Typical examples of the MRV system in Cameroon are found in the waste management domain. The Nkolfoulou-Yaounde and in PK 10 Nyalla-Douala III Landfill Gas Recovery Projects operate in conformity with a CDM monitoring manual. This manual was developed to cover all the procedures required in the approved methodology ACM0001 and validated monitoring plan (Figure 8a&b).

FIG. 8: GENERAL MONITORING SET-UP

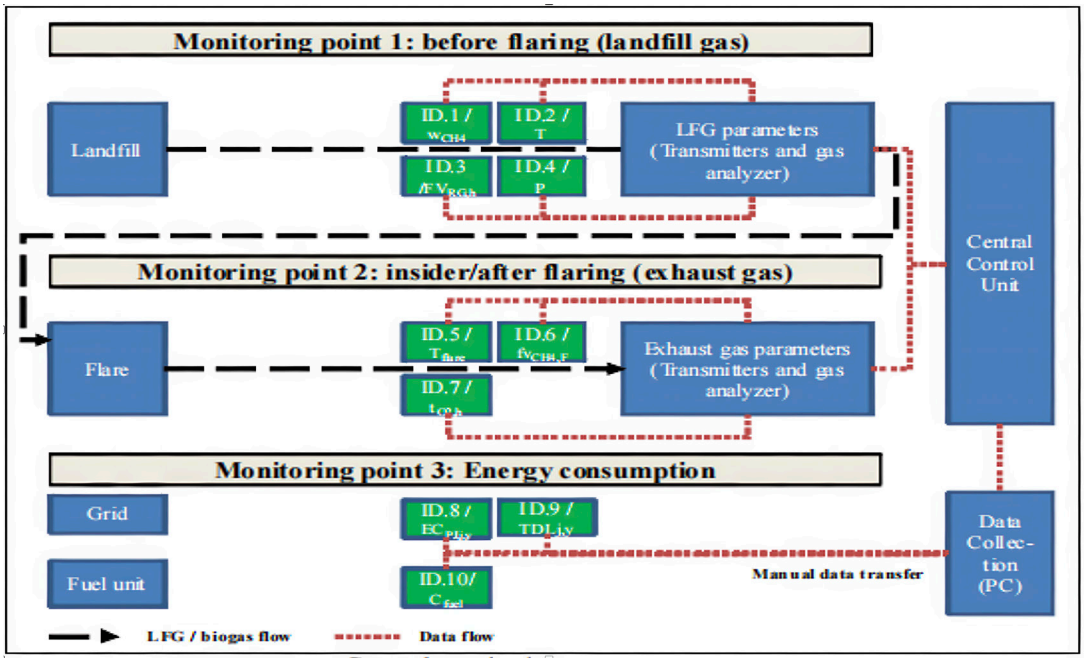
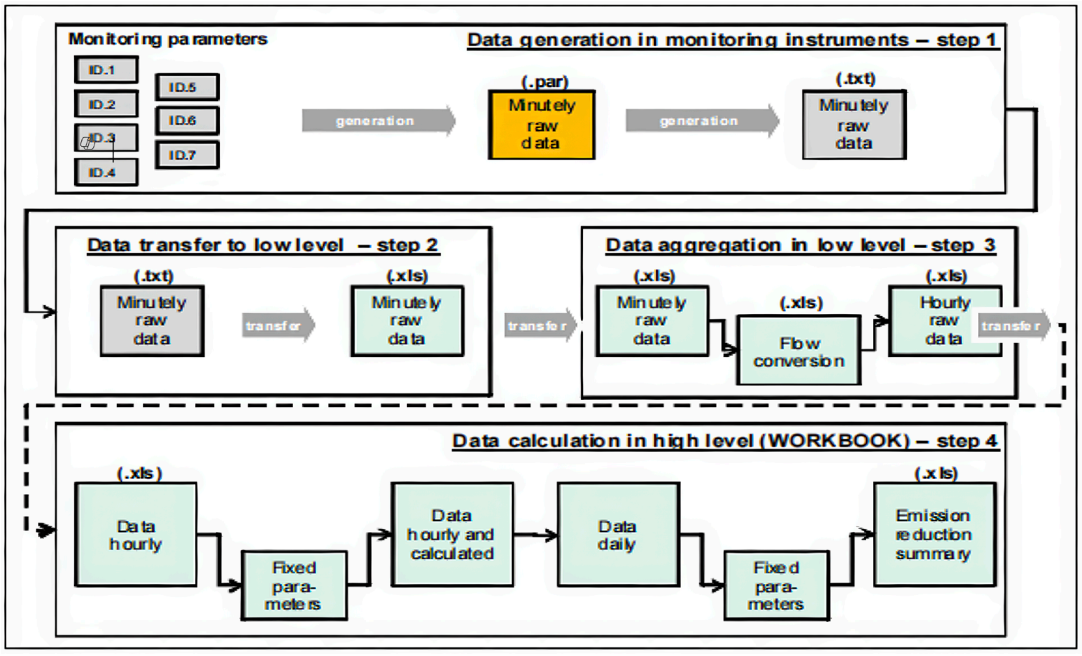


FIG. 8B: DATA GENERATION IN MONITORING INSTRUMENTS

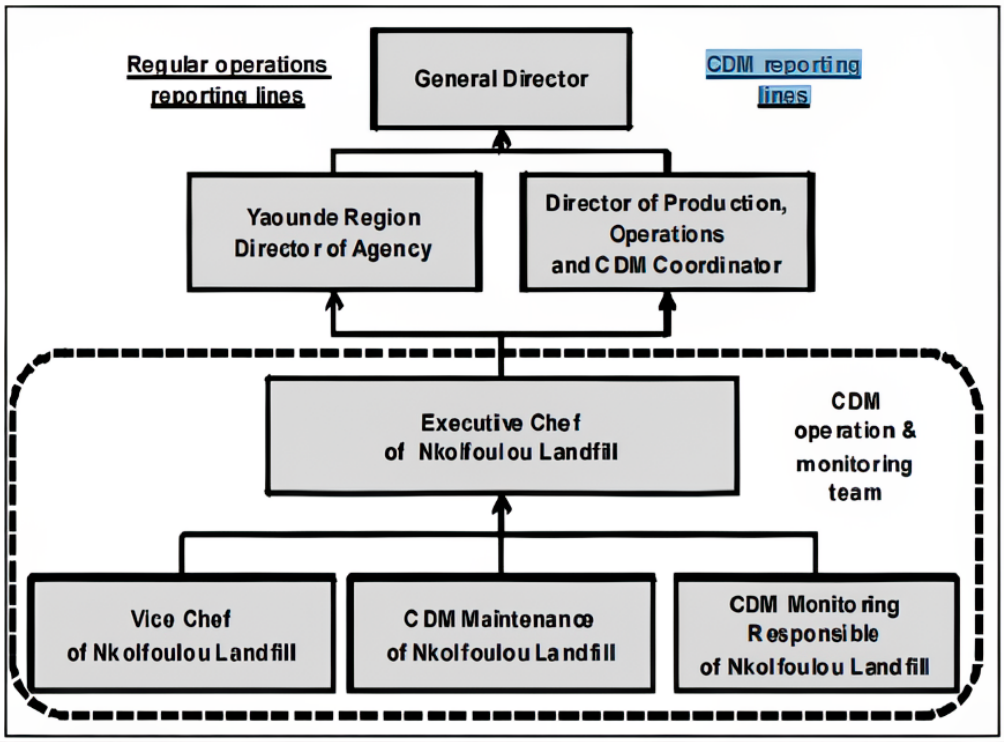


SOURCE: ADOPTED FROM UNFCCC/CCNUCC, 2010

2.3.5 Reporting and verification

The regular operational activities of the LFG system are monitored on a daily basis, and the monitoring results are reported in terms of regular operations reporting lines in one hand, and CDM reporting lines in the other (Figure 9). Monitoring jumps, or periods with no normal operating conditions, are reported, including default values and factors. Similarly, cases of unforeseen problems or failures of the data recording system are reported.

Fig. 9: Reporting lines



Source: Adopted from UNFCCC/CCNUCC, 2010

2.3.6 Compliance and Enforcement

In 2011, Cameroon enacted a Law on the Commercialization of Associated Gas, which is still devoid of effective compliance and enforcement. This accounted for country level poor performance in flaring reduction and the benefit received from its elimination. Supporting the government in developing a transition strategy over the short and long term will help prepare for global decarbonization. Thus, a near term priority is to identify and remove barriers in the discussion between the private sector and the government, so that the technical solutions under development can be implemented without delay. Similarly, an integrated gas value chain on domestic needs involving processing of gas to power, and those of exports involving processing of gas to liquefied natural gas (LNG) is needed to remove risks and facilitate gas commercialization, since it represents an additional incentive for operators (World Bank Group, 2022). Capacity building, therefore, remains a key tool to facilitate the enforcement of the capabilities process in Cameroon.

Summary of climate actions by sector in Cameroon is here presented in a tabular form (Table 2). The table shows the various sectoral actions, the purpose or objective, feasibility, and impact. It shows that climate-smart agriculture has a high feasibility in Cameroon, while feasibility is only fair for enabling rights-based land use, conflict prevention and regional/local adaptation for all, equitable adaptation in cities, climate-smart health systems, and climate-smart schools. On the contrary, impact is fair for climate-informed road investments. For all the other actions, feasibility and impact are moderate.

Table 2: Priority climate actions by sector/system and cross-cutting governance issues

No	Action	Purpose/Objective	Feasibility	Impact
AGRICULTURE, FORESTRY AND OTHER LAND USE (AFOLU)				
1	Combatting deforestation and forest degradation	Planting 650,000 hectares (ha) of degraded land; protection and conservation of 3.3 million ha nationwide.	++	++
2	Enabling rights-based land use	Ensures community involvement in land-use outcomes; strengthen community control over forests; build capacity for implementing restoration.	+	++
3	Revise the Forest Policy/Law	Assess implementation of the policy and institutional evolution and impact on forests.	++	++
4	Climate-Smart Agriculture	Support portfolio of nine priority and integrated CSA investments	+++	++
5	Gender Sensitive Adaptation	Support women's agency for climate adaptation, and target women farmers' structural disadvantages to improve rural productivity and food security.	++	++
6	Conflict prevention and regional/local adaptation for all	Strategic regional adaptation investments with local climate action plan to minimize amplification of conflict drivers and ensuing violence after climate shocks.	+	++
CITIES				
7	Sustainable urban planning	Initiate climate-sensitive development planning: ensure medium- and long-term national/sector development strategies integrating climate considerations.	++	++
8	Equitable adaptation in cities	Opportunities for cities to implement equitable adaptation policies; equitable adaptation planning and community engagement with hazard-specific actions.	+	++
		INFRASTRUCTURE		
9	Broader energy sector reforms	Improve operational performance of electricity companies (loss reduction); adopt payment discipline for electricity bills from the state entities and SOEs; implement cost-recovery tariffs.	++	++
10	Climate-informed road investments	Systematically (i) assess road vulnerability, & (ii) integrate results of vulnerability assessments in strategic planning and management practices.	++	+
HUMAN CAPITAL				
11	Climate-smart health systems	Build capacity of the health system to respond and adapt to climate change.	+	++
12	Climate-smart schools	Invest in climate-smart school infrastructure.	+	++
13	Smart skills and climate informed education	Curriculum reform and investment in climate-smart skills for critical sectors	++	++
14	Adaptive Social Protection system	Expand social protection as the country builds the foundations for an Adaptive Social Protection system.	++	++
GOVERNANCE (CROSS-CUTTING FOR CLIMATE ACTION)				
15	National Law on climate change	Enact a national law/legislation on climate outlining roles, responsibilities, and mandates of national institutions, and identifying clear mechanisms for coordination.	++	++
16	Decentralization	Include provisions in the decentralization law for role and responsibilities of climate action for local governments, including budget lines for climate action financing.	++	++
17	Inter-ministerial coordination	Operationalization of the inter-ministerial committee to help establish a whole-of-government response to climate change across policy development, implementation, and evaluation.	++	++

Source: Adopted from World Bank Group, 2022:12

Chapter 3: Experiences of Indigenous Communities

Indigenous Peoples in Cameroon have little or no experiences in carbon credits and markets, though they have heard of climate change and REDD+ (Bouba and Enchaw, 2018). Originally suggested by the Forest Carbon Partnership Facility (FCPF), REDD was welcomed by Cameroon in 2005 having been presented by the international community as an opportunity to contribute to the reduction of carbon emissions, and to finance sustainable development nationally (Dkamela, 2010). In response, Cameroon submitted its Readiness Plan Idea Note (R-PIN) compiled by World Wildlife Fund (WWF), MINEPDED, and ONF International in 2008 with a series of nine REDD pilot projects supported by donors, conservation NGOs, and the private carbon credit sector launched at sub-national level.

These projects were first concentrated in the areas surrounding the large national parks, which in the southeast forest zone of Cameroon constitute the ancestral lands of Indigenous Baka, Bagyeli/Bakola and Bedzang. The haste with which the REDD preparatory processes were drafted led to many challenges and necessitated review in 2011. During the review process, Forest Peoples Programme identified shortcomings related to the inclusion of the rights of Indigenous Peoples and local communities in the national policies and initiatives underway, including those involving the Forest Carbon Partnership Facility (FCPF). The review showed that the projects were devoid of transparency and genuine participation by local communities, and did not respect Free, Prior and Informed Consent (FPIC). Other challenges included no clear procedures to incorporate FPIC in the REDD+ projects; confusion over carbon ownership rights (which, more often than not, are allocated to the State); and non-respect for customary land rights (Willis, Venant and Olinga, 2016).

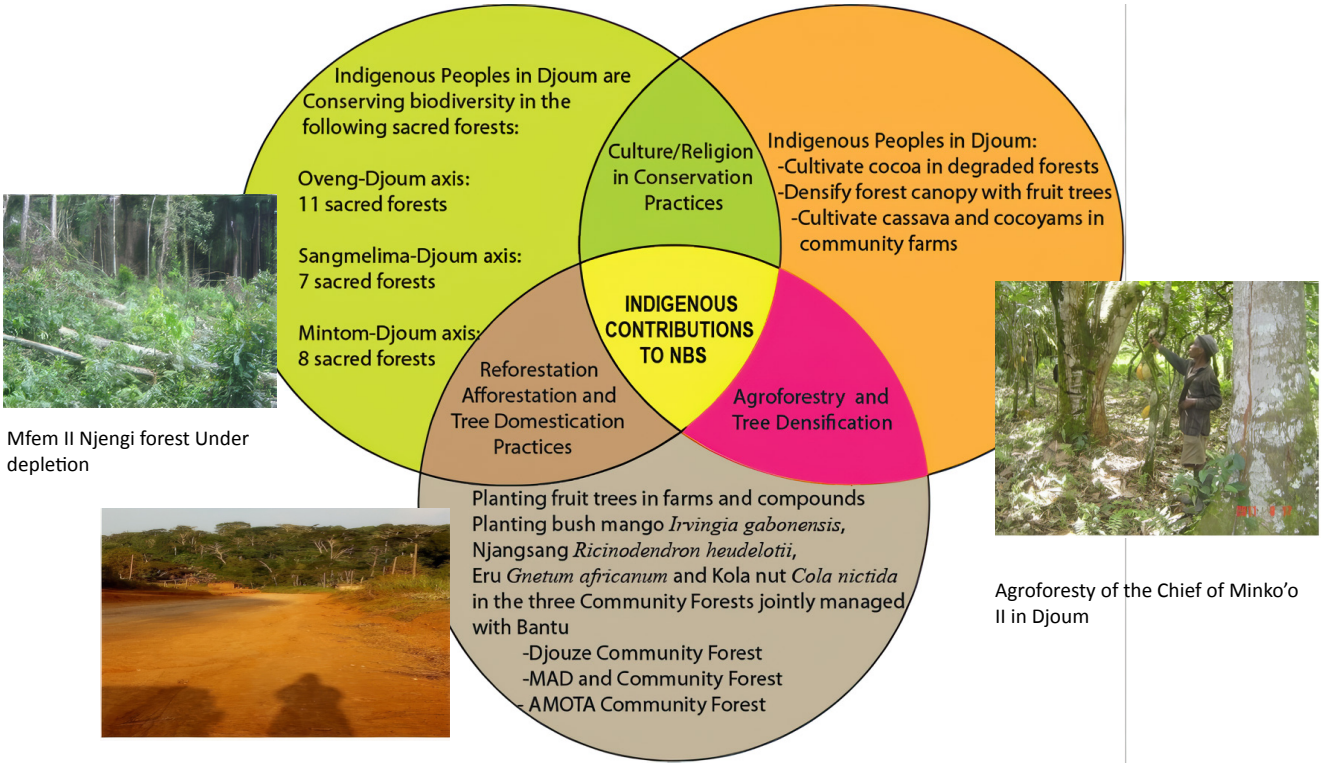
3.1 Relevant experiences

While awareness in issues of carbon markets and credits still eludes indigenous Baka, Bgyeli/Bakola and Bedzang, they already have some experiences in forest management and REDD+. Information from phone survey and existing literature attests to the contributions of indigenous Baka, Bgyeli/Bakola and Bedzang in Nature-based Solutions to climate change. Their evidence-based contributions abound in the southeast forest zone of Cameroon, particularly in Grand Djoum where there is a considerable concentration of resettled indigenous Baka communities along the three main road axes (DCDP, 2015). In these current sites, they still show proof of people working within nature, and evidence for their contributions to Nature-based Solutions to climate change is drawn from three main domains which invariably integrate REDD+ and Nature-based Solutions to climate change, to wit: their culture/religion in conservation practices; their reforestation and tree domestication practices, and their agroforestry practices (fig. 3). These three domains are in line with the 2016 IUCN definition of NBS to climate change, and reducing emissions from deforestation and forest degradation (REDD+). Cameroon established the 'REDD+' framework to protect forests as part of the Paris Agreement, particularly as IPCC identifies REDD+ as the activity with the largest potential for reducing agriculture, forestry and other land use (AFOLU) sector emissions (0.4–5.8 $GtCO_2$-EQ yr^{-1}) (IPCC, 2019).

However, Indigenous Peoples are mentioned just thrice in the updated NDC of Cameroon, and such mention concerns only adaptation. This is indicative of the exclusionary experiences of indigenous Baka, Bgyeli/Bakola, and Bedzang in REDD+ despite the fact that these Indigenous Peoples have aptitude and potentials of AFOLU emissions reduction through NBS, as their contributions attest. Through phone surveys we were able to confirm earlier findings on the activities of indigenous Baka, Bgyeli/Bakola, and Bedzang that are geared towards REDD+ achievement. It was confirmed that Indigenous Peoples in the Cameroon portion of the Congo Basin Forest, known also as the southeast forest zone of Cameroon, have lineage head-associated network of sacred forests, which serve for cultural and religious purposes, carbon sequestration, and also as resource depot. This lineage head-associated network of sacred groves is not less in preserving biodiversity and sinking carbon for climate change mitigation than a network of parks and reserves, and it is in consonance with Criterion 3 of the IUCN Guidance Standards for using NBS. Baka, Bgyeli/Bakola and Bedzang Indigenous Peoples have the advantage because their ancestral lands are found in the Congo Basin, which is the only stable carbon sink among the three lungs of the world. The CBF sequesters around 610 million tons of CO_2 per

year (Pirker and Carodenuto 2021), with average emissions at around 500 million tons and average absorption of 1.1 billion tonnes of CO_2 (CBFP, 2021).

Fig. 10: Indicators of Indigenous Contribution to NBS



Mfem II Njengi forest Under depletion

Nyabibete community forest, Djoum

Agroforesty of the Chief of Minko'o II in Djoum

Source: Enchaw G.B. 2021

According to the IPCC Special Report on Climate Change and Land, activities in the agriculture, forestry, and other land use sectors (AFOLU) account for 23 percent of total net anthropogenic emissions of greenhouse gases. The IPCC underlines that there are many land-related climate change mitigation options that do not increase the competition for land, and that many of these options have co-benefits for climate change adaptation. The IPCC identifies REDD+ as the activity with the largest potential for reducing AFOLU emissions (0.4–5.8 GtCO2-EQ yr–1). REDD+ in combination with the maintenance and enhancement of forest carbon sinks contribute positively towards GHG emission reduction goals in countries and globally. Additional benefits include the generation of many non-carbon returns such as enhancing biodiversity, sustaining clean water resources, and ensuring food security. REDD+ implementation, however, requires sufficient funding, institutional support, local buy-in, and clear metrics for measuring, reporting, and verification of effectiveness of measures taken, among other necessary enabling conditions.

Other experiences linked to forest carbon and benefit sharing can be traced from the annual forestry fees. Though provided for under the 1994 Forestry Law, the allocation of annual forestry fees by logging companies was not implemented until fiscal year 1996/1997. The annual forestry fee as stated comprises two elements, an access right calculated from a minimum rate of 300 CFA francs per hectare per year, and an exploitation right calculated by logging area for the duration of the latter. The product of these fees is distributed as follows: 50% to the central State, 40% to rural councils in whose domains the exploited forests are located, and 10% to neighboring villages' (RoC 1996). This Article of the Finance Law was amended in fiscal year 1997/1998 and the fees were fixed as follows: *ventes de coupe,* 2500 CFA francs per hectare; concessions, 1500 CFA francs per hectare; and permits, 1500 CFA francs per hectare. The Finance Law for fiscal year 2000/2001 then lowered the minimum fee for concessions to a rate of 1000 CFA francs per hectare. Annual forestry fees are paid by

certified cheque, and function as, inter alia, a kind of "eco tax" derived from the "polluter pays" principle – that is, financial compensation paid to repair the damage caused by industrial forestry development. These compensations were paid to the State, which in turn paid royalties only to local communities until 2015.

In 2012, a ministerial order No.0076/MINADT/MINFI/MINFOF of 26 June 2012 allocated 10 percent of forestry royalties to local communities in forest exploitation areas. Oral histories attested that the indigenous Baka had never received such benefits until 2015 when the Order was repealed by circular No 004/MINFI/DGI/L of June 2015, in conformity with tax provisions of law No 2014/026 of 23 December 2014, and relating to the 2015 finance law of Cameroon. This became outside the scope of Decree No. 77/245 of July 15, 1977, as the decree is only applicable to administrative units. By not being recognized by law as administrative units, Baka, Bgyeli/Bakola, Bedzang, and Mbororo Pastoralists were shunned from such compensation, alternative livelihood activities, and development projects as promised by forestry authorities. What they might have gotten in terms of food and drinks, and social amenities such as the primary school at Ando'o, and boreholes in Miatta, Djouze and Avebe were from the discretion of the chiefs of BMVCs. Unfortunately, the school and boreholes were not functional at the time of study and respondents were unanimous that water had never flowed from the borehole taps, and that the projects had not been even handed to them years after they were purported to have been existing. This suggests that the projects were just for formality, confirming non-respect of ethical and practical foundations of the social concerns of conservation (Wilshusen et al., 2003; McShane, 2003). Functional social amenities and livelihood support observed during fieldwork in Baka communities of Minko'o II, Ando'o and Djouze, were from philanthropic organizations, as oral histories affirmed (Enchaw, 2019).

3.2 Views and perspective of Cameroon Indigenous Peoples in carbon markets

Phone surveys with the Focal Point of Lelewal Foundation in Djoum, the two Baka Councillors in Djoum and Mintom, and a representative of Mbororo Social and Cultural Development Association (MBOSCUDA) in Bamenda indicate that forest Indigenous Peoples and Pastoralists are not yet conversant with practical aspects of carbon markets. Whether with the REDD+ project or the current carbon markets, and credits in Cameroon associated with forest restoration, the consent of Indigenous Baka, Bgyeli/Bakola, Bedzang, and Mbororo Pastoralists has not been sought. Association Okani (2011) was of the view that,

> *" If the purpose of the REDD project in the Ngoyla-Mintom forest is to foster the sustainable management of forest ecosystems in order to stabilize forest cover and reduce carbon emissions while taking into consideration development needs within the forest, the Baka living in the project area believe that they have a role to play in this process if, and only if, their consent is taken into account"* (Forest Peoples Program, 2016:1).

This assertion throws light on the views of Indigenous Baka, Bgyeli/Bakola, Bedzang, and Mbororo Pastoralists, which have actually been documented. Forest Peoples Programme (FPP) has succinctly argued that national REDD readiness planning activities in Cameroon, and those of Forest Carbon Partnership Facility (FCPF) lack effective actions to ensure the participation of Indigenous Peoples and local communities, miss solid data on the drivers of deforestation, and gloss over critical land tenure, carbon rights and benefit sharing issues (FPP, 2016:1). FPP pointed out that the nine sub-national REDD projects currently underway lack transparency, meaningful participation or free, prior and informed consent (FPIC) and disregard issues of land tenure, customary rights, and benefit sharing. Similarly, the planning of sub-national REDD projects is devoid of prior consultation and is based on weak social analysis, and fails to detail safeguards and social and rights standards required under national and international laws. The view of indigenous forest communities, therefore, is that their presence has helped to protect the forest, and that REDD+ can only work if it is based on securing their rights rather than overriding their rights to their customary forests (FPP, 2016).

Chapter 4: Challenges and Opportunities

Within the arena of climate change, carbon credits, carbon markets, and indigenous peoples, Cameroon, as well as many other African countries, is still grappling with a web of challenges. The absence of clear legislation, funding issues, unsettled ownership of carbon credits, the carbon tax implementation palaver, and undetermined monetary asset for emission avoidance actions and emission absorption (conservation) actions remain critical in Cameroon.

4.1 Legal and tenure challenges

The recentness of the emergence of carbon as an important resource in Cameroon, as in many other countries, explains the absence of clear legislation. The Readiness Plan Idea Note (R-PIN) of Cameroon is silent on how this legislation void should be handled within the context of REDD+, thus complicating issues of forest carbon rights (REPAR Cameroun, 2009) vis-à-vis the State, local communities, and Indigenous Baka, Bgyeli/Bakola, Bedzang, and Mbororo Pastoralists. REDD+ projects have breached equity gaps in the southeast forest zone of Cameroon. Indigenous Peoples are being disadvantaged, evicted from their ancestral lands, restricted in their human rights, excluded and marginalized in and from decision making processes with conspicuous disruption of their traditional ways of life (Abega, 1988; Fischer, 2021). Unlike Bantu local communities who could comfortably claim carbon rights from the State over the forest compartments they own customarily, Indigenous Baka, Bgyeli/Bakola and Bedzang were evicted from their ancestral lands and can make neither statutory nor customary claims over their traditional carbon resources.

Considering carbon credit as a security, or a monetary asset representing the result of an action (avoidance or absorption), the issue of carbon tenure becomes very complicated, particularly as all natural resources belong to the State, which is stated in Art. 1 para2 and Art. 15 of Ordinance No. 74/1 of 6 July 1974 (Rights and Resources Initiative RRI, 2015). This text abolishes ancestral rights that were recognised in the pre-independence period, makes registration the only way to gain ownership, and places all unregistered lands under the aegis of the state (Nguiffo *et al.* 2009). Following these legal prescriptions, which invariably alienate the ancestral lands of indigenous Baka, Bgyeli/Bakola and Bedzang to the State,[1] the ownership of carbon credits generated therein through conservation and restoration actually elude these Indigenous Peoples. This is in consonance with the assertion of two Cameroonian jurists, Nchunu Sama and Bih Tawah, who announced in 2009 that carbon credits in the country are granted to those who can prove they are at the origin of emission absorption actions (statutory conservation) and emission avoidance. Under such circumstances, the criteria or indicators to be used by lawmakers to identify actual owners of carbon credits in Cameroon remain unclear, most especially as the laws in the country are made complicated with such bundles of rights as those of land tenure (including ancestral rights), operating rights, and use rights or capital investment (Dkamela, 2010 and Dkamela, 2014). Carbon credit ownership in Cameroon, therefore, brings to the fore, the impending issues of legality and legitimacy.

4.2 The Challenges of Implementing Carbon Tax in Cameroon

Understanding that a carbon tax is paid by businesses and industries that produce carbon dioxide through their operations, the fate of its design and implementation in Cameroon as a climate change mitigation lever remains critical. In principle, carbon tax in Cameroon appears plausible and presents climate change mitigation opportunities. That notwithstanding, its practical design and implementation in the country remain herculean following the absence of legal provisions to tackle climate change, and the fact that it is not mentioned in the NDC of Cameroon. Other challenges are related to unclear issues of the procedure to levy it; its cost or tax rate; when to levy it – whether or not it will be an upfront tax; who should be taxed; and the socio-economic costs associated with its implementation – whether it will have any negative impact on the population and the economy as a whole (Ngwome, 2023).

1 Customarily owned forest compartments of Indigenous Baka, Bgyeli/Bakola and Bedzang, which have been classified as protected areas and UFAs in the southeast forest zone of Cameroon (SEFZC).

Legislation, which serves as the bedrock of actions to reduce GHG emissions and combat climate change, is needed to identify institutions subject to carbon tax, to quantify emissions subject to taxation, to establish emissions declaration rules; to tax calculation and payment; and others. Such legislation is indispensable in the design and implementation of carbon tax in Cameroon. It would appear that the prospects of such legislation being introduced in Cameroon are far-fetched as the country has not enacted any climate change-related legislation so far. Moreover, the government of Cameroon relies heavily on the 2018 REDD+ Strategy to tackle climate change (Ngwome, 2023).

While discussing the implementation of a carbon tax in the country with one of the representatives of the State ministries, the informant remarked that the implementation presents a challenge, and mentioned local media reports that quoted President Paul Biya hinting at the possibility of introducing a carbon tax as part of the country's 2024 Finance Act. The skepticisms of the informants were based on experiences of the country's situation when fuel prices go up.

4.2.1 Funding challenges

At the global scale, it is observed that funding promises are seldom respected. In Glasgow, $1.7 billion was promised to fund indigenous communities to pursue their land rights as part of effort to protect the carbon in their forests. This has not been achieved. At national level, countries such as Cameroon face various funding challenges in the carbon market arena. The country has a weak power sector financial viability, and its sectoral climate mitigation actions are dependency-oriented since they are conditioned on the support of the international community in the form of financing, enforcement of capacity, and transfer of technology (GoC, 2021; World Bank Group, 2022; Ngwome, 2023). Strengthening the power sector's financial viability is important in reducing gas flaring and venting in its two Landfill Gas Recovery Projects in Nkolfoulou-Yaounde and in PK 10 Nyalla-Douala III. The World Bank Group is of the opinion that if price of domestic natural gas is kept artificially low, or if payments to gas suppliers are routinely delayed with growing arrears, operators and oil producers are more likely to flare the associated gas than to invest in assets and infrastructure that should gather, process, and deliver the associated gas to power plants.

A number of priorities appear indispensable in the process of avoiding the tendency for gas flaring. One of such priorities is to strengthen the financial viability of the power sector as it will lead to a reduction in gas flaring and venting. Another motivating factor is to step up prices of domestic natural gas and honour routine payments to gas suppliers and avoid growing arrears. Such measures are likely to pay off. These will encourage operators and oil producers to invest in assets and infrastructure for gas delivery to power plants. It is also important to support government in developing a transition strategy over the short and long term as it will help prepare for global decarbonization. A priority in the near term is to identify and remove barriers in the discussion between private sector and government, so that the technical solutions under development can be implemented without delay. Capacity building with a focus on strengthening enforcement capabilities will be key tools to facilitate the process (Ngwome, 2023).

4.2.2 Policy availability and implementation challenges

Cameroon has made some commendable effort in support of climate-informed legislation, which it has to fully realize through country level climate change legislation and effective sectoral policy implementation. At the global level, Cameroon has ratified the UN Framework on Climate Change in 1992, the Kyoto Protocol in 2002, and the Paris Climate Agreement in 2016. At country level, Cameroon had the First and Second National Communications, National Climate Change Adaptation Plan (NCCAP/PNACC) and NDCs, while the energy, water, forestry, and environment sectors received some legal and regulatory provisions. These are indicators, which could serve as an initial basis for regulating the actions, and actors expected to address climate change.

Despite the strengthening of the legal foundations of the MINEPDED through its agency known as the National Observatory on Climate Change (ONACC), and the mechanisms of coordination responsible for climate change actions, Cameroon is still devoid of a comprehensive regulatory framework to achieve its adaptation and decarbonization goals. Most key sectors lack legislation supporting the country's adaptation and

decarbonization goals. Law No. 94-1 of 20 January 1994 to lay down forestry, wildlife and fisheries regulations does not emphasize climate change mitigation and adaptation, while the current draft land bill does not address mitigation issues in key sectors, such as agriculture, pastures, forestry, environment, industry, and the urban sector. State decentralized entities have no regulatory requirements to set adaptation targets, prepare plans and strategies, or report on local implementation. Worse still, the Law on the Commercialization of Associated Gas enacted in 2011 lacks effective implementation and enforcement to enhance decarbonisation. Similarly, the 2019 decentralization policy that defined local governments' responsibilities in managing environmental policies with a provision for climate risk and vulnerability assessment faces the same fate (World Bank Group, 2022).

The non-binding legal character of the NDCs and the NCCAP/PNACC induces fragility as the government has the upper hand to modify them as it sees fit. This absence of a robust climate-informed legislation renders climate policies vulnerable to change with political priorities, and therefore undermines sustained planning, which could have uphold the interest and contributions of Indigenous Peoples to nature-based solutions in climate change work. Impending risk and uncertainty, knowledge gaps and lack of modeling tools, difficulty in promoting and championing adaptation inside enterprises, and lack of immediate incentives have undermined the capacity of the private sector to integrate climate change impacts into business operations (World Bank Group, 2022).

Some inertia prevails in the climate change disaster risk arena. Cameroon has not been able to enact disaster prevention, mitigation, and management legislation. In 2017, an inter-ministerial committee under the Prime Minister was setup to monitor the Paris Agreement (Decree 2017) but has never convened. As part of the 2021 NDC, efforts were made to amend the decree to include subnational governments, civil society, and the private sector in the inter-ministerial committee, but the changes are still to come. The absence of an effective mechanism for NDCs implementation and monitoring has undermined a coordinated response to attain NDCs objectives (World Bank Group, 2022).

4.3 Opportunities

Within the arena of climate change mitigation and adaptation, and indigenous peoples' engagement, Cameroon has a wide range of opportunities to move towards a low-carbon future (World Bank Group, 2022). These opportunities are in the domains of renewable energy (solar, wind, biomass, and off-grid), decarbonisation through elimination of routine gas flaring and venting, carbon taxation, and engagement of stakeholders. Successful harnessing of these multi-sectoral opportunities for a low-emission future will require addressing policy and regulatory bottlenecks.

4.3.1 Renewable energy opportunities

Despite the high vulnerability of Cameroon to climate change as indicated by a rise in temperature of 0.86°C between 1974 and 2020 and a significant warming experienced in the north between 1991 and 2020 (https://dicf.unepgrid.ch/cameroon/ climate-change), there is a push to increase renewables as a proportion of Cameroon's energy mix from less than one percent as of present to 25 percent by 2035 (World Bank Group, 2022). The country shares part of the CBF, and with has rivers such as the such as the Sanaga, Wouri, Dja, Benue, Chari, Lom, Pangar, Menchum, Manyu, Meme, Mungo, Sangha, Nyong, Ntem that go to either of the four big drainage basins of the Sanag-Nyong-Ntem, Niger, Congo, and Lake Chad. As such, the country has opportunities to exploit sustainable solar, wind, biomass, off-grid, and hydroelectric energy to achieve a low carbon footprint. The improved cookstoves innovation in some villages in Yoko Sub-division in Cameroon is the right step in the right direction, and needs to be diffused to other communities such as those of Indigenous Baka, Bgyeli/Bakola and Bedzang.

4.3.2 Carbon Taxation Opportunities

Carbon tax is one of the most cost-effective means of reducing GHG emissions. It will dissuade major emitters of GHGs in the country, put the country on the rails of transition to a net-zero emissions economy, and help the government meet country level commitments in the 2021 NDCs and those under the 2016 Paris Agreement. As to the challenge of who should be taxed, the Partnership for Market Readiness (PMR) noted that carbon tax can be applied to a wide range of different actors along the value chain, from producers and importers (upstream) to distributors (midstream) and consumers (downstream). Cameroon can be inspired by the Norway and the Canadian experiences of upstream carbon taxation, which are similar to President Joe Biden's green agenda that makes upstream carbon tax operations in the US more likely (Ngwome, 2023).

4.3.3 Opportunities for decarbonization

Cameroon's NDC recognizes the importance of minimizing the waste of natural resources and it specifically mentions reducing gas flaring as an industry priority. Eliminating routine gas flaring and venting is at the core of the growing imperative of minimizing greenhouse gas (GHG), and emissions in oil and gas production. Cameroon ranks fifth globally in terms of flaring intensity; its associated gas flaring declined by 25 percent from 2016 to 2021, while oil production declined by 32 percent. Cameroon could learn existing lessons on gas flaring from global experience on the effectiveness of the legal and regulatory framework, fiscal incentives and disincentives, contractual arrangements, institutional governance, monitoring and enforcement practice, and public-private partnerships. These could guide Cameroon to establish an effective framework to eliminate flaring and venting as part of its decarbonization strategy (World Bank Group, 2022).

4.3.4 Opportunizzties to Engage Indigenous Peoples

The government of Cameroon needs to create an enabling structural and legal environment for engaging Indigenous Peoples in discussions related to NBS at the local and national levels. Indigenous Peoples should be considered by MINEPDED, and workshops organised for sensitization, education, consultation, and designing of projects attuned to climate change mitigation and adaptation should be hosted close to the communities of Indigenous Peoples to increase their chances of participation.

Chapter 5: Recommendations Proposed By Indigenous Peoples

In order to adequately capture recommendations made by indigenous peoples, particularly in Cameroon, it is essential to know who these peoples are in the country. Let us recall that there is no universally accepted definition of Indigenous Peoples. That notwithstanding, the United Nations defines Indigenous communities, peoples, and nations as *those which have a historical continuity with pre-invasion and pre-colonial societies that developed on their territories. They consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them*. Even ILO Convention 169 of 27 June 1989, the non-legally-binding UNDRIP, the African Commission on Human and Peoples Rights, or the Constitution of Cameroon have not provided any clear definition of Indigenous Peoples. In addition, the African Commission on Human and Peoples Rights Working Group on Indigenous Populations provided some criteria for the identification of Indigenous Peoples in Africa in the 2003. While self-identification remains a fundamental criterion in Article 1(2) of ILO Convention 169, others can use cultures or livelihoods systems that are closely attached to particular lands and territories, and marginalization from national development as important criteria for identifying Indigenous Peoples.

In this regard, Pygmies composed of the Bgyeli/Bakola and Bedzang constitute a segment of Indigenous Peoples in Cameroon who have used the criterion of self-identification. Baka, Bgyeli/Bakola and Bedzang are forest Indigenous Peoples in Cameroon whose ancestral lands are in the CBF. The recommendations compiled here are based on the perspectives of forest Indigenous Peoples (Baka, Bagyeli/Bakola and Bedzang) around carbon markets in Cameroon.

5.1 Rights Enhancement-based Approach

Forest Indigenous Peoples in Cameroon were of the view that rights to their ancestral lands should be recognised by law, particularly the importance of securing their rights and access to land, *territories* and resources in achieving nature-based solutions to climate change. Such rights will enable them to use their invaluable indigenous knowledge of creating *networks of sacred forests* not only for socio-cultural and religious purposes but also for ecosystem protection, restoration, and sustainable management. Such recognition will allow for the engagement of Indigenous Peoples in carbon credit generation projects since carbon credits belong to whoever owns the land.

5.2 Benefit sharing

Benefit sharing requires that a known percentage of the capital generated through climate financing should be allocated to Indigenous Peoples. This should reinstate the 10 percent forestry royalties for indigenous communities to become direct beneficiaries. In 2012, a ministerial order No.0076/MINADT/MINFI/MINFOF of 26 June 2012 allocated 10 percent of forestry royalties to local communities in forest exploitation areas. Forest Indigenous Peoples like the Baka, Bagyeli/Bakola and Bedzang never received such benefits up to 2015 when the Order was repealed by circular No 004/MINFI/DGI/L of June 2015 in conformity with tax provisions of Law No. 2014/026 of 23 December 2014 relating to the 2015 finance law of Cameroon. This denial of their rights must have been in connection with Decree No 77/245 of July 15, 1977, recognising village communities as administrative units. By not being recognized by the law as such, Baka, Bagyeli/Bakola and Bedzang were shunned from not only the forestry royalties but also from other compensations, alternative livelihood activities, and development projects promised by forestry authorities.

Extension of the improved cookstoves project to the communities of Indigenous Peoples is another avenue. Wood fuel is the main source of cooking energy to Baka, Bagyeli/Bakola and Bedzang. Their continuous reliance on firewood is exerting pressure on the resource base, provoking emissions and affecting their health. Cookstoves innovation will contribute to energy efficiency and national emission reduction.

5.3 Emission Absorption

There should be shared forest valuation in the restoration-conservation of effective emission absorption and voluntary carbon markets. Indigenous Peoples wish to be implicated in the restoration of exploited UFAs. They propose a declassification of exploited UFAs for a repossessing of those one-time ancestral lands. Such an approach will reinvigorate tenure justice and ease reforestation by Indigenous Peoples who can then generate emission absorption carbon credits.

5.4 Observance of Free, Prior and Informed Consent (FPIC)

Forest Indigenous Peoples recommended that their consent is indispensable in decisions concerning their ancestral lands. If the purpose of the REDD project in the southeast forest zone of Cameroon is to foster sustainable management of forest ecosystems in order to stabilize forest cover and reduce carbon emissions while taking into consideration development needs within the forest, then the consent of Baka living in the project area is needed in the process. Conservation is an essential carbon footprint neutralizer (carbon emission absorption), and the Indigenous Baka, Bagyeli/Bakola and Bedzang know this best.



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KENYA

A Synopsis of the Status and Trends of Carbon Markets in Kenya: The Place of Indigenous Peoples

Consultant, Kimaren Riamit

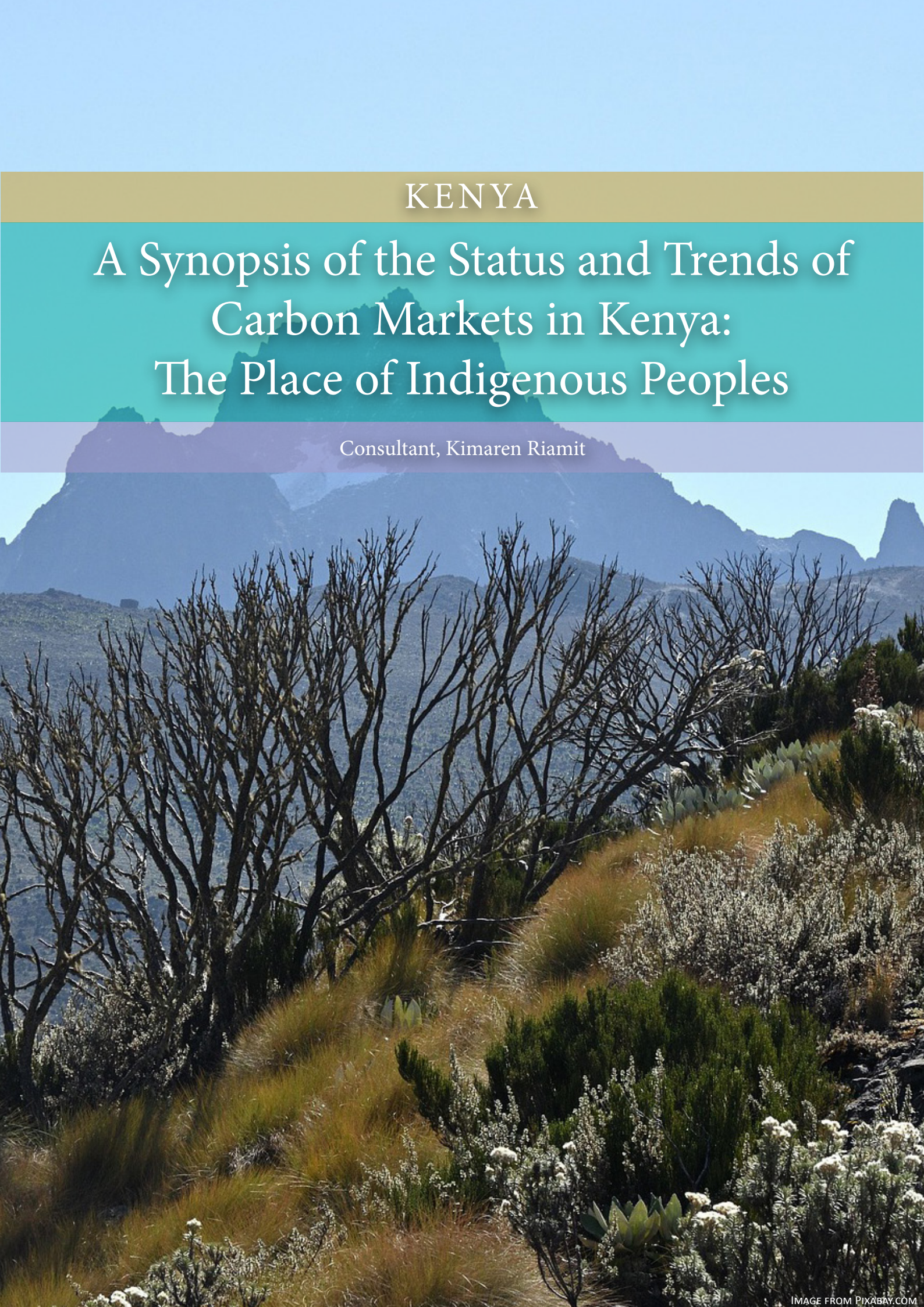


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I. Background

Indigenous livelihoods Enhancement Partners (ILEPA) in partnership with Tebtebba Foundation is implementing the Climate Land Use Alliance (CLUA) supported project entitled: Indigenous Peoples Collaborative Perspective on Carbon Markets. The project seeks to contribute towards recognition and support for Indigenous Peoples (IP) rights, priorities, perspectives, and their integration in the discourse, development, and design of Nature Based Solutions, Carbon Markets, and non-market approaches in the definition of climate finance.

The overall objective of this initial scoping study is to understand the perspectives of Indigenous Peoples around carbon markets, including their experiences on Results-Based Payments (RBP). Specifically, the scoping study aims to:

- determine the Case Study country's engagement with the carbon market and/or carbon market's design elements found in the country;
- identify the barriers to Indigenous Peoples' access to carbon markets, their challenges, and opportunities;
- seek recommendations from Indigenous Peoples on their engagements (or non-engagement) in carbon markets (particularly voluntary carbon markets).

The information/data informing the Study was mostly secondary data related to the areas of inquiry, and personal experiences of the consultant as an indigenous leader exposed and engaged on the topic of inquiry and personal communication from IP leaders in country.

Outputs of the scoping study will be used to inform the capacity building, regional training activities, and the policy advocacy work of Tebtebba and Elatia partners at the national, international, and bilateral levels such as the Green Climate Fund (GCF), the Standing Committee on Finance (SCF), and the United Nations Framework Convention on Climate Change-Conference of the Parties (UNFCCC COP).

II. The Place of Carbon in Climate Change Discourse & Actions

There is general global recognition that climate change constitutes the greatest environmental challenge facing the world in this century.[1] "Climate change is not only a threat to the achievement of sustainable development and poverty reduction but has potential to reverse the modest gains that we have achieved towards attaining the Millennium Development Goals (MDGs)".[2]

The latest Intergovernmental Panel on Climate Change (IPCC) report notes that limiting warming to 1.5C will require significant cumulative net carbon dioxide removals. To avoid the worst impact of climate change, the world must massively scale up its investment in removing Green House Gases (GHG) including Carbon dioxide (CO_2) from the atmosphere.

The proposed response measures entail efforts to protect and expand natural carbon sinks, and support efforts to store away more carbon in soils through new land management practices and innovations in technologies to capture and durably store carbon dioxide.

Nature conservation and planting trees are not the only ways to remove pre-existing carbon dioxide from the air. There are still other ways such as: conserving landscapes that provide habitats for endangered species; improving and cleaning the water supply; preventing flooding and erosion; restoring the balance of ecosystems; combating deforestation and wildfires; and providing local income and food sources.

Rangelands and pastureland sequester carbon as the grass and plants absorb carbon dioxide and store it in soil through photosynthesis, hence these are potentials for generating carbon credits and possibly payments through offsets (trading).

Carbon projects in rangelands and forest sector are premised on the idea that improving land use and management practices including enhanced biodiversity conservation and restoration will help harness high-carbon-gain for natural climate solutions.

A wide array of scientific approaches, including *remote sensing* and *ground-based measurements*, are employed to determine the amount of carbon absorbed over a certain period within a given project area.

Carbon markets emerged as a result of the Kyoto Protocol, developed and adopted under the United Nations Convention in Climate Change (UNFCCC) in 1997. The treaty outlined a framework for countries to reduce their GHG through carbon trading. The Carbon markets focus on mitigating climate change while providing economic opportunities for participating countries and carbon credit project participants.[3]

Article 6 of the Paris Agreement set a series of rules to govern market-based activities, including co-operative approaches that countries can take to reach their climate targets, and using market mechanisms such as carbon markets. The set rules also aim to improve environmental integrity and avoid the double counting of emissions reductions.

"Carbon market" means mechanism that enables and allows public and private entities to transfer and transact emission reduction units, mitigation outcomes, or offsets generated through carbon initiatives, programmes, and projects.

Carbon credits are linked to Carbon Dioxide Removals (CDR) (offsets) on one end of the spectrum, and to emissions reduction (avoided emissions, enhanced sequestration) of CO_2 and other GHG on the other end.

CDR are anthropogenic activities removing carbon dioxide (CO_2) from the atmosphere and durably storing it in geological, terrestrial, or ocean reservoirs, or in products" (IPCC AR6 WGIII Report p1,796).[4] Carbon dioxide removal targets the carbon dioxide already in the atmosphere.

1 November 2007, IPCC fourth assessment Report (AR4)

2 Gok, climate change action plan, 2013-2017).

3 Lorenz and Lal (2018), and Tessema et al. (2020)

4 IPCC 2022. Climate Change 2022 Mitigation of Climate Change. Working Group III Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf.

For carbon projects to be feasible in carbon trading, they must comply with a set of five criteria principles for high-quality CDR: additionality; durability; net-negativity; verification; and equity and community engagement.[5]

Integrity Council for Voluntary Carbon Markets (ICVCM)[6] identified three broad categories of Core Carbon Principles, that Carbon projects must fulfill to be considered credible (i.e., in terms of Emission Impacts, Governance, and Sustainable Development). Those related to Emission Impacts include: 1. Additionality; 2. Permanence; 3. Robust quantification of emission reductions and removals; and 4. No double counting. Governance related principles include: 1. Effective governance; 2. Tracking; 3. Transparency; and 4. Robust independent third-party validation and verification. Sustainable Development principles include: 1. Sustainable development benefits and safeguards; and 2. Contribution to net zero transition.

CDR encompasses a range of pathways, from land-based soil and forest carbon sinks, biomass-based carbon removal and storage (BiCRS), marine carbon dioxide removal (mCDR), to mineralization-based approaches to direct air capture (DAC) – among other methods.[7] CDRs are a new commercial sector with number of approaches ready for eligibility under Article 6.4 of the Paris Agreement.

No less than the UNFCCC itself acknowledges that Removal activities under the Article 6.4 mechanism may not contribute to sustainable development. In challenging this assertion, the Carbon Business Council cites Carbon removal projects in Kenya like Kasigau as best-case examples to demonstrate the contribution of carbon removal initiatives towards sustainable development (See annex 1 for highlights on Kasigau Project).[8]

Carbon capture and storage/sequestration (CCS) entails a process in which carbon dioxide is captured and then injected underground and stored. In carbon capture and utilization (CCU), carbon dioxide is used but not stored, such as in the production of fuels or fertilizers. The process entails a set of technological processes that trap or capture carbon dioxide from an emitting source — like a fossil fuel power plant or ethanol plant — and then compress and transport it for storage, use, or both. CCS technology merely prevents a fraction of the emissions from an emitting source from entering the atmosphere.

III. Carbon Rights and Associated Benefits

Carbon rights – defines who has the right to the benefits generated from carbon emission reductions, e.g., by selling a carbon credit in voluntary and compliance carbon markets, or through a government-sponsored Payment for Ecosystem Services (PES) scheme.

Carbon rights are emerging as a form of property right that 'commoditize' carbon and allow it to be traded. Carbon rights can (occasionally) be separated from broader rights to forest and land, and include the right to sequester carbon into the future ("carbon sequestration rights").

Carbon rights can also be created through contract (e.g., as occurs for voluntary forest carbon projects), or by national legislation, the structure of which is influenced by international law standards. Carbon credits are intangible rights that are created by people carrying out certain activities under relevant laws or contracts. Carbon rights are comparable to intellectual property rights that are intimately associated with an activity (Streck, 2020).

REDD+ for example, is founded on the right to benefit from (i.e., be remunerated for) reducing forest-based emissions of greenhouse gases, either through carbon market payments, fund-based payments, or both. Entitlement to compensation depends on who owns the carbon rights.

5 Letter of Input to SB005 Annotated Agenda and Related Annexes. Supervisory Body United Nations Framework Convention on Climate Change (UNFCCC, by Carbon Business Council, (100+ Carbon interest organization) May 24th , 2023

6 an independent governance body that aims to set and maintain a global standard for quality in the voluntary carbon market

7 Ibid

8 Information Note entitled "Removal activities under the Article 6.4 mechanism" (A6.4-SB005-AA-A09

The physical outcome of the REDD+ action is the preservation of terrestrial carbon. The carbon benefit resulting from the preservation of terrestrial carbon in carbon transactions is the legal form given to the sequestered carbon. This is referred to as either "carbon unit," "carbon credit," or an "emission reduction." The Legal forms might be referred to as a carbon right. These units/credits/emission reductions/rights usually represent *the equivalent of one ton of carbon or carbon dioxide (CO_2) avoided or sequestered*.

The legal ownership of the forested land in which the carbon is stored might be different from the entity that develops a project for the purposes of creating carbon credits.

The Cancun decisions from COP18 alluded to non-carbon benefits by referring to REDD+ activities in the context of enhancing "other social and environmental benefits." The non-carbon benefits (non-monetary benefits) arising from REDD+ implementation include poverty reduction, food security, the provision of ecosystem services, or improved forest governance.

The ownership and use rights attached to carbon is often tied to land tenure property rights. Carbon rights/ primary Emission Reduction (ERs) rights prior to transfer are owned by the owners of the land/forest. Bearing in mind that land may be public land, private land, or community land, consequently carbon may either be owned by State, county government, or private owners.

IV. Key Elements of Benefits Sharing in Carbon Initiatives: The Case of REDD+

Benefit Sharing Mechanism (BSM) is a system or channel through which monetary and/or non-monetary benefits are distributed. They are a description of the processes for the distribution of monetary and non-monetary benefits to beneficiaries, including the mechanism and processes by which such benefits will be distributed.

Benefits in the context of carbon projects could be defined as the revenue flowing from carbon (delivered as either cash or "in kind" investments) and/or non-carbon benefits delivered using REDD+ revenues to pay for social infrastructure or improved forest governance.

Property rights in Kenya are guided by the constitution of Kenya, and the sector laws and policies. The laws provide for public, communal, and private land tenure regimes in forest resources. Public forests are managed by the national governments through the Kenya Forest Service and in collaboration with the county government and local communities via Community Forest associations (CFAs). Private forests are managed by individual entity(ies)/ forest owners and directly engage with private sector actors.

Community forests are owned by registered communities of interests. These are forests located in former group ranches and Trust Lands. Trust Land forests are held and managed by county government in trust and on behalf of communities of interests. Most of such lands are found within Indigenous pastoral territories. For a community to receive legal title to such land, they must be registered formally. The main actors on matters governing community land are local communities, county government, Registrar of community lands, and investors.

V. Climate Change and Carbon Markets: Why the Indigenous Peoples Question Matter

According to a recent World Bank study, climate change could push nearly 100 million people back into poverty by 2030,[9] posing a grave threat to the progress made in poverty alleviation over the past few decades and to the realization of the Sustainable Development Goals. The impacts of climate change, such as those due to natural disasters, could increase inequality and contribute to a further "decoupling of economic growth and poverty reduction."

Indigenous Peoples depend on renewable natural resources that are most at risk to climate variability and extremes, and this greatly affects their economic activities and livelihoods. Most Indigenous Peoples live in rural areas and depend on land and natural resources for their livelihoods, employment, and subsistence.[10] They play an important role in the rural economy and are engaged in a range of traditional occupations, such as agriculture, pastoralism, fishing, handicraft production, and hunting and gathering. In Kenya some 12 million IPs are dependent on forests and rangelands for their livelihoods.[11] Deforestation not only threatens their subsistence but contributes to around 10–12 percent of global carbon emissions.[12]

Indigenous Peoples live in geographical regions and ecosystems that are most exposed to the impacts of climate change, while also sharing a complex cultural relationship with such ecosystems. The geographical regions and ecosystems that IPs tend to inhabit, such as humid tropical forests, coastal regions, and arid and semi-arid lands in the Kenyan context, are especially prone to the effects of climate

The Ilchamus of Lake Baringo Kenya

The Il Chamus or Il tiamus (a.k.a Njemps) is an Indigenous semi-nomadic pastoralists-small fishing community resident in Baringo Country, Kenya. The Ilchamus are the only Maasai-speaking community that keeps cattle and pursues fishing. The Lake Baringo ecosystem supports their livelihoods, as well as being an important cultural and spiritual site.

The community is buffeted with numerous challenges including inadequate basic infrastructure and services such as access to water, food security, health, access to education, road networks, communication networks, veterinary, employment opportunities, low access to markets for crops and livestock, human wildlife conflict (attacks from crocodiles), insecurity of land tenure & climate change.

Mounting environmental and climate change related pressures such as rising water levels of Lake Baringo and associated flooding has led to the community's displacement as Climate refugees.

The rise in the lake's water levels has displaced at least 10,000 people from their homes in the flood-prone locations at Salabani, Ng'ambo, and Ilng'arua Ilchamus areas around Lake Baringo. The now climate refugees, are living in temporary Uwanja Ndege area, on the outskirts of Marigat town, forced to sleep with their children in the open, with no food and adequate clothing.

- The rising water levels in Lakes Baringo and Bogoria, mostly affected women because they are the ones who are left behind to take care of the children. The community's houses and entire livelihoods including pasture lands & food crops in the fields were marooned by the flooding. For basic survival women had to rely on unsustainable menial jobs such as charcoal burning and other menial jobs to at least avoid sleeping on an empty stomach.
- The displaced families are increasingly depended on well-wishers on virtually everything, ranging from food to clothing. The only relief support came from the Kenya Red Cross, and training on alternate livelihoods support from the Baringo Women and Youth empowerment CBO. Women are now exploring the planting of drought-resistant crops, trees, and vegetables that can also help get some income to sustain our families. Very little support has been forthcoming from government.

9 S. Hallegatte, M. Bangalore, L. Bonzanigo et al.: Shock waves: managing the impacts of climate change on poverty, Climate Change and Development Series (Washington DC, World Bank, 2016).

10 See UN: State of the World's Indigenous Peoples (New York, 2009).

11 See Goal 15: "Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss", UN, n.d., http://www.un.org/sustainabledevelopment/biodiversity/ [accessed 9 June 2016].

12 P. Smith, M. Bustamante, H. Ahammad et al.: "Agriculture, forestry and other land use (AFOLU)", in O. Eden- hofer, R. Pichs-Madruga, Y. Sokona et al. (eds): Climate Change 2014: Mitigation of Climate Change. Contribution of Work- ing Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge and New York, Cambridge University Press, 2014), pp. 811–922.

change.[13] The impacts on poor communities dependent on ecosystem-based livelihoods may be considerable, depleting their subsistence production and removing one of their safety nets.[14] Subsistence agriculture for example, on which many IPs depend for food security meeting their subsistence needs, is one of the sectors most sensitive to climate change.

High levels of exposure and vulnerability to climate change force Indigenous Peoples to migrate, which in most cases is not a solution and can instead exacerbate social and economic vulnerabilities. Confronted with livelihood insecurity and inadequate levels of income from work in traditional occupations, many indigenous women and men have been migrating away from their homes to both rural and urban areas, in search of work. Climate change-induced natural disasters and loss of livelihoods are expected further to increase such migration and forced relocation. This case is exemplified among the Ilchamus of Lake Baringo in Kenya's Central Rift Valley, who have been displaced from their ancestral lands by raising lake water levels.

While migration may be an adaptation strategy[15] forced upon people by the impacts of climate change, it can also render indigenous women and men more vulnerable to discrimination, loss of identity, exploitation, and other social, economic, and environmental risks in their destination areas. Failure to recognize their traditional skills, lack of exposure, poor training, and disregard for their cultures and ways of life are among the barriers that they face in securing decent work after migration.

Many indigenous communities continue to face exclusion from decision-making processes, often lacking recognition and institutional support. This limits their access to remedies, increases their vulnerability to climate change, undermines their ability to mitigate and adapt to climate change, and consequently poses a threat to the advances made in securing their rights.

There exists glaring disconnects between increasing recognition of Indigenous Peoples' rights in policy instruments and the actual state and safeguarding of such rights in practice. At the international level, the rights of IPs have been recognized and the links between climate change and human rights have been clearly established.[16] The Paris agreement has, for example, underscored the need to protect human rights, including the rights of Indigenous Peoples in all climate change actions, yet IPs rights continue to be violated on the ground.

Respect for enabling (procedural) rights is as important as respect for substantive rights. In this context, it is necessary to look both at substantive rights, such as rights to lands, territories, and natural resources, and enabling rights, such as rights to access timely information, to consultation, participation, and remedy. The state of the environment is conditioning the enjoyment of human rights, wherein climate change exacerbates the existing social, economic, and environmental vulnerabilities of Indigenous Peoples and creates numerous new threats.

The Place of women and girls in Climate change

Climate change magnifies gender inequality, as one of the key factors in the deprivation suffered by indigenous women. Indigenous women and girls play a vital role in traditional and non-traditional livelihoods, unpaid care work, and ensuring food security.

With increasing insecurity regarding their livelihoods, many are seeking out employment in the informal economy and participating in activities ranging from agricultural wage work in rural areas to domestic work in urban areas.[17] Furthermore, many indigenous women simultaneously bear the burden of income generation,

13 R. Mearns and A. Norton, op. cit., pp. 1–44.

14 S. Hallegatte, M. Bangalore, L. Bonzanigo et al., op. cit..

15 F. Gemenne and J. Blocher: How can migration support adaptation? Different options to test the migration–adaptation nexus, Migration, Environment and Climate Change: Working Paper Series No. 1 (Geneva, IOM, 2016).

16 UN Human Rights Council: Resolution 10/4. Human rights and climate change (Human Rights Council, 2009).

17 See, for example, D. Vinding and E. Kampbel: Indigenous women workers: with case studies from Bangladesh, Nepal and the

traditional activities, and household-related work. Women disproportionately shoulder the burden of negative impacts of climate change as they struggle to fetch water, harvest firewood for domestic use from further distances, shoulder the burden of resultant nutritional deficiencies of children, and nurture ailing members of their respective households.

While they make tremendous contributions to the social, economic, and cultural life of communities and society at large, indigenous women often face discrimination from both within and outside their communities. As a result, they are vulnerable to social and economic exclusion, exploitation, marginalization, and gender-based violence.[18]

Climate change threatens to make indigenous women still more vulnerable to such processes, besides creating new risks from climate-related shocks that include greater dependence on precarious work, and exposure to violence and human rights violations.

VI. Carbon Credits and Market Dynamics in Kenya

Kenya is party to the UNFCCC and signatory to the Paris Agreement. The Country has put in place ambitious policies and measures to pursue her low carbon climate resilience pathway and help realize its aspiration under the vision to 2030.

Although Kenya has little historical or current responsibility for global climate change and emissions are relatively low, the country is highly vulnerable to the impacts of climate change. A combination of unsustainable resource use, inadequate national policies, and intensifying change in climatic conditions threaten to overwhelm the existing adaptive capabilities.

Despite Kenya's negligible contribution to GHG emissions (less than 0.1. of GCO_2 in 2018), climate change impacts continue to exert great socio-economic losses estimated at 3.5 percent of GDP annually, and negating development efforts in the country.

The country is dependent on climate-sensitive natural resources sectors such as rain-fed agriculture, water, energy, tourism, wildlife, and health. Droughts and floods are the main climate hazards, negatively impacting lives and livelihoods, with human health increasingly being at risk – triggering conflicts and weakening community's coping mechanisms.[19]

About 70 percent of the population lives in rural areas and are highly dependent on natural resources as means of livelihoods through agriculture, farming, and pastoralism. These activities are heavily reliant on rain-fed agriculture. The increase in population and economic development increases pressure on natural resources.

Americas (Geneva, ILO, 2012). Also see ILO: Estudio sobre la situación laboral de las mujeres indígenas en el Peru (Lima, 2015) and ILO: Indigenous peoples in the world of work: snapshots from Asia (Geneva, 2015).

18 For instance in Nepal, women and girls from indigenous communities, along with Dalit women, are reported to constitute 80 per cent of the trafficking victims in the country. See Seven out of every ten victims of trafficking in person are indigenous women and girls in Nepal, D.K. Sunuwar, 2015, http://www.indigenousvoice.com/en/7-out-of-every-10-vic- tims-of-trafficking-in-person-are-indigenous-women-and-girls-in-nepal.html [accessed 9 June 2016]. Also see United Nations Children's Fund (UNICEF), United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women), United Nations Population Fund (UNFPA), ILO, Office of the Special Representative of the Secretary-General on Violence against Children (OSRSG/VAC): Breaking the silence on violence against indigenous girls, adolescents and young women: a call to action based on an overview of existing evidence from Africa, Asia Pacific and Latin America (2013).

19 Kenya Agricultural Research Institute, 2012).

Periodic floods and droughts are having huge cost implications to the economy, slowing economic growth with adverse effects and making impacts on local livelihoods. Therefore, climate change and its variability pose major threats to the environment, economic growth, and sustainable development efforts in the country.

The Country has put in place specific policies related to enhancement of carbon stocks;[20] incentives to enhance forest cover and carbon stocks;[21] carbon rights embedded in land rights;[22] and recently a carbon market regulation law.

Specifically, Community land rights are secured under the constitution and the Community land Act 2016. Community land law, for example, vests community absolute ownership of registered community land, while section 29 confers every member of the community on this land with equal rights and benefits.

The National Land Use Policy (2017) supports elimination of discrimination and respect for human rights in land use. It promotes protection of land rights, and the establishment of suitable methods for defining and registering land rights in pastoral areas integrating the rights of women. The policy also provides for equal recognition and enforcement of land rights arising under all tenure systems and non-discrimination in ownership of, and access to, land under all tenure systems.

The country has gone further to incorporate several UNFCCC decisions in its NDC, mitigation, and adaptation actions plans and response strategies. The country has aligned its environmental law with the commitments of the Paris Agreement, and created a more deliberate climate action institutional framework.

Policies, legislations, and regulations (PLRs) related to land and tenure rights, forest conservation and management, climate change, environmental conservation, and national development are generally in place.[23] Besides the carbon market initiatives-related policies to which IPs have had little contributions to, most other policies have seen robust contribution of IPs leading to relatively positive outcomes.

The Head of State is in the frontline of global, continental, and national efforts towards promoting carbon credits and associated markets as viable pathway to fighting adverse effects of climate change, while generating community benefits.

Kenya is a founding member of the Global Partnership on Carbon Removals,[24] bringing together several international climate change actors. This partnership is guided by a set of principles around considerations of *durability, performance, social and environmental equity, transparency, and inclusivity.*

Kenya is also an active founding member of the African Carbon Markets Initiative (ACMI), one of the pathways towards expanding carbon markets and carbon credit opportunities in the country.[25] The ACMI aims to increase Africa's participation in voluntary carbon markets, create employment opportunities in Africa, and enhance the climate finance needs of African countries. Specifically, the initiative endeavors to produce 300 million carbon credits annually by 2030 and generate at least USD 1.5 billion annually by 2050. It is an aggressive push towards large scale carbon initiatives and markets. It will affect IPs rights to lands and territories.

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20 National Forestry Programme (NFP), 2016; Agroforestry strategy 2021; The National Forest Policy, 2021; Kenya's national strategy for increasing forest cover (2015 –2022); The Green Economy Strategy and Implementation Plan (GESIP) 2016 – 2030; The National Climate Change Action Plan (NCCAP) 2018-2022

21 The Draft Green Fiscal Incentive Framework Policy (2021); The National Policy on Carbon Finance and Emissions Trading; The National Climate Finance Policy (2016); Foreign investment protection Act 2009; The Forest Conservation and Management Act, 2016

22 The Constitution of Kenya 2010; Land Registration Act (2012): The National Land Commission (NLC) Act (2012): The Land Act (2012): The Community Land Act (2016): The National Land Use Policy (2017): The National Land Policy (2009): National Forest Policy (2021); Forest Conservation and Management Act (2016): Forests (Participation in Sustainable Forest Management) Rules (2009): National Resources (Benefit Sharing) Bill 2018

23 The Constitution, National Development Plan (Vision 2030), The Arid and Semi-Arid Lands (ASALs) Policy (2012), the National Land Policy (2018) and supporting legislation, the National Climate Change Action plan (2018-2022), the Green Economyy Strategy and Implementation Framework (2016-2030), the Climate Finance Policy (2017) and Green Fiscal Incentive policy (2020)

24 Co-organised by the Ministry of Environment, Climate Change and Forestry, Ministry of Energy, and Konza Technopolis in collaboration with Thunderbird School of Global Management at Arizona State University and the Alliance for Science

25 ACMI was launched in COP27.with goal of producing 300m carbon credits annually by 2030 and 1.5bn annually by 2050

Kenya's updated Nationally Determined Contributions (NDC) to the Paris Agreement, submitted to the UNFCCC in 2020, identified the forest sector as a priority area to move Kenya towards a low-carbon, climate-resilient development pathway. The updated NDC identified the Forest sector as having a mitigation potential of 40.2 million tonnes CO_2 by 2030 of which 20.8 million tonnes CO_2 is committed in the NDC.

In addition to the highlighted legislations related to environment and climate change, the Country has just proposed adopting an amendment to the Climate Change Act of 2016 to provide a regulatory framework for carbon markets in Kenya. The proposal incorporates provision for Carbon benefit sharing to be realized through Community Development Agreements, allocating at least 25 percent of the annual aggregate earnings to the community.[26]

The Country is already a leader in the generation of carbon credits in Africa, accounting for over 20 percent of the continent's volume over the past five years. The anticipated earnings from sale of carbon credits is expected to create green jobs for the youth as well as accelerate landscape restoration, expansion of forest cover, tree growing, clean cooking, and agroforestry.

VII. Current State of Play in the Carbon Credits and Markets

Carbon markets are trading systems through which countries, businesses, individuals, or other entities buy or sell units of greenhouse gas emissions. These markets facilitate carbon offsetting schemes — compensating for carbon dioxide emissions in one location by reducing or removing emissions elsewhere.

The Carbon credits markets is rapidly growing as indicated by the number of carbon standard verifiers in the voluntary offsets market, a growing number of big industry actors aspiring to be "Carbon neutral" (potential Carbon credit buyers), and a wide pool of independent Carbon developers currently associated with the African Carbon Market Initiative (ACMI).

The current dominant carbon certification agencies in Kenya are Plan Vivo and The Verified Carbon Standard (VCS). The VCS Program is currently the largest issuer of carbon credits and is developed and managed by Verra. Validation and verification are required by the VCS to guarantee that the VCS requirements are met, and the methodologies are properly applied.

Types of Carbon Markets:

Two types of carbon market exist - Regulatory Compliance and Voluntary markets. Compliance markets are created and regulated by mandatory national, regional, or international carbon-reduction regimes which usually involve the state. The compliance market is used by companies and governments that by law must account for their GHG emissions. It is regulated by mandatory national, regional, or international carbon reduction regimes. Kenya is not yet active in the compliance markets domain.

Voluntary markets, on the other hand, operate outside the compliance markets and enable companies and individuals to purchase carbon credits with no intended purpose or use for compliance.

The creation of a carbon market and the standards that come with it are enabled under Articles 6.2 and 6.4 of the Paris Agreement. These articles speak about two separate markets to help countries in financing their emission reductions in implementing their NDCs.[27]

26 Climate Change (Amendment) Bill, 2023

27 https://unfccc.int/sites/default/files/english_paris_agreement.pdf

The trend is to finance carbon-sink potential and territories including bodies of water and forests. The idea is to trade carbon credits generated by the reduction or removal of GHGs from the atmosphere, such as conserving carbon stocks in forest ecosystems, switching from fossil fuels to renewable energy, or safeguarding the oceans to keep the vitality of life underwater.

As implied, on the voluntary market, the trade of carbon credits is (supposedly) on a voluntary basis. The voluntary market has become very important for agriculture and forestry projects. Initiatives under the voluntary carbon market generate Voluntary Carbon Credits (VCR) which are often purchased by private sector actors.[28]

The polluter offset buyers are mainly big industry actors aspiring to be "Carbon neutral" and the ensuing transactions involve a complex network of Carbon developers, registries, traders, brokers and investors that makes it difficult to track and evaluate the effectiveness – and potential harms – linked to offset projects.

There are over 130 Carbon developers currently associated with the African Carbon Market Initiative (ACMI), and at least 30 main potential Carbon credit buyers such as Exchange Trading Group, Nando's, and Standard Chartered.

Corporate social responsibility (CSR) and public relations are the most common motivations for buying carbon credits. Other reasons would be considerations for certification, reputation, and environmental and social benefits.

Voluntary markets projects will likely play an increasing significant role in compliance markets, as countries seek to meet their mandatory emissions reduction targets and commitments. The story behind the credits plays a crucial role in these markets.

Estimated to be worth about $2 billion globally, the voluntary carbon market (VCM) is vast, fragmented, and opaque, involving a complex network of developers, registries, traders, brokers and investors that makes it difficult to track and evaluate the effectiveness – and potential harms – linked to offset projects.

The transacted carbon credit volume and value of carbon markets under the compliance and voluntary markets stood at approximately $850 billion and 15 $GtCO_2$, and approximately $2 billion and 500 MtCO2, respectively.[29] These give a price per tonne of carbon for compliance market at $56, and for the voluntary market at $4.

Carbon offsets continue to be promoted as a source of climate financing for the global south, and at the recent Africa Climate Summit, held in Nairobi, hundreds of millions of dollars were pledged to boost the continent's carbon credit production.

Experiences of Pastoralists in the North: The Case of the Kenya Grassland Carbon Project

The project is billed as the world's first large-scale grasslands soil carbon removal project. The project is implemented over 1.9m acre pastoral landscape incorporating 14 conservancies under the Northern Rangelands Trust (NRT)

The project is said to enhance carbon storage on grasslands through 'helping herders move faster by managing the grazing patterns of livestock herds' Native, a carbon trading company helps NRT market the carbon credits with Netflix, Meta and Natwest being the current buyers of the generated credits are with Vera.

Project implementers report that the project has helped rehabilitate 1.9m hectares (4.7 million acres) of land through rotational grazing practices and realized 3.2m verified emissions reduction credits, generating $14.6m (£12.25m) over the period 2013/2017.

The Benefit sharing arrangement is based on a ration in which 60% of the revenue are allocated to participating communities, while 40% goes to conservancy operations, peace and governance initiatives, each participating conservancy is said to have received $324,000 in 2022,

Despite the project winning international accolades in being awarded the prestigious Triple Gold distinction by the Climate, Community & Biodiversity Alliance (CCBA); the project has equally come under intense international scrutiny questioning the methodologies employed by Verra in certifying the carbon offsets.

The participating Maasai pastoralists communities' biggest concern is in access to information/full disclosure of key project information including the related carbon pricing and revenues generated. -**This assertion is still a going concern.** The project also mediates how pastoralists have traditionally used the land.

28 Examples in the Kenya Context include : Shell, Netflix, Meta and NatWest, Ahueni among others

29 The Voluntary Carbon Market:2022 highlights and trends; a report by Shell and BCG

The development of the carbon market in Africa is happening in a context characterized by a fast-growing trend of large-scale land/resources rights' allocations for logging, mining, agro-industries, large infrastructure building, and conservation.

This unprecedented pressure on land and resources, developed at the expenses of IPs' and LCs' rights, leaves very little space available for communities' uses. These "available" spaces, left by other commercial rights and conservation, are targeted by the carbon market. It has generated another wave of evictions in places,[30] such as the Democratic Republic of Congo (DRC).[31]

Agriculture and Forest Land Use (AFOLU) projects are usually valued highly for their social and environmental benefits, as they deal with people's livelihoods and the protection of important ecosystems. The voluntary carbon market, which enables companies and people to buy carbon offsets as part of corporate or personal commitments to social responsibility, is the predominant market in Kenya.

The Country has several on-going and up-coming carbon credits market projects.[32] Projects that sequester carbon in forests and soils generate a significant share of the carbon credits presently traded on the voluntary market, and these are the ones dominant in the Kenyan Carbon market. These landscapes are settled by Indigenous Peoples and Local Communities (IPLCs). Yet, communities' rights over the carbon held in their customary lands and territories is yet to be defined.

In addition, the Carbon credits market actors are already targeting conservation landscapes such as parks, game reserves, community-based conservancies, and Indigenous community conserved areas (ICCAs). Parks and game reserves cover about 8 percent of the Country's land mass and 92 percent of these areas fall within pastoral lands. The Community based conservancy now occupies slightly over 11 percent (6.5mi ha) of the Country's land mass, most of which is within community land.

The world's first large-scale grasslands soil carbon removal project is the Northern Kenya Grassland Carbon Project. The project has enlisted 14 (out of 43) community-based conservancies spurning over 1.9 million hectares (4.7 million acres) under the management of Northern Rangeland Trust (NRT).[33]

The Maasai Mara landscape under the umbrella of the Maasai Mara Wildlife Conservancies association (MMWCA) has also signed-up for a carbon project entitled the "One Mara Carbon Project" potentially covering 22 conservancies, spread over an area of about 450,000 acres with aspiration to create an additional revenue source for the partners in the community based-conservation and tourism enterprise in the region.[34]

The Maasai Wildlife Conservation Trust (MWCT) REDD+ Carbon Project located on the Chyulu Hills landscape linking the greater Tsavo ecosystem and the Amboseli ecosystem is reported to have so far sequestered 21 million CO_2 credits (2018 – 2023), positively impacted 70,000 IPs and enhanced nature conservation.

Kenya is also poised to host a carbon direct capture plant billed to be 'a first-of-its-kind plant' with a potential to remove up to 1 million tonnes of carbon dioxide from the atmosphere every year. The plant is a joint venture between Swiss company Climeworks and a Kenya-based Great Carbon Valley.[35] The challenge would be how community landowner residents on the proposed project site engage through FPIC, considerations of costs, and the benefits and risks associated with the project.

30 Norah Berk and Prince Lungungu, REDD-MINUS: The Rhetoric and Reality of the Mai Ndombe REDD+ Programme, The Rainforest Foundation UK, December 2020

31 https://www.business-humanrights.org/en/latest-news/congo-total-et-frm-vont-planter-une-for%C3%AAt-de-40-000-ha-sur-les-plateaux-bat%C3%A9k%C3%A9/

32 Mount Elgon Region Conservation Programme (MERECP); the Green Belt Movement in Mount Kenya; Wildlife Works Carbon (WWC) in Taita-Taveta; the Kasigau Corridor; The Northern Kenya Rangelands Carbon Project

33 https://www.northernkenyacommunitycarbon.org/

34 https://ahueni.net/one-mara-carbon-project/

35 Africa's first carbon-removal plant stokes questions about responsible climate solutions (nbcnews.com)

The units of carbon dioxide removed by such plants are sold by the investing companies to offset their carbon emissions. Africa Climate Summit in Nairobi focused on how to attract more capital to the continent — the world's youngest continent, with 70% of sub-Saharan Africa under the age of 30. Air capture projects have been accused of simply aiding fossil fuel companies, and pretend they're taking climate action while they continue to drill for oil, denying humanity a chance to progress towards climate justice.

As noted by the Intergovernmental Panel on Climate Change (IPCC), the ability of CCS to provide meaningful emissions reductions in the next decade is extremely low, while its cost would be extremely high. The IPCC cautions against overreliance on CCS and related technologies, noting their future deployment is uncertain, they face multiple feasibility constraints, and could have adverse impacts on human rights and ecosystems as CDR techniques in development are mostly speculative and have significant costs, limitations, or impacts.

In the energy sector, Kenya through its national energy generation agencies, KenGen is in advanced stages of building a gigawatt-scale (1000 MW) wind farm in Marsabit, northern Kenya, (second only to the 310 MW Lake Turkana Wind Farm) making it the biggest in the continent and expected to be completed by 2028.[36]

Kenya also pulled a first by hosting what was billed as the world's largest auction sale of carbon credits in which more than 2.2 million tonnes of carbon credits were bought by Saudi Arabia during a voluntary carbon auction held in Nairobi. The auctioned credits came from projects that avoided emissions by using sustainable technologies or removing carbon from the atmosphere. This includes the supply of improved clean cookstoves to communities in Kenya and Rwanda, and renewable energy projects in Egypt and South Africa.[37]

Kenya's forests are either in public ownership and managed mainly by KFS or owned by local communities and managed in trust arrangements by local authorities. Many forest carbon offsetting schemes are in lands historically claimed, inhabited, and used by Indigenous Peoples and local communities (IPLCs).

Of the 37.6 million hectares of forest land in the country, 35.5 million hectares are bushlands and wooded grasslands. Around 58 percent of forests lands in the country fall under communal tenure arrangement (former trust lands and group ranches), and the remaining being privately and/or publicly owned.

Most Carbon Credit trading projects in Kenya are in forests and rangelands sectors. These landscapes are settled by Indigenous Peoples and Local Communities (IPLCs). Some of the project sites overlap with areas of unsettled IP historical land rights claims.

Others are questioning the practicalities, effectiveness, and fairness of the carbon credits markets. Doubts touch on potential threats to the respect of human rights of Indigenous Peoples, validity of the offsets and the sustainability of such schemes, reliability of carbon accounting methodologies, that such "schemes to offset carbon emission are just greenwashing scams," and whether the millions made from carbon credits will ever go to the communities in whose lands that carbon is being absorbed or stored.[38]

Mounting evidence suggests that many of these offset schemes are flawed market-driven solutions which tend to exaggerate climate benefits and underestimate potential harms which end up avoiding and delaying the requisite actions towards just and rapid transition off fossil fuels.

A recent Guardian newspaper investigative report analyzed the performance of the top 50 emission offset projects spread across 20 (mostly) developing countries, with a volume of traded carbon credits valued at $1.16 billion (£937 million). These accounted for almost a third of the entire global voluntary carbon market (VCM). The report concluded that 78 percent of them were categorized as likely "junk or worthless."

The investigated projects represented a wide range of sectors including forestry schemes, hydroelectric dams, solar and wind farms, waste disposal and greener household appliances schemes across countries that mostly have contributed the least to the climate crisis but are being battered by its effects. In some cases, large dams have been associated with land disputes, displacement, increased poverty, and environmental damage – including some greenhouse gas emissions emitted from water reservoirs.

36 https://www.constructionkenya.com/11718/kengen-marsabit-wind-farm/

37 https://www.reuters.com/sustainability/saudi-firms-bid-2-mln-tonnes-carbon-credits-kenya-auction-2023-06-14/

38 https://www.survivalinternational.org/campaigns/BloodCarbon

The non-positive observation was arrived at based on the investigated projects' inability to demonstrate additionality (that would have happened anyway), permanence (the likelihood of leakage of the greenhouse gas emissions, or shift emissions elsewhere) and guarantee for social and environmental safeguards. The projects were characterised by apparent exaggeration of climate benefits and inflated baseline figures, leading to widespread over-crediting.

The Cultural survival report sums the challenges as "The commodification of nature - These projects put a price on nature, treating Indigenous and local communities' lands as a carbon stock to be exchanged in the market so polluters can keep polluting, the conservation industry can get its hands on billions of dollars, and speculators can profit."[39]

The IPCC 2022, acknowledges that AFOLU carbon sequestration and GHG emission reduction options have both co-benefits and risks in terms of biodiversity and ecosystem conservation, food and water security, wood supply, livelihoods, and the land tenure and land-use rights of Indigenous Peoples, local communities, and small landowners.[40]

VIII. Carbon Markets: Issues of Critical Interests & Concern for Indigenous Peoples

Land tenure is directly related to Carbon rights, and as such, it should influence the architecture of Carbon projects, including benefit sharing mechanisms. The minimum land size for a viable jurisdictional agriculture, forestry, and soil carbon removal sector project is placed at 250,000 acres – hence, implications on IPs' land rights and basic survival in the Country are real.

This scenario threatens both the well-being of communities who face increased threats of land grabbing, criminalization, conflict, and other human rights violations, and the viability of carbon trading initiatives themselves. Safeguards therefore, become necessary to ensure carbon markets initiatives do not create incentives for land-grabbing by Carbon project proponents.

To maximize benefits and avoid harm, governments, public and private sector investors, and other actors in the world of carbon finance need to adopt ***human rights-based approaches*** to fully respect, protect, and realize the rights of IPs, as guaranteed in the Paris Agreement, the country's national constitution, the Kenya's approach to safeguards and associated safeguards information system (SIS) in the context of REDD+, including compliance with the country's national action plan on business and human rights.

Such initiatives should also Integrate ***robust safeguards*** to protect the human rights of Indigenous Peoples, local communities, and women within these groups, including their right to *representation, full and effective participation enabled through free, prior, and informed consent (FPIC*). These should be from the initial design to implementation, monitoring, and reporting, conflict/dispute resolution, and Grievance Redress Mechanism, all of which should incorporate elements of the Indigenous Justice system. For the Indigenous Peoples, the project should ensure direct financing support for community-led initiatives, needs and priorities, including capacity building, natural resource governance, and local livelihoods.

The range of carbon credit-associated benefits is said to include increased financial flows for forest protection and conservation, better recognition of community rights, and improved livelihood opportunities. To optimize such perceived benefits to communities, there should be sound institutional frameworks to facilitate

39 Ibid

40 IPCC 2022. Climate Change 2022 Mitigation of Climate Change. Working Group III Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf.

effective, efficient, and equitable access to *benefits, robust representation, and participatory decision-making arrangement* for the relevant right-holders and stakeholders.

Clear, pragmatic, and just level of payment, and benefits delivery mechanisms that account for vertical (from central, regional and counties to communities) and horizontal (sharing between & within different communities, including households, gender and intergenerational) flow of benefits are essential.

Such a BSM need to consider timing (up-front or after sell of credits), rationale and fair incentives, account for carbon project start up-related costs, need for transparency, and participatory monitoring, including role of government in ensuring a conducive environment.

IX. Conclusion and Recommendation

Overall, Indigenous Peoples in the country face increasing pressure to engage in and/or provide their consent to dedicated climate actions including Carbon credit initiatives within their lands and territories. On the ground, rights holder views, perceptions, and understandings of the growing demand for nature-based interventions vary significantly.

Capacity Building to ensure effective and meaningful engagement:

- Carbon credits and markets present both risks and opportunities, necessitating the need for enhanced capacity of IPs to be able to work effectively and fairly within the carbon market system.
- The topic of Carbon sequestration (both reduction of emissions and removals) is both technical and highly dynamic. Hence, the need for sustained awareness creation and training within and across IPs' networks, pool of lawyers, and the communities.
- Enhanced IPs' capacities will ensure their meaningful engagement with the project at national and global levels, including lobbying for the Carbon credit-associated resources to directly and meaningfully reach those contributing the least to the problem, yet most impacted by climate change at the grassroots level. This is to minimize potential negative impacts and enhance resilience in the context of carbon market initiatives.
- Areas of focus for capacity building includes *concepts and processes related to Carbon credits, approaches to emission reduction and carbon removals*, *cost benefit analysis, risks and benefits, measurement, monitoring, reporting,* and *verification, contracting and negotiations capacities* of IPOs.
- Strengthening IPOs' institutional capacities related to financial and administrative project management to competently engage in Carbon projects within their territories.
- Enhancing knowledge and capacity for uptake of progressive relevant policies and legislations on IPs' rights and safeguards across scales such as the REDD+ safeguards and non-Carbon benefits is essential.

Strengthening security of land tenure for communities as the foundation for enhancing legitimate voice in carbon property and associated dialogues. This is the most foundational need for capacity building – effective landowners, control and use – and appreciating its bearing on Carbon rights is fundamental for IPs.

Full Disclosure, Participation, and Representation: Full and effective representation and participation of IPs in decision making arrangements across scales and within emerging global, in-country and project level institutional arrangements related to Carbon markets, is critical if IPs in the country were to influence the vision, work, and ultimate impacts of these initiatives. This includes strategies towards promoting multi-actor and multi-scale dialogues on carbon credits and markets dynamics, and supporting and facilitating community organizing. The institutional architecture of Carbon market – *Carbon project design, carbon verification and*

validation, Carbon registry, carbon monitoring and pricing - should have creative arrangements for effective community representation and engagement.

The Carbon projects should embrace Openness and Transparency on the amount of carbon sales, credit price, share of all participating stakeholders (like project developer or private investors). Shared project information should demonstrate completeness to provide solid grounds upon which decisions and commitments are made. The actors should ensure symmetry with respect to information access in terms of costs, benefits, associated risks, and accurate figures reflecting the choices made by the community and project developers with respect to benefit-sharing.

Strengthening Monitoring and safeguarding of safeguards

- The Paris Agreement and Kenya's national constitution provides for the recognition, respect, and promotion of human rights. To enable this monitoring aimed at ensuring enforcement of safeguards, Carbon projects proponents and IPs should support the creation and operationalization of modalities, tools, and approaches to engage with IPLCs.
- These tools include (but not limited to) *Free Prior Informed Consent (FPIC), Community Based Monitoring Information Systems (CBMIS),* and *community protocols*. The goal is to advance safeguards to a higher threshold beyond the 'do no harm' to the 'doing good' thresholds that complies with international law in relation to environment and human rights, including the rights of IPs.

Enhancing uptake and respect of Indigenous knowledge systems, values, and practices of IPs – Where does Carbon markets leave the spiritual values of nature embodied in Indigenous Peoples' belief systems and practices that have contributed to nature conservation? Efforts to enhanced research, documentation, and integration of Indigenous knowledge/traditional knowledge systems and practices into climate change adaptation and mitigation actions ought to be supported.

Fair, Equitable and Robust Benefit sharing arrangements:

- The benefit sharing arrangements should be informed by the prevailing land tenure arrangements. In the Kenyan context communities have rights as individual landowners, as citizen living adjacent to public forests, and collectivities under the Community land.
- The BSM should provide clarity on grounds upon which benefits are derived inter alia – landholding size, actual emission reductions, demography of the community, vintage carbon – which is critical in ensuring that equitable design criteria are met.
- Clarity is also necessary with respect to the scope and nature of Benefits. These may be monetary or non-monetary and may include license fees, upfront payments, milestone payments, royalties, research funding, joint ownership of intellectual property, employment opportunities, and others.
- Clarity is also critical on the basis applied in targeting benefits to beneficiaries. This includes decision on whether to transfer benefits to communities as a whole or directly to households, and this should be based on economic feasibility, self-determination, local capacity, and governance structures.
- The BSM should also demonstrate compliance to internationally adopted standards and safeguards under the UNFCCC such as human rights under the Paris Agreement, Cancun Safeguards Information Systems, and Community Based Monitoring Information Systems (CBMIS) under the Warsaw decision, in tandem with CoK 2010 art. 2(6).

Project risk allocation between communities and project developers – as informed by land tenure security, insufficient revenues raised by not selling enough credits or selling them at low prices, as well as high operating costs. Hence, the need to consider mitigation measures against such risks to investors and communities.

Annexes

Annex 1: REDD+ Projects in Kenya (Source: Kenya National REDD+ strategy)

Project name	Project Proponent	Location	Standard	Main activities of the project	Status
The Chyulu Hills REDD+ Project (CHRP)	Chyulu Hills Conservation Trust in collaboration with KFS, KWS and David Shedrick Trust	Tsavo Amboseli ecosystem in southeastern Kenya	VCS and CCB Standards	Afforestation/ reforestation and avoided deforestation	Ongoing
Kasigau Corridor REDD project	Wildlife Works	South-eastern Kenya - Rukinga Sanctuary and 14 other land units	VCS and CCB	Afforestation/ reforestation and avoided deforestation	Ongoing
Kenya Agricultural Carbon Project (KACP)	Agroforestry in partnership with the World Bank BioCarbon Fund and Unique Forestry	Nyanza and Wester provinces	VCS	Sustainable Agricultural Land Management (SALM)	Ongoing
TIST A/R Projects	The International Small Group and Tree Planting Programme and partnership with the Clean Air Action Corporation	Eastern Provinces and Central Rift Valley	VCS and CCB	Afforestation/ reforestation and avoided deforestation	Ongoing
Northern Kenya Grasslands Carbon Project	Northern Rangelands Trust	Northern Rangelands Trust Conservancies	VCS and CCB	Avoided land degradation/ land management improvement	Ongoing
Livelihoods Mt Elgon Project	Agroforestry in partnership with Unique Forestry	Mt Elgon	VCS	Sustainable agricultural land management	Validation process
Conservation of Miombos in Taru, Kenya REDD+	Swiss Carbon Value Ltd	Taru Ranch in Kwale County	VCS	Afforestation/ reforestation and avoided deforestation	Validation process
Paradigm Kenya Clean Cookstoves Project	Paradigm Project, Thailand in collaboration with the World Food Program	National – Kenya	VCS, previously Gold Standard	Avoided deforestation	Ongoing
Installation of high efficiency wood burning cookstoves in Kenya	C-Quest Capital Stoves Asia Limited, Malaysia	National – Kenya	VCS	Avoided deforestation	Under development

Project name	Project Proponent	Location	Standard	Main activities of the project	Status
Mikoko Pamoja REDD+ Project	Mikoko Pamoja Community Organisation and the Association of Coastal Ecosystem Services (ACES)	Kenyan coast at Gazi Bay	Plan Vivo	Afforestation/ reforestation and avoided deforestation.	Ongoing
Community led mangrove conservation and restoration project	(ACES	Vanga, Jimbo and Kiwegu villages in Kenya's South Coast	Plan Vivo	Afforestation/ reforestation and avoided deforestation	Ongoing
Tree KenyaA/R Project	Keystone Legacy Kenya and SCOPE Kenya	Central and Eastern provinces	Plan Vivo	Afforestation/ reforestation and avoided deforestation	Design (PIN approved)
Upper Tana Nairobi Water Trust Fund	The Nature Conservancy (TNC)	Upper Tana watershed Murang'a, Nyeri, Nyandarua and Laikipia counties.	Plan Vivo	Afforestation/ reforestation and avoided deforestation	Design (PIN approved Nov 2020)
Mount Kenya Landscape Conservation REDD+ Project	Space for Giants in collaboration with KFS, KWS, Rhino Ark and Mt. Kenya Trust	Mt Kenya, Aberdares and Laikipia Landscape	VCS	Afforestation/ reforestation and avoided deforestation	Concept under development

Annex 2: Key Actors in the Voluntary Carbon Market Delivery Chain:

Key Actor	Role
Project developers:	who design and implement reduction/removal projects which are registered under the GHG crediting standards to generate carbon credits that other sectors or industries will buy
Third-party verifiers:	Independent organizations, typically NGOs, conduct a verification process before the issuance of carbon credits to ensure that a project meets its stated objectives and volume of emissions as per carbon standards
Brokers:	Brokers buy carbon credits from a trader and sell them to a buyer
Retail traders:	Traders buy carbon credits from wholesaler/suppliers, accumulate them and create credits portfolios, and then sell them to buyers who intends to offset
Consumers:	Usually includes private companies, NGOs, governments, universities, and individuals that buy carbon credits to offset their emissions

Annex 3

The Mt Elgon Regional Ecosystem Conservation Programme (MERECP) is jointly funded by the Governments of Norway and Sweden. MERECP is supporting a trans-boundary ecosystem initiative under the auspices of the East African Community (EAC). MERECP started in 2006 with a total funding of NOK 34.2 million (approximately USD 6 million) initially for a period of 4 years and executed by the IUCN East Africa Regional Programme. The project had a number of problems with regards to institutional arrangements, planning and implementation. A Mid-Term Review, which took place in 2008, recommended a re-design of MERECP. Since July 2009 the MERECP re-design phase is being executed by the Lake Victoria Basin Commission (LVBC). The main task of this End Review mission of MERECP was to measure outcome and impact; efficiency and effectiveness of this re-design phase which has been operational for more than 2 years. The End Review mission took place in the second half of September 2011 and reported back to a wrap-up meeting at the LVBC offices in Kisumu on the 3 October 2011. The main problems identified by the Mid-Term Review included: (i) low ownership over the project with national governments and the EAC; (ii) a high level of administrative costs and a high percentage of project budget spent on coordination and meetings; (iii) a low percentage of project funds (less than 20%) reaching the main beneficiaries (local communities); and (iv) low level (50%) of work plan and budget execution.The re-design phase put the ownership squarely with EAC by housing MERECP with LVBC. It also aimed at putting ownership with national governments and funds to protected area management institutions (PAMI) and Districts now passed through Treasury and thereafter disbursed and monitored by Focal Point Ministries. Also the re-design phase took an approach of direct funding to community based organisations for the establishment of Community Revolving Funds (CRFs) as well as directly involving them in natural resource co-management forestry activities such as establishment of livelihood plantations and enrichment planting. The PAMIs were put in the driving seat, managing MERECP work plans and budgets. The End Review Team's (ERT) assessment concludes that the direct funding approach is very promising and has created positive dynamics of collaboration and conflict resolution between PAMIs and local communities. Local communities are experiencing the direct impact on their livelihoods of the CRFs and tree planting activities. These activities are instrumental in re-enforcing co-management models of the Mt Elgon Ecosystem. There seems to be a good gender balance and representation in the programme delivery Both the LVBC and the PAMIs rightfully claim ownership over MERECP. MERECP has inspired other such trans-boundary initiatives within the region such as Trans Boundary Water for Biodiversity and Human Health in the Mara River Basin Project and the Lake Chala-Jipe and Umba River ecosystems of Kenya and Tanzania. Also under the re-design phase, despite less funds being channelled through Districts, the Districts on the Uganda side are actively involved and supportive of MERECP in its direct support to local community groups. However, work plan implementation and budget disbursement is still only 50% of what was planned. The ERT finds that funds passing through government Treasury of Uganda and Kenya clearly pose a big challenge to effective project implementation. Also the Focal Point Ministries are not the line ministries of the PAMIs and this does not favourably enhance ownership and supervision in the right places. Communication lines for planning, funds requests, disbursement and reporting are unnecessarily long and complicated under the present institutional arrangement. The ERT concludes that the present institutional arrangement is not effective and more direct funding lines should be established with the otherwise semi-autonomous PAMIs. Also the ERT founds that under present arrangements auditing and of use of MERECP funds is difficult and insufficient. LVBC should establish more effective financial monitoring systems. The ERS clearly supports the general view of all project partners and stakeholders that there should be a second phase of MERECP. Noting what has been achieved over the past 20 years in improving ecosystem health and co-management on Mt Elgon, the ERT takes a long-term perspective and makes a number of concrete proposals for an exit of a project mode of funding. The ERT proposes that the CRF model developed by MERECP can form the basis for the setting up of an Elgon Community Conservation Fund (ECCF). It is envisaged this fund will provide annual direct funding to the Mt Elgon management institutions and local communities to maintain collaborative management arrangements and for compensation of avoiding deforestation and forest degradation. Furthermore, MERECP should be a catalyst to ensure that the Mt Elgon Ecosystem is a successful pilot able to demonstrate the delivery of sub-national reducing emissions from deforestation and forest degradation (REDD+) strategies in Uganda and Kenya. It could be also be pilot for testing monitoring, reporting and verification systems at the ecosystem level as well as act as an institutional and financial mechanisms (such as the proposed ECCF) for channelling carbon finance.Finally, the ERT begins to present the case for setting up of an investment fund for a largescale land husbandry initiative in the Mt Elgon Ecosystem as a means to conserve and protect this important water catchment and diverse agricultural landscape.

NICARAGUA

Indigenous Peoples Collaborative Perspective on Carbon Markets

Dennis Mairena Arauz, Consultant, Tebtebba Foundation



1. Introduction

Nicaragua is the largest country in Central America having a total area of 130,327.9 square kilometers and a total population of 6,300,000 inhabitants, of which 57% live in urban areas and 43% in rural areas. Nicaragua shares borders with Honduras, Costa Rica, the Pacific Ocean, and the Caribbean Sea. Due to its location, the country is exposed to a series of events linked to natural climate variability, such as the El Niño and La Niña phenomena, monsoon-related events in the Pacific, tropical waves, and hurricanes, among others. These generate serious hazards, including droughts, floods, landslides, water shortages, and destruction of crops, forests and homes.[1]

2. National Context

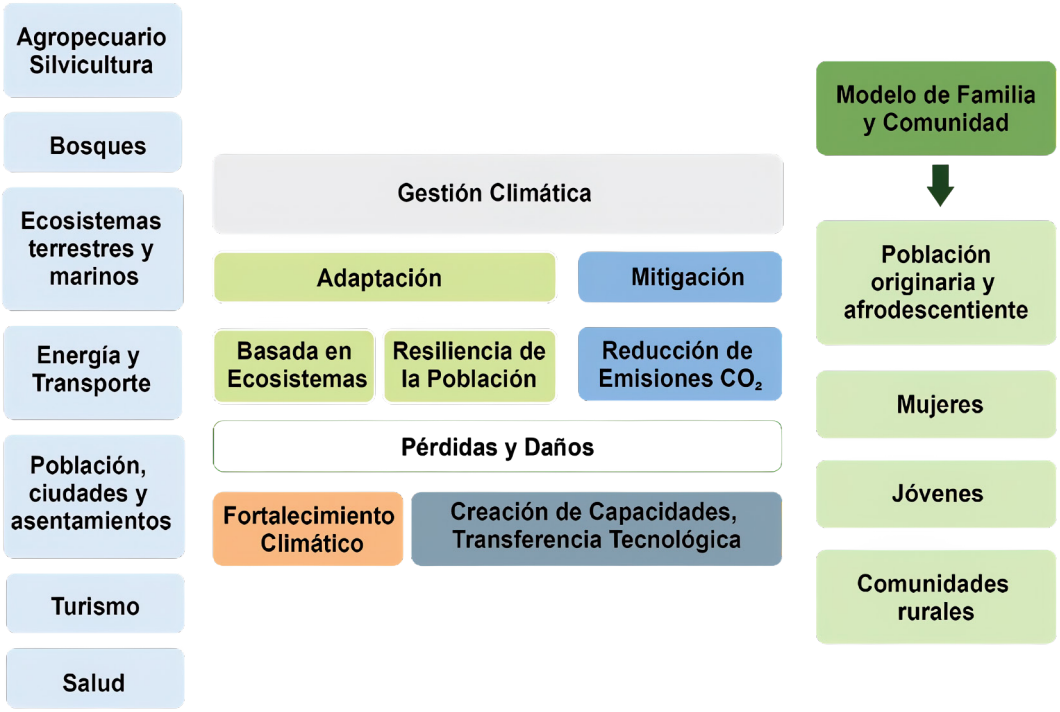
A 2019 report on baseline levels of forest emissions in Nicaragua[2] indicates that 60% of the country's soils are forested, with more than twenty varied ecosystems that are rich in biodiversity. The hydrographic network consists of 80 rivers that make up 21 basins. Natural resources are the basis for key sectors of the country's economy, that when taken together comprise more than a fifth of the Gross Domestic Product (GDP). These are as agriculture (8.6%), livestock (6.8%), energy (2.3%), tourism (4.3%), and forestry (0.9%).

Since 2007, the Government of Reconciliation and National Unity has been implementing emblematic policies, programs, and projects which have achieved a sustained reduction of general poverty and improvement in the extreme poverty indexes of the country. In its decision to contribute to the fight against climate change, Nicaragua has designed and implemented a sustainable development model, composed of policies and strategies with national, comprehensive, intersectoral, and interdisciplinary approaches reflected in the national climate change policy (Figure 1).

1 CIF Countries | Climate Investment Funds

2 Gobierno de Reconciliación y Unidad Nacional (GRUN), Ministerio del Ambiente y los Recursos Naturales (MARENA). 2019. Primer Nivel de Referencia de Emisiones Forestales (NREF). Managua. Nicaragua.

Figure 1: Nicaragua's Sustainable Development model



In its fourth national communication[3] to the UNFCCC, Nicaragua indicated that agriculture, livestock, forestry and other land use (AFOLU) and energy are the sectors where there is greatest potential for reducing greenhouse gas emissions.

2.1 Overview of the country's carbon emissions and commitment

As a sign of the country's commitment to reducing emissions, Nicaragua has formulated the National Plan to Combat Emissions: the National Plan to Fight Poverty and Promote Human Development (2022-2026); National Climate Change Policy; National Environmental and Climate Change Strategy (ENACC) and its Action Plan (2010-2015); Strategy to Reduce Emissions from Deforestation and Forest Degradation; Development Strategy for the Caribbean Coast and Upper Wangki and Bocay (2019 - 2029); National Policy for Sustainable Development of the Forestry Sector; National Forestry Program; National Strategy for Firewood and Charcoal; National Reforestation Plan; National Plan for Forest Fire Prevention and Control; and the Emission Reduction Program for the Caribbean Coast of Nicaragua. Annex 1 lists Nicaragua's national laws related to the environment, climate change, and territorial governance.

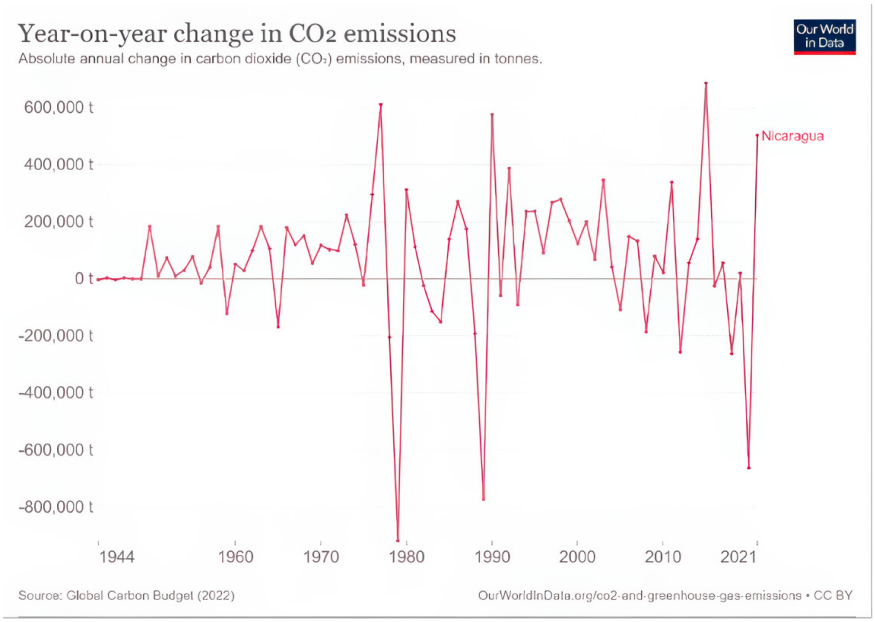
It is important to point out that in the development of this essay we were not able to find any evidence that Indigenous Peoples of the Autonomous Regions of the Caribbean of Nicaragua - where the largest forest cover of the country is located - have been formally and legally involved or have signed any type of carbon market contract. However, we did find evidence that the Indigenous Peoples of the Pacific, Central, and Northern regions of the country have participated in the Voluntary Carbon Market for more than 10 years, which is discussed below. This is because the promoters of the carbon market have been clear in preferring to engage with individual producers who are the individual owners of land, whether indigenous or not, rather than negotiating with Indigenous Peoples who have collective titles to the land.

3 Gobierno de Reconciliación y Unidad Nacional (GRUN). Proyecto GCP /NIC/046/GFF "Habilitación de la preparación de la Cuarta Comunicación Nacional de Nicaragua y el Primer Informe Bienal de Actualización a la CMNUCC". Managua.

2.2 Current State of the Country's Carbon Emissions

According to Figure 1, from 1949 to 2021 Nicaragua's carbon (CO_2) emissions have gone from zero to 5.06 million tons, with 2017 being the year that showed the maximum of 5.46 million tons.

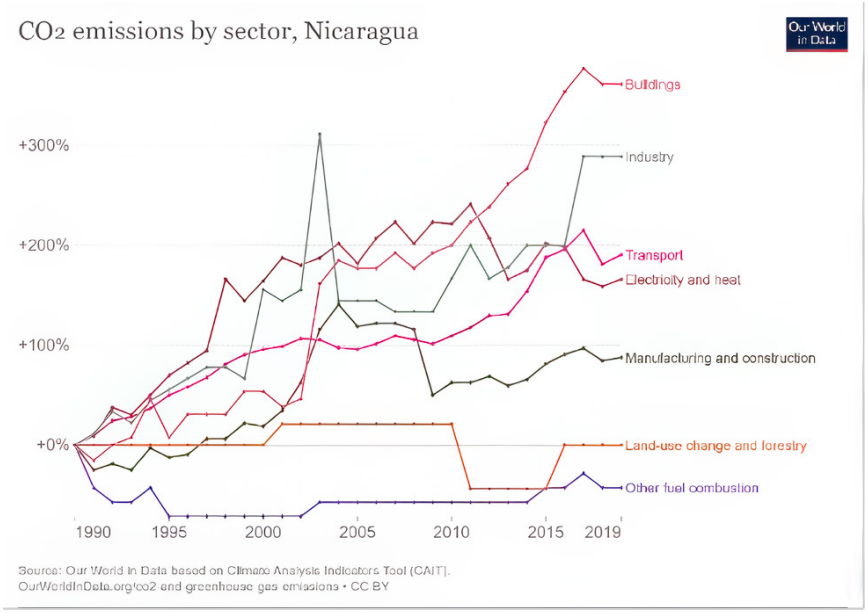
Figure 2: Change in Nicaragua's CO_2 emissions, 1944-2021



Source: Nicaragua: CO2 Country Profile - Our World in Data

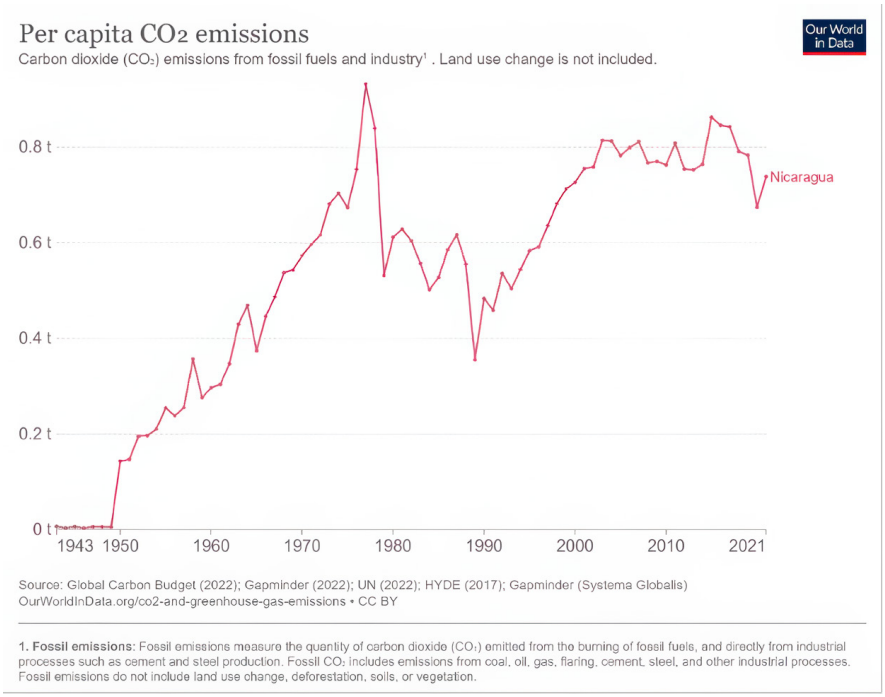
Emissions by sector of activity in Nicaragua (Figure 3) shows that buildings are the largest contributor of CO_2, followed by industry, transportation, electricity, manufacturing and construction, and land use change and forestry. It is interesting to see the dipping trend of the land use change and forestry sector between 2010 and 2016, which may have been due to a forest ban declared for 10 years for the extraction of six forest species.

Figure 3: Nicaragua's CO2 emissions by sector



For the year 2021, Nicaragua's CO_2 emissions per capita was 0.7 tons[4] (Figure 4). By way of comparison, we can point out that for Mexico it was 3.2 tons for the same year, while the USA was 14.9, a relative comparison that does not indicate the very low level of per capita contribution to emissions.

FIGURE 4: NICARAGUA'S PER CAPITA CO2 EMISSIONS

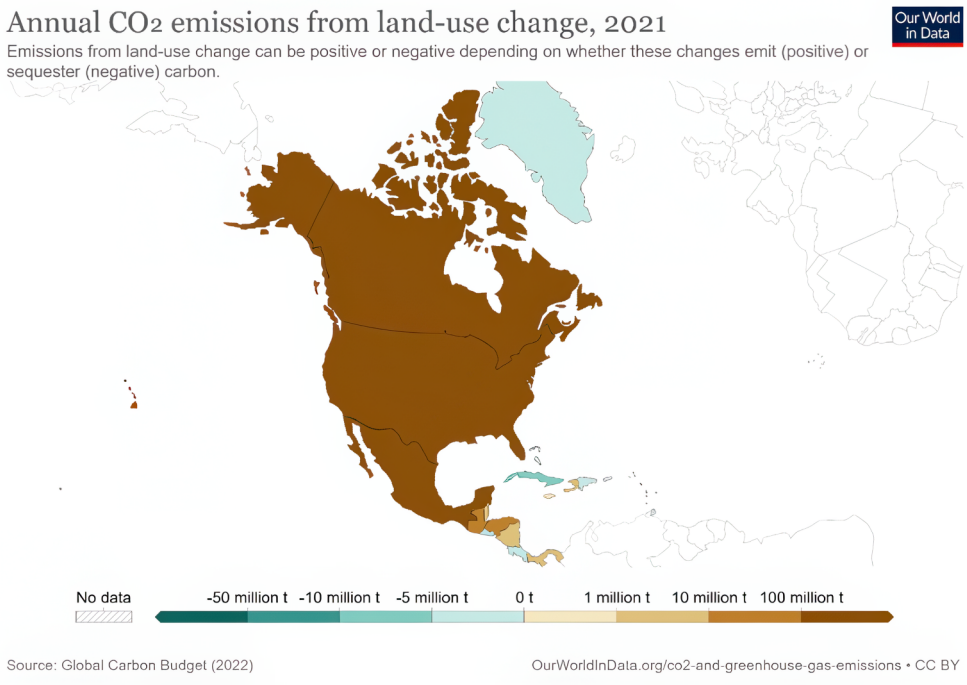


Regarding annual emissions caused by land use change, Nicaragua is in the range of 1 - 10 million metric tons, which according to the colors on the map, is relatively high. CO_2 emissions in Nicaragua in 2021 have grown to 0.532 megatons, an 11.9 percent increase from 2020. In 2021, CO_2 emissions have been 5.002 megatons, making Nicaragua the 51st country in a list of 184 countries in terms of CO_2 emissions, which were ranked from least to most polluting.[5]

4 Nicaragua: CO2 Country Profile - Our World in Data

5 Nicaragua - Emisiones de CO2 2021 | Datosmacro.com (expansion.com)

FIGURE 5: ANNUAL CO2 EMISSIONS FROM LAND-USE CHANGE, 2021 (GLOBAL CARBON BUDGET, 2022)



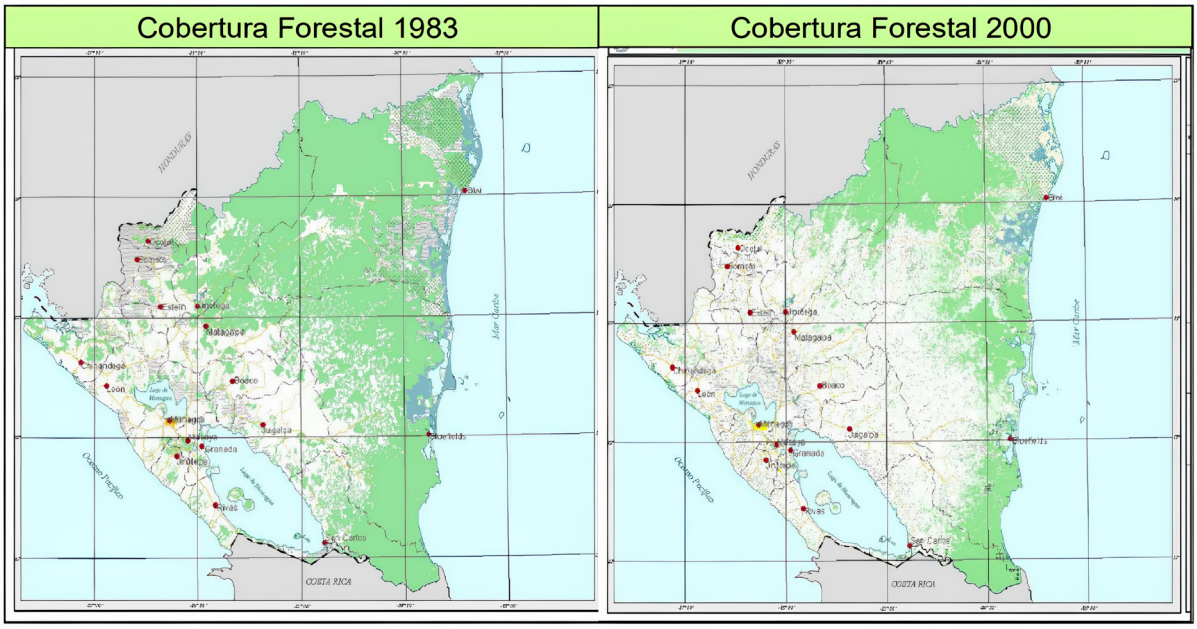
SOURCE: NICARAGUA: CO2 COUNTRY PROFILE - OUR WORLD IN DATA.

2.3 Country plan to address its carbon emissions

To address the reduction of carbon emissions, Nicaragua focused on two Autonomous Regions of the Caribbean Coast, the highest priority area where the largest number of Indigenous Peoples live and which covers 80 percent (3.2 million hectares) of Nicaragua's total forest area. The Bosawas Biosphere Reserve and the Río Indio-Río Maíz Biological Reserve are located in this zone, but these areas are under permanent threat of deforestation and forest degradation driven mainly by the advance of the agricultural frontier and continuous migration to the area. These consequently lead to grain production and extensive cattle ranching, forest fires, firewood collection, and logging. Most deforestation accounts for almost 65 percent (2.8 million hectares) of the 4.32 million hectares of forest lost nationally between 1983 and 2015, and almost 100 percent of all national deforestation during the reference period (2005-2015).[6] Nicaragua presents an average of 70,000 hectares per year of deforestation in the last 50 years. The following figure shows the progress of deforestation from 1983 to 2000 (Map 1).

6 Fondo Cooperativo para el Carbono de los Bosques (FCPF).2019. Fondo de Carbono. Documento de Programa de Reducción de Emisiones para el combate al cambio climático y la pobreza en la Costa Caribe, reserva de biosfera BOSAWAS y reserva biológica Indio Maíz (ERPD) País: Nicaragua. Fecha de Entrega o Revisión: _31 de julio_2019.

Map 1. Change in forest cover in Nicaragua



Source: National Forestry Program 2008. Analysis of the situation of the forestry sector in Nicaragua. INAFOR.

The Bosawas Biosphere Reserve and Indio Maíz Biological Reserve are the areas contemplated in the Bio-Climate (Bio-Clima) project that Nicaragua submitted to the GCF. For the month of August and September 2023 the Central American Bank for Economic Integration (CABEI)[7] and the Nicaraguan government were implementing a consultation and Free, Prior and Informed Consent Plan with the participation of 23 indigenous, Afro-descendant and ethnic territories on the Nicaraguan Caribbean Coast.

The consultation plan was carried out in coordination with the regional, territorial, and community governments in the project's area of influence, and is expected to involve more than 6,476 people living in 338 communities in the South Caribbean Coast Autonomous Region (RACCS), North Caribbean Coast Autonomous Region (RACCN), and the Alto Wangki and Bocay Special Regime Zone.

Project Bio-Clima has three components: Component 1is on Conserving and Producing for Life; Component 2 is on Good Governance; and Component 3 is on Adaptive Capacity Development.

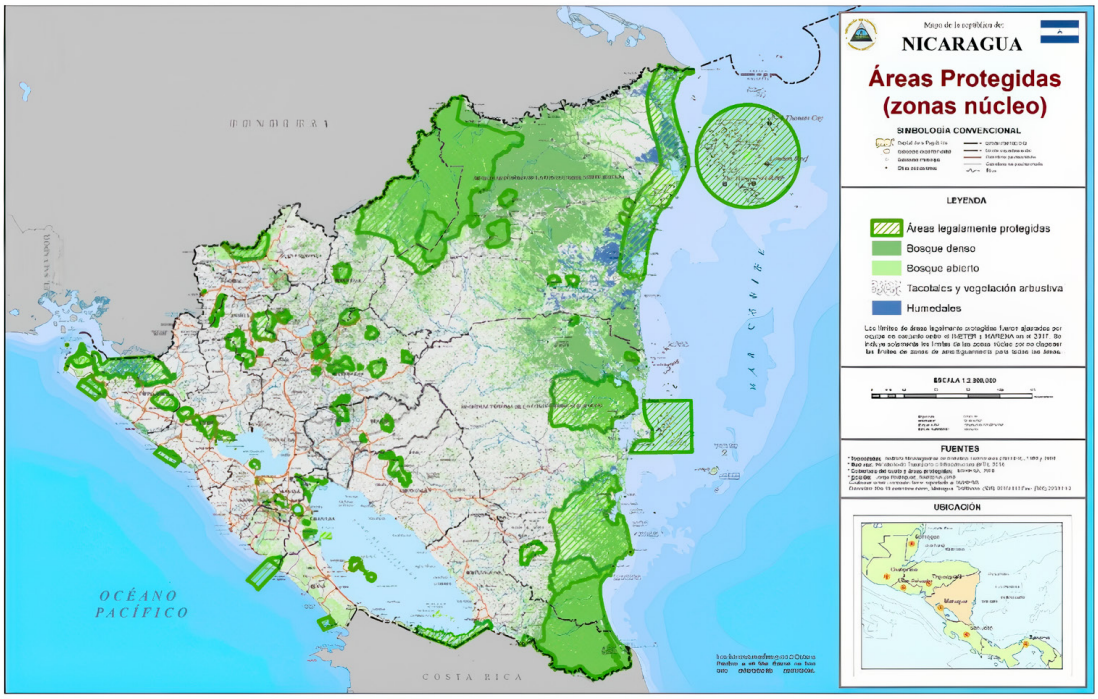
Bio-Clima is aimed at developing a large part of the existing forests in the indigenous territories of the Rama, Mayangna and Miskitus peoples that are being invaded by non-indigenous settlers. Through its components, the Bio-Clima[8] Nicaragua project seeks to increase its carbon sequestration capacity by 20 percent in relation to the 2030 scenario; do forest restoration and conservation in degraded areas in the most biodiversity-rich region of Nicaragua; and channel investments into the land use management plan, which is oriented more towards restoration and conservation than towards production itself. The project is highly related to the implementation of the national REDD+ strategy. Its objective is to reduce 473 million tons of carbon dioxide equivalent ($MtCO_2eq$) in emissions by lessening deforestation for 20 years and generating economic benefits for Indigenous Peoples. It also seeks to promote and develop a strong local capacity for the governance of indigenous territories.

Another element that Nicaragua has to address about carbon emissions is the administration of protected areas, reserves, and parks. In this sense, the country has a National System of Protected Areas (SINAP), composed of 72 protected areas (64 terrestrial and eight marine-coastal), which are constituted in nine management categories that represent 25.5 percent of the national territory, as shown in Map 2.

7 CABEI initiates consultations plan within the framework of the Bio-CLIMA Project in the Republic of Nicaragua (bcie.org)

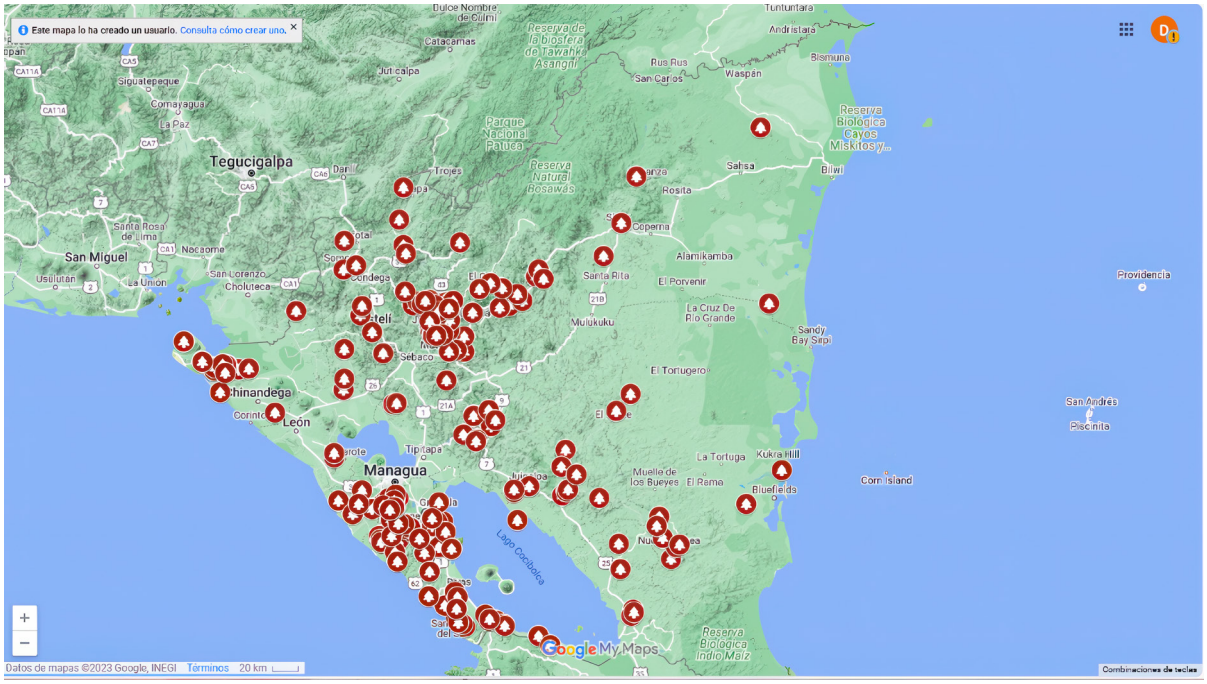
8 GCF. BioClima.21710-bio-clima-nicaragua.pdf (greenclimate.fund)

Map 2: Nicaragua's Protected Areas



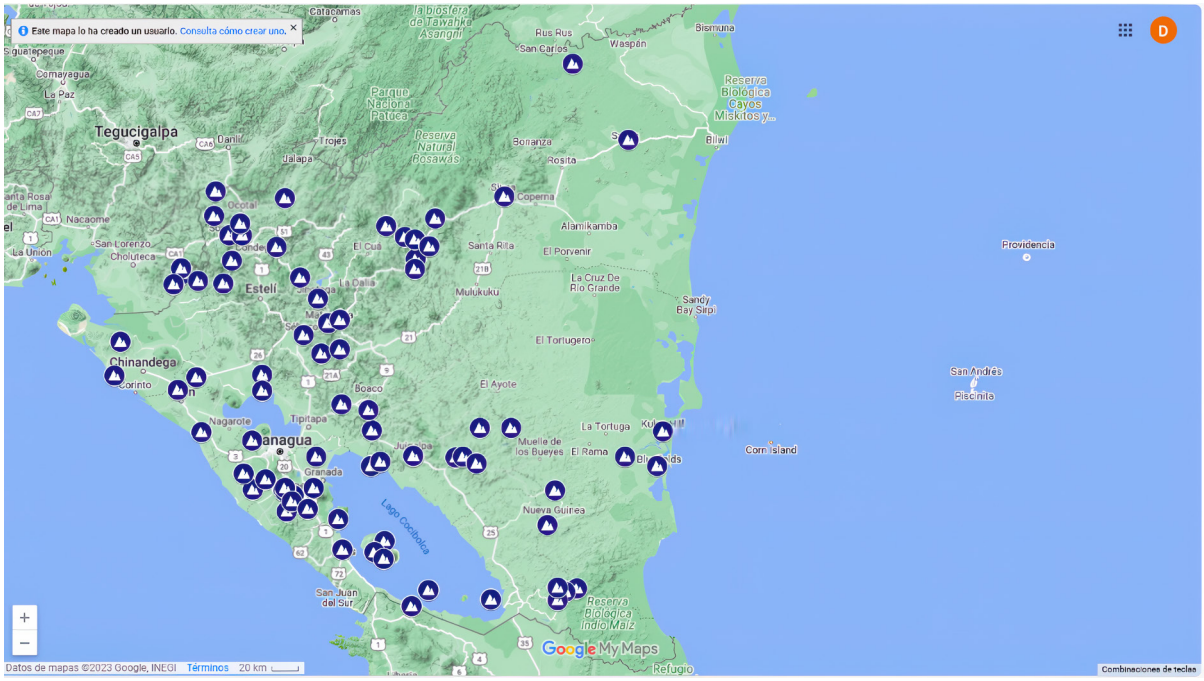
In addition, the country has 107 Private Wildlife Reserves (Map 3), which are conservation and protection areas that are officially registered in the National System of Protected Areas (SINAP) and are officially recognized by the Ministry of Natural Resources and Environment (MARENA). These areas are private and normally dedicated to ecotourism. Because they are privately owned, there are no indigenous settlements in them.

Map 3. Private Wildlife Reserves



The municipalities have also become involved in local environmental management, and have established more than 34 Municipal Ecological Parks (Map 4).

MAP 4: MUNICIPAL ECOLOGICAL PARKS



These municipal ecological parks are part of the National System of Protected Areas (SINAP) and are declared by law. Executive Decree No. 01-2007 of Nicaragua's Protected Areas Regulation establishes that municipalities may request the Ministry of Environment and Natural Resources to create municipal ecological parks. However, the same regulation states that protected areas cannot be created in indigenous territories without the free, prior, and informed consent of the indigenous communities. Therefore, if a municipality wishes to create an ecological park in an indigenous territory, it must first obtain the consent of the corresponding indigenous community.[9]

Additionally, Climate Investment Fund (CIF) investments in Nicaragua are made through its Scaling Up Renewable Energy Program (SREP) and its Clean Technology Fund (CTF). Both of these investment plans seek to generate geothermal energy and develop rural areas. However, given that the costs of exploration, drilling and exploitation of geothermal systems are high, concessionary financing can help reduce the risk of exploration drilling.

The geothermal project also aims to bring modern electricity services to one million rural Nicaraguans who are not covered by current electrification schemes. It seeks to replace traditional stoves in order to curb deforestation and improve the living conditions of households that cook with firewood. Nicaragua is also developing small-scale hydropower, solar photovoltaic systems, and biofuels.[10] So far there has been no known or visible demonstration of civil society opposing these initiatives.

As of January 1, 2024 a free trade agreement between Nicaragua and China will enter into force, an agreement about which there are great expectations. In the news aired on October 20, 2023 Nicaragua announced that the People's Republic of China will support the construction of the Tumarin hydroelectric

9 MARENA. 2022. Nicaragua cuenta con mapa de bellezas naturales (intur.gob.ni)

10 CIF Countries | Climate Investment Funds

project[11] in the South Caribbean Coast Autonomous Region (RACCS). This project will have an estimated reservoir area of 41 square kilometers at its normal maximum level and hydroelectric exploitation would have an installed capacity of approximately 253 megawatts.

The Tumarín hydroelectric project involves construction of major infrastructure such as a rockfill and concrete dam estimated at 63 meters high, reservoir, diversion works, overflow works, conduction works, powerhouse, a set of generating units whose average annual energy generation capacity is estimated at 1,184 Gigawatt hours, and a substation where the energy will be delivered. The Tumarin dam axis will be located on the Grande de Matagalpa River approximately 43 kilometers downstream from the confluence of the Tuma River with the Grande de Matagalpa River.

The project will be carried out by Centrales Hidroeléctricas de Nicaragua (CHN), a company created by the Brazilian state-owned Eletrobras and the Queiroz Galvão conglomerate. Financing will be provided by the Banco Nacional de Desarrollo Económico y Social (BNDES), being the main development entity of the Brazilian Government that will contribute US$342 million; the Banco Centroamericano de Integración Económica (BCIE), with a contribution of US$252 million; and the Queiroz Galvão conglomerate. The participation of the Inter-American Development Bank (IDB) and the World Bank is also being sought.

2.4 Country's Current Commitments to Curb its Carbon Emissions

Nicaragua is committed to reducing carbon emissions within the framework of its commitments to Mother Earth. Nicaragua was the first country to sign the Universal Declaration of the Common Good of the Earth and Humanity. Additional policies were also crafted to address the issue on climate change. To accomplish its National Avoided Deforestation Strategy, the country crafted its National Climate Change Policy, Forestry Policy, Water Resources Policy, Security and Food and Nutritional Sovereignty, Agricultural Policy, Agrarian Policy, Rural Development Policy, Central American Agricultural Policy, Mitigation and Adaptation Policy in the Face of Climate Change, Policy of Transformation of the Energy Matrix, Demarcation and Titling of Territories on the Caribbean Coast, and Research, Development and Innovation. Nicaragua developed the structure of the FCPF Monitoring and Evaluation Framework, its logical framework and Performance Measurement Framework (PMF), so as to facilitate and systematize data analysis. In 2022, Nicaragua approved the National Climate Change Policy (Presidential Decree No. 04-2022) through which principles and guidelines are established to confront climate change. Some key aspects include: Climate justice with reparations; fair treatment for all people and recognition of territorial and social diversities. It also seeks to strengthen the management of climate financing.

In 2002, Nicaragua created the Clean Development Office to implement the flexible mechanisms for reducing greenhouse gas emissions established in the Kyoto Protocol. Climate change mitigation, and adaptation and risk management are common strategic guidelines that Nicaragua has included in the National Human Development Plan (PNDH) 2012-2016,[12] and also in the National Environmental and Climate Change Strategy 2010-2015. It is also important to note that the country has a transformation of the energy matrix from 25 percent generation with renewable sources in 2007 to 94 percent in 2017, leading to a reduction of emissions at 1.35M Tons of CO2.

Nicaragua's principles for carbon reduction are: Prioritizing the link between mitigation and adaptation; enhancing the NO carbon benefits, Biodiversity and Co-benefits; respecting Indigenous Peoples; benefiting indigenous communities and agricultural producers, especially poor communities; and ensuring participation and permanent communication through the Strategic Analysis of Social and Environmental Assessment (SESA).

Nicaragua has an effective promotion of private sector participation in investments in the sensitive sectors for climate change response, such as renewable energy (wind and geothermal), commercial forestry plantations, transformation of sustainable agriculture systems, agroforestry systems, silvo-pastoral solutions, and environmental education.

11 Energynews. El proyecto hidroeléctrico de Tumarín, en Nicaragua, generará la mitad de la energía que consume el país con 253 MW (energynews.es)

12 Slide 1 (forestcarbonpartnership.org)

Since 2014 to date, Nicaragua has been conducting workshops with the national population, including Indigenous Peoples, with their territorial authorities to share information on the emissions reduction project, promote dialogue, collect inputs for planning, and consult with key stakeholders. Consultations with Indigenous Peoples on the Bio-Clima project, which Nicaragua has submitted to the Green Climate Fund as well as consultations on the National Adaptation Plan, are currently underway in September 2023. Nicaragua has also submitted four National Communications to the UNFCCC in compliance with international commitments.

In June 2021, the current government created the National Climate Change Management System, which is a political-strategic instance for consultation, development, and monitoring of policies, standards, instruments, and strategies to promote compliance with national climate goals. The System will be able to interact and articulate with other institutions and instances of Government and Society especially with the National System for the Prevention, Mitigation and Attention to Disasters and the System of Production, Consumption and Commerce.[13] It should be noted that among the titular members of the System, the Councils and Governments of the Autonomous Regions of the Caribbean Coast and the territorial authorities are not included.

In March 2022 Nicaragua signed the Paris Agreement that proposes a new mechanism for GHG emissions mitigation and supporting sustainable development. This, together with the need to adapt the institutional framework for the operation of the Clean Development Mechanism proposed in the Kyoto Protocol, prompted Nicaragua to create the National Committee for the Mitigation of Greenhouse Gas Emissions, thus giving continuity to the office of the Clean Development Mechanism which was created in 2002. It is important to highlight that this Committee will elaborate criteria and procedures to certify GHG reduction project proposals, and will issue letters of no objection and letters of endorsement for Voluntary or Non-voluntary Carbon Market initiatives. This instance will be the Designated National Authority for the purpose.

On October 3, 2022, the Fourth National Greenhouse Gas Inventory[14] (Fourth INGEI Report) was presented as part of the Enabling Project for the Preparation of the Fourth National Communication and First Biennial Update Report to the United Nations Framework Convention on Climate Change (UNFCCC).

The National Greenhouse Gas Emissions Mitigation Committee scheduled to hold a national event in November 2023 with all the actors that in one way or another were related to carbon markets, whether voluntary or not. Among the objectives of this event was to announce the Designated National Authority (DNA) to manage the policies, programs, and projects related to the carbon market, voluntary or not, to bring order and transparency to these markets in Nicaragua.[15]

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13 Las instancias integrantes del Sistema Nacional de Gestión del Cambio Climático son los titulares de las siguientes instituciones: 1. Secretaría de Cambio Climático de la Presidencia de la República, quien lo coordinará; 2. Ministerio del Ambiente y de los Recursos Naturales (MARENA); 3. Ministerio de Hacienda y Crédito Público (MHCP); 4. Ministerio de Relaciones Exteriores; 5. Ministerio de Economía Familiar, Comunitaria, Cooperativa y Asociativa (MEFCCA) ; 6. Ministerio Agropecuario; 7. Ministerio de Salud; 8. Ministerio de Energía y Minas; 9. Ministerio de la Mujer; 10. Ministerio de la Juventud; 11. Ministerio de Fomento, Industria y Comercio; 12. Ministerio de Transporte e Infraestructura; 13. Ministerio de Educación; 14. Instituto Nicaragüense de Estudios Territoriales; 15. Instituto Nicaragüense de Tecnología Agropecuaria; 16. Instituto Nacional Forestal; 17. Instituto Nicaragüense de la Pesca y Acuicultura; 18. Instituto Nicaragüense de Fomento Municipal; 19. Secretaría para el Desarrollo de la Costa Caribe de la Presidencia de la República; 20. Consejo Nicaragüense de Ciencia y Tecnología; 21. Consejo Nacional de Universidades. Asamblea Nacional. g120.pdf (asamblea.gob.ni)

El informe fue elaborado en coordinación con las Instituciones del Sistema Nacional de Producción Consumo y Comercio (SNPCC) y del Sistema Nacional de Gestión del Cambio Climático (SNGCC), con el apoyo técnico de la Organización de las Naciones Unidas para la Alimentación y la Agricultura (FAO) como entidad implementadora del Proyecto que es financiado por el Fondo Mundial para el Medio Ambiente (GEF).

14 El informe fue elaborado en coordinación con las Instituciones del Sistema Nacional de Producción Consumo y Comercio (SNPCC) y del Sistema Nacional de Gestión del Cambio Climático (SNGCC), con el apoyo técnico de la Organización de las Naciones Unidas para la Alimentación y la Agricultura (FAO) como entidad implementadora del Proyecto que es financiado por el Fondo Mundial para el Medio Ambiente (GEF).

15 Conversación con Viceministro de MARENA, el 22 de septiembre 2023.

3. Nicaragua is a Signatory to Climate Treaties

Nicaragua ratified the United Nations Convention on Climate Change (UNCCC) in 1995 and the Kyoto Protocol in 1999. These international instruments have mandates and commitments established for developed countries, the most relevant being the principle of Common but Differentiated Responsibilities, Clean Development Mechanisms, Technology Transfer and legally binding commitments on emission reductions for developed countries, all found in its Annex 1.[16]

Diplomatic efforts in international negotiations on Climate Change, based on facts and science related to this planetary scourge, have made our country reach an important consensus among developing countries. Nicaragua participates in different groups of negotiating countries in the UNFCCC, such as ALBA, SICA, CELAC, GRULAC, G77+China, and the LMDC.

Nicaragua in October 2017 signed the accession to the Paris Agreement, which was borne out of a consensus among the vast majority of countries that saw the commitments of 2015 as insufficient, and that more ambition was needed, a position that remains in force and was even the main theme of the COP25 in Madrid. The country also had an outstanding participation in the Standing Committee on Finance (SCF), which is a UNFCCC Committee specialized in climate finance. It was also participant to the Adaptation Fund and Global Environment Facility (GEF) and the Green Climate Fund (GCF), and has been a full member of the Latin American and Caribbean Group Association (GRULAC).

4. An overview of the Voluntary Carbon Market (VCM) in Nicaragua

Nicaragua included the carbon market in its Nationally Determined Contributions (NDC), so that the reforestation program has generated transactions in carbon credits equivalent to US$80 million in the voluntary market. On the other hand, Nicaragua participates in the International Carbon Market through the REDD+ initiative to implement a program for forest conservation and prevention of forest degradation, effective from 2019-2024.[17]

The private sector, through the National Association of Reforesters, states that the environmental benefits go beyond the 240,000 tons of CO_2 captured by private reforestation initiatives in Nicaragua. Since 2000, approximately 28,000 degraded hectares are now covered with some 280,000 trees planted by 15 companies that make up the Association.[18]

In 2010, Taking Root, a Canadian non-profit organization, entered Nicaragua to facilitate capacity building for carbon sequestration. Its operating partner in Nicaragua is the Association of Professionals for the Integral Development of Nicaragua (APRODEIN), which has recruited hundreds of peasants and Indigenous People in the Central and Northern part of the country, but not in the Autonomous Regions of the Caribbean of Nicaragua.

A note from Laprensa.com.ni indicates that in 2011 the companies Anaconda Carbon and Eco Resources were looking for hydroelectric plants that produce less than 15 megawatts to sell carbon credits to Mabanaft,[19] a German-Dutch oil company. After that, there is no further evidence that any progress has been made.

16 cambio_climatico_white_paper_27-6-2020_short_en.pdf (tortillaconsal.com)

17 GCF. Readiness proposal. lac019-unep-latin-america-carbon-markets (1)[1].pdf

18 INFOBAE. 2021. La reforestación, negocio que une al humano con la madre tierra en Nicaragua - Infobae

19 Mabanaft, based in Hamburg, Germany, is a leading independent and integrated energy company providing its customers with innovative energy solutions for their transportation, heating and industrial needs. In addition, the company is active in trading, petroleum products, natural gas liquids, chemicals, and biofuels. Mabanaft proactively engages in the energy transition and is committed to conducting its business in an economically, environmentally and socially responsible way. www.mabanaft.com

As of October 2022 after 12 years of operation the CommuniTree Carbon program carried out by Taking Roots and a Nicaraguan partner, APRODEIN, registered some 3,849 participating producers. This involves 13,791 hectares with compact silvopastoral and agroforestry systems, more than 17 million live trees of native varieties, and more than US$10 million invested in the communities involved.[20] This program has grown to become the largest reforestation initiative in the country and has been highlighted by the UN and the EU for its best practices in reforestation.[21] Registered as a certified Plan Vivo project in 2010, the CommuniTree Carbon Program uses reforestation to restore ecosystems, improve livelihoods, and reverse climate change.

Over the next five years, the CommuniTree Carbon program has the goal of adding 55,000 hectares in Nicaragua and generating US$80 million in carbon bond transactions in voluntary markets. Of this amount, US$60 million is delivered directly to the producers involved in the reforestation program, contributing to mitigate the effects of poverty and improving their living standards. Annex 2 describes the roles of Taking Root and APRODEIN in this carbon market relationship.

According to the Strategy and Business report, the carbon credits managed by Taking Root are sold to companies located in Switzerland, Germany, Sweden, Spain, the United States and Canada and not sold in Asian countries.[22] For the year 2022, the buyers Taking Root were:[23] Arbor Day Foundation, Bean Fair, C-Level, MyClimate, PrimaKlima, Tense Watch, World Congress of Agroforestry, and Zero Mission.

> **"Microsoft purchased carbon removals from the CommuniTree Carbon Program, managed by Taking Root, to help meet our commitment of being carbon negative by 2030, and we look forward to seeing how their innovation advances the nascent carbon market in the years to come."** Elizabeth Willmott. Carbon Program Director, Microsoft

Taking Root and APRODEIN's CommuniTree Carbon program covers communities of northern Nicaragua such as San José de Cusmapa, San Lucas, San Antonio de Padua, Santa Bárbara, Totogalpa, Telpaneca and Mozonte.[24] At one time APRODEIN worked with cooperatives; however, it stopped working with cooperatives and began working only with individual producers, due to the ease of negotiation and reduction of conflicts. Among the conflicts that have arisen are those generated by forest loss due to fires that later turn out not to be spontaneous fires but caused by poor care of the landowner. Problems of benefit distribution, too, have arisen in the case of cooperatives.

The species most used in this program are: mahogany (*Swietenia macrophylla*), ceiba or pochote (*Ceiba pentandra*), genízaro (*Samanea saman*), mandagual, the latter also known as aripin (*Caesalpinia velutina*), ochocuao and palo de Brasil (*Paubrasilia echinate*); and madero negro (*Gliricidia sepium*) and other species such as *Swietenia humilis*, *Bombacopsis quinata* and *Albizia saman*).[25] All of these species are native to the humid tropics and are commonly used in Nicaragua. Therefore, they are well known and managed by national producers and do not represent threats to biodiversity.

The risks that arise in these processes are flooding and forest fires. In the past, APRODEIN covered 100% of the loss in the event of forest fires, but now it covers 50% because there have been cases of bad practices on the part of producers.[26] It should be noted that the Strategy and Business report and the telephone interviews refer to producers without specifying whether they are Indigenous Peoples or not. But Mr. Genaro Martínez

20 Estrategia y Negocios. 2023. Crece exitoso programa de reforestación en Nicaragua (estrategiaynegocios.net)

21

22 Idem

23 Taking roots Nicaragua-Annual-Report-2022.pdf

24 Entrevistas vía telefónica con Genaro Martínez Quintero – Presidente de los Pueblos Indígenas de Telpaneca. 8 septiembre 2023.

25 Entrevista telefónica con Erick Martínez – ex técnico y Elsa (sin apellido), ambos de APRODEIN. 5 septiembre 2023.

26 Entrevista con Elsa (APRODEIN), 5 de septiembre 2023.

Quintero,[27] President of the Indigenous Peoples of Telpaneca, said in the telephone interview that Telpaneca's producers belong to the indigenous Chorotega ethnic group. No documentation was found about APRODEIN and Taking Root going through the due process of consultation for free, prior and informed consent, perhaps because of the modality they have of making individual arrangements once the CommuniTree Carbon program was announced. CommuniTree's impacts in 2022 continued to grow. Smallholder farmers planted more than six million trees and restored more than four thousand hectares of land, which is expected to sequester more than one million tons of carbon over the next few years.

For smallholders to enter into long-term carbon contracts and to avoid land tenure disputes, program participants must demonstrate their land tenure rights in one of three ways:

1. Have a legal deed to their land.
2. Have a legal deed to the land in their parent's name with a legal contract that demonstrates their right to a specific fraction of the property.
3. If the first two options are not available, an official letter from the local government must be obtained stating that they are the true owners of the land.

The sale of land titles in the region is quite low. Land ownership generally passes from parents to children. However, in the event that a property is sold while the agreement with Plan Vivo is in effect, the contract will pass to the new owners. While these criteria or conditions are necessary for securing relationships with individual private producers, they are not appropriate or practical for use with Indigenous Peoples as they have a collective land ownership scheme.

Taking Root's program is governed by the Plan Vivo Standard or principles, which considers:

1. Projects directly involve and benefit small farmers and community groups;
2. Projects generate benefits derived from environmental services and conserve or enhance biodiversity; 3;
3. Projects are managed in a transparent and accountable manner, with the participation of relevant stakeholders and in accordance with the law;
4. Projects demonstrate community involvement: communities are meaningfully engaged through the design and implementation of living plans (land management plans) that address local needs and priorities;
5. Projects generate real and additional benefits derived from environmental services, which are demonstrated through reliable quantification and monitoring;
6. Projects effectively manage risks throughout their design and implementation;
7. Projects demonstrate positive livelihood and socio-economic impacts;
8. Projects distribute benefits equitably and transact environmental services through well-defined PES agreements that include results-based incentives.

27 Entrevista telefónica con Genaro Martinez el 1 de septiembre 2023.

A thesis study by Amador Benavidez[28] about the mechanisms, norms and procedures, as well as access to compensation for the cooperatives indicates that in both Costa Rica and Nicaragua, the protocols signed have mostly technical-agronomic contents, where the social and economic environments of the rural cooperatives are not taken into account, nor are variables such as income, family nutrition, and food security.

Rabobank Group is a Dutch multinational financial services company that has a carbon bank program in Nicaragua, the Rabo Carbon Bank Program managed by the Rabobank Foundation. It is trying to obtain certification of its carbon credits, as they are not yet certified. For now they are working with leading certification bodies to verify the methodology and validate the carbon stock levels measured in soils.

Another standard found during the literature review is highly related to the REDD Plus scheme, and it is known as the REDD+ Environmental Standard of Excellence (ART -TREES).[29] The ART-TREES establishes ART requirements for quantification, monitoring and reporting of GHG emissions and removals; demonstration of the implementation of the Cancun Safeguards; and verification, registration, and issuance of TREES Credits.

5. Indigenous Peoples and the carbon market: Community experiences

One of the projects of APRODEIN and Taking Root is sited in the northwestern municipality of San Juan de Limay, Department of Esteli, which is home to an Indigenous People known as the Chorotega. The workforce in San Juan de Limay is 58 percent indigenous small farmers whose livelihoods are based on agriculture and small livestock. Both agriculture and cattle ranching are activities whose productivity is very low, because the area is located in the Central American Dry Corridor where there are prolonged periods of drought. This disadvantage is coupled with lack of financing, technical assistance, marketing, and organization.

In reality, these activities are carried out without taking into account the potential and capacity for soil use, thus contributing to food insecurity and excessive deforestation. Firewood, which is used by 99.2 percent of the municipal population, is also an important factor contributing to forest degradation. Reforestation becomes a highly critical factor because the area is in the watershed that supports the Estero Real Natural Reserve, one of the largest mangrove swamps and bird migration areas in the region recognized by the Ramsar Convention on Wetlands of International Importance. As of 2016, Taking Root has partnered with 65 different communities comprising 409 small family farmers and covering an area of 7,400 hectares. By the end of the 2016 planting season, the project had placed a total of 2.2 million trees.

Another case is that of the organization Solidaridad-Nicaragua and Acorn,[30] a Plan Vivo-certified project that has helped more than 1,700 smallholder coffee farmers in the districts of Jinotega and Matagalpa overcome low productivity and crop loss due to climate change. This was done by transitioning 2,500 hectares of cultivated land to agroforestry. The Solidaridad-led project was established in 2017 and the first trees were planted in 2018 on 160 hectares of land. The project area has now grown to over 2,500 hectares. Solidaridad-Nicaragua subsequently partnered with Acorn and began in 2020 to provide carbon finance as an incentive for the first 1,700 farmers to maintain and improve their agroforestry systems.

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28 Amador Benavides, M.H.2017.Negociación de servicios ambientales de pequeños agricultores de Nicaragua, Guatemala y Brasil en el mercado voluntario de carbono. Tesis sometida a consideración del tribunal examinador de la maestría en desarrollo rural, para optar por el grado de magister scientiae. Universidad Nacional. Sistema de estudios de posgrado. Facultad de Ciencias de la Tierra y el Mar. Escuela de Ciencias Agrarias. Tesis MDR - Manuel Amador Benavides.pdf (una.ac.cr)

29 Architecture for REDD+ Transactions (ART) is to promote the environmental and social integrity and ambition of greenhouse gas (GHG) emission reductions and removals (ERRs) from the forest and land use sector to catalyze new, large-scale finance for REDD+ and to recognize forest countries that deliver high-quality REDD+ emission reductions and removals. The REDD+ Environmental Excellence Standard (TREES) sets out ART requirements for the quantification, monitoring, and reporting of GHG emissions and removals; demonstration of implementation of the Cancún Safeguards; and verification, registration, and issuance of TREES credits. TREES - ART Architecture for REDD+ Transactions (artredd.org)

30 FarmStrong Acorn Design Document (ctfassets.net)

Solidaridad's agroforestry project was established with the intention of connecting farmers to the carbon market; however, a combination of lack of knowledge, high project development cost, and low carbon prices meant that this did not happen until contact with Acorn. The carbon credits farmers receive for trees planted in the project are ex-post, and will only be derived one year prior to the issuance of the CRU, or carbon removel unit.

A third case is represented by the Norwegian company, Norteak A.S.,[31] which started a teak plantation project in Nicaragua in 2008 with private funds,] in an area not inhabited by Indigenous Peoples, using FSC (International Forest Stewardship Council) standards and working with private producers to meet the goals of the United Nations Global Compact program. According to the information gathered, this initiative only belongs to a strong private sector group.

Its goal is to establish 3,000 hectares of industrial teak (*Tectona grandis*) plantations and other forest species, optimizing usable volume, quality, and added value. About 100 years ago, this area was primary forest where producers traditionally used the slash-and-burn system for extensive cattle ranching and small-scale subsistence agriculture. Then came the "agricultural frontier" that turned everything into pastures with almost no trees. It was not until the 1990s that silvopastoral systems were introduced. Norteak began in 2008 with the acquisition of properties that had areas mostly of pasture but also with other ecosystems such as gallery forests, secondary forests, and scrub on steep slopes with rocky soils. Today, however, these are mostly teak plantations.

There are other private investments, not related to forests and indigenous communities, such as Polaris Infrastructure Inc. (TSX: PIF) which announced that it entered into an agreement to sell two tranches of Certified Emission Reductions (CERs) from its San Jacinto, Nicaragua geothermal facility for total gross proceeds of approximately US$400,000. The sales are conditional upon Polaris Infrastructure receiving UNFCCC certification.

No evidence of consideration of safeguards on the rights of Indigenous Peoples, much less the use of due process of consultation to achieve free, prior and informed consent, was obtained in the information gathered. The entire description of the narratives refers to peasants, producers, but no mention of Indigenous Peoples.



31 Norteak-Nicaragua-Plan-d-eManejo-La-Embajada-2020.pdf

6. Indigenous Peoples' rights and the carbon market

The evidence collected for this essay does not demonstrate in Nicaragua a clear and specific relationship on the promotion and respect for the rights of Indigenous Peoples. It is clear that at least Taking Root explicitly seeks to work with producers that demonstrate right of possession, use, control, and access to land to develop reforestation projects. Since these initiatives are only implemented on degraded and deforested land, traditional subsistence activities such as agriculture, grazing, hunting and gathering are not affected in the communities. Rather, the evidence collected indicates that the producers have access to cash and are able to have a permanent income. According to interviews with an APRODEIN technician, a former APRODEIN technician, and the President of the indigenous communities of Telpaneca, producers and participants in the Taking Root program are not fully informed about the whole process of carbon sequestration, payment for environmental services, buyers, prices and others. What the trial reveals is that Indigenous Peoples who have access to land under collective ownership or organized in cooperatives cannot access these carbon sequestration programs, at least with the Taking Root model.

Challenges and Opportunities

- If Tebtebba or ELATIA group seeks to design a carbon credit, it means embarking on a long-term, complex, and high-cost undertaking. In addition, it will have to fight the UNFCCC bureaucracy to ensure that the standard of its carbon credit proposal is recognized as transparent, high quality, and internationally validated.
- To get there, it must establish a proposed process for assessing program eligibility, how it will label eligible carbon credits, and how it will continue to monitor and enforce carbon credits as a means of making it sustainable.
- This should be consistent with the decisions of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC), including the Paris Agreement, the Warsaw Framework for REDD+ and the Cancun Safeguards, which establish environmental, social and governance principles, in particular to ensure recognition, respect, protection and fulfillment of the rights of Indigenous Peoples.
- Tebtebba or ELATIA should study and analyze and learn from best practices, infrastructure, and existing efforts in the voluntary carbon market.
- Information on carbon markets is extensive and specialized; however, it is necessary to disseminate and educate indigenous authorities on these issues before corporations and their intermediaries intervene in the territories.
- If Tebtebba or ELATIA decide to embark on the task of creating an indigenous carbon sequestration standard, they will have to dedicate financial resources and time to train indigenous technical staff specialized in this topic.
- In the case of Nicaragua, the options are given by the quality or condition of the forests, but also depend on the interest of the buyers. For example, on the Caribbean Coast of Nicaragua there are huge extensions of mature broadleaf and pine forests whose trees are very old, and therefore their carbon sequestration capacity is not as well regarded as in the case of new forestry plantations.
- There are several protocols related to carbon sequestration. One of them is the CamBio2 protocol[32] referred to by Amador Benavidez, on which he demonstrated that rural cooperatives composed of small farmers are not necessarily interested in carbon storage; on the contrary, they suggest that

32 Amador Benavides, M.H.2017.

investments should be directed towards improving organic agricultural practices to strengthen production, disease resistance, yields, and quality as economic response to mitigation and adaptation.

- The analysis of the CamBio2 protocol has helped to conclude that the current processes for the elaboration of carbon credit recognition protocols for agriculture are slow, costly, and with a series of complex requirements which are far from our contexts (Brazil, Costa Rica and Nicaragua).
- The protocol or standard that is mostly used in Nicaragua is Plan Vivo, so it is proposed that research be continued about the experiences working with this standard, both in Nicaragua and in other countries, and we must continue exploring the various protocols to determine opportunities (both pros and cons) relevant to Indigenous Peoples.
- From our study we have found that in Nicaragua, the carbon sequestration model works for eroded, degraded, and deforested lands, and therefore it is necessary to examine how it will be done in primary forests that have been protected by Indigenous Peoples.

Conclusions and Recommendations

- The indigenous territorial authorities and government officials at the intermediate level, and officials of the Autonomous Regional Governments contacted during this study do not know anything about the subject; it is thus necessary to give relevant officials an introduction about the issue of Indigenous Peoples and carbon markets, and also make efforts to deliver trainings on the subject.
- It is necessary to provide Indigenous Peoples with good information about carbon markets, such as its principles, protocols, operational mechanisms, and the pros and cons.
- The standards of the voluntary market are strict and complicated; however, the delivery of much information in advance and the exchange of knowledge and experiences will facilitate the access of Indigenous Peoples to the sale of their carbon credits.
- We continue to depend on standards designed and promoted in the developed countries often with no knowledge about the reality of developing countries and the grassroots, since they do not take into account social and cultural aspects.
- The participation of universities and research centers is essential to accommodate other potential sectors, like organic agriculture, in the mitigation of climate change.
- Since carbon protocols represent formal commitments and there are a variety of stringencies that are impossible to change once entered into by the parties, the world's Indigenous Peoples should work together to define a global protocol to be reviewed and certified by the UNFCCC. This protocol could make reference to safeguards set out in ILO Convention 169 and the UN Declaration on the Rights of Indigenous Peoples and should also include metrics to determine the impact on quality of life, livelihoods, and social well-being in terms of household economy and food security.

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Annex 1. Nicaragua's legal framework related to lands, territories, forests, environment and climate change.

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Law No. 445, Law of the Communal Property Regime of the Indigenous Peoples and Ethnic Communities of the Autonomous Regions of the Atlantic Coast of Nicaragua and of the Bocay, Coco, Indio and Maíz Rivers. Law_445.pdf (poderjudicial.gob.ni)

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Annex 2. Roles of Taking Root and APRODEIN in the carbon market relations.

Organization	Key functions	Legal status	Description of activities
Taking root	Project coordination and administration.	Canadian organization federally incorporated, independent, not-for-profit organization with operations in Nicaragua and Canada	• Oversees the implementation and program development. • Negotiates and registers the sale with carbon buyers. • Manages the Plan Vivo fund including annual payments to APRODEIN, based on annual internal monitoring. • Processes and records Plan Vivos agreements, producer sales agreements and other producer information. • Compiles reports and documentation. • Coordinates external reviews. • Reports to Plan Vivo Foundation. • Evaluates security of land tenure rights. Land tenure rights. • Receives reports from APRODEIN. • Interface with local governments and APRODEIN. • Administer annual payments to producers.
APRODEIN	Project coordination	Nicaraguan, independent, non-profit association.	• Organize meetings with participants to discuss issues associated with the program. • Advise Taking Root on how to address problems that arise. • Improve the capacity of the local organization. • Conduct technical workshops with participating producers. • Participating producers.
Taking root´s	Technical operations of the project.	As indicated above.	• Assist in all technical aspects of program development. • Provide technical support and training to producers in community training workshops. • Assists in the identification of relevant professionals and resources when needed. • Collects data when required. • Performs oversight of internal analysis.
APRODEIN	Community involvement and participation.	As indicated above.	Meeting with producers in target communities and groups to discuss issues associated with the program and its operations.



PARAGUAY

Opportunities for Voluntary Carbon Markets for Indigenous Lands: Prospects of these markets for Indigenous Peoples

Jose L. Cartes / Guyra Paraguay

IMAGE FROM PIXABAY.COM

Introduction

Paraguay is a landlocked country located in the south-central part of South America, forming part of the countries of the Río de La Plata. It is a country divided into two regions, an Eastern Region and a Western Region or Chaco, separated by the river of the same name (MAE 2023). The country's population is concentrated in the Eastern Region, and denser in the Central Department where the capital Asunción is located. With six million inhabitants, it is one of the least populated countries in the Americas where the majority is under 30 years of age (INE 2023).

Paraguay has many natural resources, especially water and fertile soils, which are used in primary production and hydroelectric power production that form the greater basis of its economy. Historically its landscape was covered with forests, when the Atlantic Forest and Chaco Forest covered much of its eastern and western parts, respectively (MAE 2023). However, this original vegetation suffered an accelerated rate of deforestation with the change in land use from forest to livestock farming, then to mechanized agriculture for the cultivation of commodity exports. Between the years 1970-2015 in the eastern region of the country, more than 80,000 square kilometers of Atlantic Forest were lost and converted into farms. Meanwhile the Chaco region in the west of the country continues to suffer land alteration at a rate of around 200,000 hectares per year (Da Ponte et al. 2022). This policy of expanding agriculture through forest clearing is supported by the "National Development Plan Paraguay 2030."[1]

The current environmental situation at both country and international levels is alarming due to the massive loss of biodiversity and natural resources, and these are closely related to global climatic changes producing unusual weather events. Due to these problems, there are concerned countries that formed Conventions to address the issue and establish voluntary commitments in the search for possible solutions to the problems.

One of the conventions in which Paraguay is a signatory is the United Nations Framework Convention on Climate Change (UNFCCC), which was born in the Rio 92 Summit. This Convention established several mechanisms in order to lessen the effects of global climate change, and some of these mechanisms will be discussed in this document. The Annex on the general aspects of carbon markets will give the reader a better understanding of the technicalities about climate change and carbon markets. Basically, this issue is all about the need for reduction of greenhouse gases that affect climate, and among these are the carbon-based gases that are significantly emitted especially from man-made sources. Hence, the label "carbon" being used in discussing and working on the issues pertaining to the control of greenhouse gases.

Discussions about the mechanisms of the UNFCCC arise because of the need for coordinated action among all countries in the face of a climate emergency. A challenge to this is the fact that there is a large imbalance in the commitments and responsibilities of each member state. In other words, there are countries that have historically emitted much more carbon into the atmosphere than others. This holds true with countries that have reached a high level of development because of intensive use of energy from fossil fuel. Thus, the heated debates in the UNFCCC are mainly about demanding the reduction of fossil energy consumption of states that feel the need to continue its intensive use.

Each member state of the UNFCCC has particular situations about carbon emissions. Paraguay is the country with the highest level of hydroelectric energy production in the world per capita. Despite its energy production having significant social and environmental impacts, coupled with the carbon emissions from its reservoirs, machinery, and operations, its production is still considered to come from clean energy source. However, the main source of domestic energy continues to be biomass (firewood and coal), and in urban areas, petrol for vehicles and propane gas imported from neighbouring countries to fuel homes.

Paraguay is a signatory to the UNFCCC and other conventions related to the environment, such as the Biodiversity Convention, the Convention to Combat Desertification, the RAMSAR Wetlands Convention, and other regional commitments within the framework of MERCOSUR, and also in bilateral relations with

1 CEPAL in: https://observatorioplanificacion.cepal.org/es/planes/plan-nacional-de-desarrollo-paraguay2030

neighbouring countries. However, measures in addressing the problems related to environmental pollution, deforestation, waste management, and management of protected areas are still very poor (Peña 2019; Cartes and Yanosky 2022).

There are not many industries that produce large gas emissions in Paraguay, but the major economic activity related to the issue is land use change[2] and the extensive corporate and mechanized agriculture at the expense of forested areas (USAID 2018; MADES/UNDP/FMAM 2023). Agriculture in this case includes large-scale crop and livestock production carried out by large private sector capitals.

Land ownership in Paraguay is almost entirely private. There is no longer any public land available as 95 percent of the country is privately owned, and the state historically had little control over the management of these private lands. At the same time, it also promoted agrarian reform policies based on the colonization of lands considered unproductive, such as forests. Beginning in the 1980s, agricultural production began to be technologically advanced. It necessitated clearing of forested lands as first stage in the opening up of pastures in the Eastern Region, and bringing in domesticates of African origin. These pastures were subsequently converted into grain production fields, mainly of soybean.

For this reason, LULUCF and the agricultural sectors are the main carbon emitters at the country level according to the latest national reports submitted to the UNFCCC (MADES/UNDP/GEF 2023). This is a topic of great controversy at the national level, mainly due to arguments because some agricultural practices may promote soil carbon sequestration. This idea is promoted mainly by political forces associated with the production sector, a very Paraguayan tradition with its roots in colonial times when large cattle ranchers ruled the country (Telesca 2009). It is also sponsored by a technical sector skeptical about the human causes of climate change, and some of them even promote the belief that such changes are not true. This technical sector is closely allied with the agribusiness industry. In this way, the industry people can justify and give a scientific facade to their idea that such agricultural practices promote carbon sequestration. But they usually do not include relevant data, do not mention the baseline or the overall balance, or even the emissions of certain types of crops, and which is why their calculations are not reliable and do not reflect reality (Manzoni 2023).

The agribusiness sector generally bases its actions on lobbying the government to consider only activities that contribute and sequester carbon, either in forestry (forest plantations with exotic species) or in soil carbon sequestration (throughout agricultural practices), without considering the baseline, leakage, and the overall balance. It is necessary that this type of calculation be based on analysis of all the factors that positively and negatively affect the carbon cycle. As an example, the agribusiness sector in its analysis excludes rice crops, exerts strong pressure to eliminate the calculation of methane, but includes as “capture” areas the pasturelands covering large areas that were deforested (Manzoni 2023).

Together with the most unprotected rural sectors are the smallholder farming communities (known also as *Campesinos*) and the Indigenous Peoples. The latter are in the section of extreme poverty and the neediest, and they are victims of segregation and social discrimination. Paraguay currently has 19 Indigenous Peoples throughout the country. The Indigenous Peoples are an absolute minority, and the Paraguayan government still has several lawsuits pending before the IACHR[3] for failing to adequately resolve land claims on their ancestral territories in a timely and appropriate manner. Most of the indigenous population live in a vulnerable situation in the face of powerful socioeconomic pressures: on one side there is steady encroachment of livestock and agricultural activities on their ancestral lands, and on the other side, they are drawn into illicit activities such as the trade in illegal crops, dangerous drugs, and human trafficking.

In this report I would like to focus on the experiences we have at the level of indigenous peoples regarding the sale of environmental services. Within our country there are two main PES possibilities, among which I can mention: (1) “Environmental Certificates” according to Law 3001/06 at the national level and; (2) “Carbon certificates” or VCU’s in the international voluntary market, where there is a REDD+ project in force for more than 12 years. In the following items I will detail these points.

2 Recognized as LULUCF land use, land use change and forestry.

3 nter-American Court of Human Rights

Carbon Markets in Paraguay

In Paraguay there are two laws that create two different opportunities for payments for environmental services, one based on certain ecosystem services and the other based on carbon. These laws are:

- **Law 3001 of 2006**: *Establishing the regime of payments for environmental services*. This law states that six specific types or areas related to ecosystem services could be certified in their equivalent per surface area (in hectares), and that these certificates could be traded in the market to rectify environmental liabilities related to Forestry Law 422/73.
- **Law 7190 of 2023:** *On carbon credits*. This law was approved in a rather rapid process, without the proper and adequate consultation with social actors, much less with indigenous peoples. Its objective is to "establish the regime of ownership of credits derived from the benefits of reduced, avoided and/or captured carbon."

Hereinafter I will refer to Law 3001 as the Environmental Services Law, and to Law 7190 as the Carbon Certificates Law, since both have substantial differences and implications.

Environmental Services

Law 3001/06 on Environmental Services then established a regime of Payments for Environmental Services or PES, where six areas or windows were enabled through which the certification of such services can be managed. These windows are: (1) forests; (2) biodiversity; (3) water; (4) soil; (5) scenic beauty; and (6) grasslands. The basic assumption of this law is that the owners of areas in either of these six categories of environmental services can certify and thus sell their certificates in a local transaction market. For example, the most tangible example is that of forests, where a landowner with a forest surplus can receive an incentive for the conservation of that surplus in its equivalent per hectare. In this sense, a condition of additionality to the certification is included, where only the surpluses to the obligatory reserves of forests and protective forests (established in the Forestry Law 422/73) can be subject to certification.

However, Law 3001/06 did not establish a fund for the payment of these certificates, nor a centralized administrative structure to take charge of them. It only entrusted its regulation to the Ministry of the Environment (MADES) as enforcement authority. This ministry established a Directorate of Environmental Services as the reference unit and through the numerous resolutions it has been regulating, with many difficulties, requirements, and protocols for certifying some modalities such as in Forests and Scenic Beauty. It also created a national registry of environmental certificates and established the reference prices of the certificates according to the ecoregion to which it belongs using the opportunity cost method.

The procedures established for certification under "Forests" include submission of:

- Legalized copy of the property title (lease contract or INDERT[4] certificate)
- Copy of the title duly registered and free of restrictions endorsed by a domain report from the General Directorate of the Public Registry of Property
- Technical justification from an INFONA[5] accredited technician (for existence of forests)
- Environmental Impact Statement (EIS) document
- Written commitment to finance inspection costs.

4 The National Institute for the Development of the Land

5 The National Institute for Forests

- Maps
- Fire prevention and firefighting plan
- Biological Monitoring Plan
- Copy of the National Forest Registry (from INFONA)
- Affidavit affirming that the project does not affect indigenous communities. If so, a FPIC[6] is required.

For certification under Scenic Beauty, the area to be certified must be a protected area officially registered within the National System of Protected Wildlife Areas or SINASIP (Spanish acronym), and its requirements are as follows:

- To have a law or decree of creation
- Copy of the title duly registered and free of restrictions endorsed by a domain report from the General Directorate of the Public Registry of Property
- Technical justification
- Registration of the reserve in the National Registry of Protected Wildlife Areas SINASIP
- An approved and valid management plan must be in place, which must have the following requirements:
    - » Map of the area to be certified within the framework of Resolution SEAM N° 1367/14.
    - » The area destined for environmental services must be strictly included within the management program, including fire prevention and control, biological control and monitoring.
    - » The planned actions to be carried out in the area destined for environmental services must be included in the Annual Operative Plan.
    - » In the case of including ecosystem recovery, the Management Plan must describe the mechanism foreseen for the improvement of the degraded environment.
    - » an affidavit affirming that the project will not affect indigenous communities or, if applicable, that it has the consent of the indigenous community involved. In the latter case, the community must prove that the main beneficiary will be the indigenous community.

The procedure is bureaucratic, costly, and complicated. It is not easy to access and it is difficult to know all the existing resolutions that regulate the activity. There is no simple, clear, and accessible complaint mechanism to everyone. The management is promoted through third parties that charge commissions, among other problems. However, several landowners proceed to certify their forest surpluses, and these include private landowners, non-governmental organizations, and private commercial enterprises.

Some indigenous lands have also been certified more recently, mainly through cooperative projects such as the GEF Promesa Chaco Project and the Forests for Sustainable Development Project, both administered by the Ministerio del Ambiente y Desarrollo Sostenible (MADES), whose activities are detailed here.

Although they can be bought and sold, the environmental services certificates are granted by the MADES as worthless securities because the Paraguayan government does not allow using these to justify payment of taxes. For this reason, they do not qualify to be offered through the stock exchange. The purchase and sale transactions are carried out in a very complex and disorderly manner, mainly through the institutions in charge of large public infrastructure works. But officially there could be several sources of financing such as:

- **Large-scale infrastructure works:** Works considered "large-scale", both public and private, are required to purchase environmental certificates equivalent to 1% of the total value of the work to

6 Free, Prior and Informed Consultation - FPIC

obtain an environmental license. These include works of the MOPC,[7] ANDE,[8] hydroelectric plants, other companies and government agencies, and private companies. The modality of purchase is varied, and some are made through calls for tenders through the Public Procurement Portal which are called to bid at the lowest price certificates. Private companies, however, make direct purchases of certificates.

- **Court convictions for environmental crime:** In rare cases the convictions are enforced with the obligation to purchase a certain number of environmental certificates at the reference price.
- **MADES fees and fines:** There is no information about these. But under the same logic as above, it is applied to administrative offenses to the environmental provisions of the Ministry.
- **Environmental Funds:** No such thing exists at present.
- **Donations to the established fund:** This requires the prior creation of the fund itself and of a centralized institutional framework, but to date no such thing exists.

A critical analysis of the overall system of payment for environmental services with these certificates shows that:

- The incentive can be ineffective, due to the systems of downward purchase not at the reference price, and the very large obligation to have a contingency plan for firefighting and biological monitoring work, which can be very costly to the certificate owner. In the case of indigenous lands, these requirements far exceed the capacity of these communities to be able to count on outsourced services in these two areas.
- Previously, certificates had to be purchased according to the Ecoregion where compensation was needed for damages incurred, or at least compensation according to a scale of equivalence of certificates between ecoregions. However, this was changed by resolution and now it is possible to purchase certificates for the Chaco dunes area in the northwest through work in Alto Paraná in the east. This does not guarantee adequate compensation.
- The MADES policy is excessively protectionist, which is why they can deduct areas from certificates due to fires, and the "edge effect"[9] in that the certificates refer to "forest" and not biodiversity. There are ecosystems that require fire, grazing or intensive management systems to be adequately conserved, such as the Humid Chaco, the Grasslands and the Cerrado. This is not taken into consideration in this regime, and if there are fires, these certificates are discounted. In the case of pastures, for example, the certified areas are required to be of absolute protection and exclusion, since the conservation of pastures depends on management (grazing and burning), which is not allowed. In this sense, this protectionist policy undermines the provision of ecosystem services for this type of ecosystems.
- The sale is extremely complex, bureaucratic and time consuming. Some certificate owners were never able to sell their certificates, and withdrew participation in the scheme.
- There are also deviations from the purposes for which these certificates were established, which correspond to immoral schemes that are used for land clearing. This is possible through confusing legal regulations that contradict other established laws. For example, the Resolution 207/01 had modified an important article of the original Resolution 182/20, which now states "*By which the plans and modalities of re-composition and compensation that will form part of the Environmental Management Plan (EMP) for the processes of Environmental Impact Assessment within the framework of Law 294/1993 'On Environmental Impact Assessment' are established*". This modification allows a landowner to deforest 100 percent of his property and then purchase certificates on a onetime basis

7 Ministry of Public Works and Communications

8 National Electricity Administration

9 The edge effect is a biological phenomenon that occurs at the physical boundary between two different ecosystems, which can be a forest and a pasture, or a forest and the edge of a road, and this causes species of lesser value to predominate in this edge habitat due to the mutual influence of factors that induce one and the other ecosystem.

and in installments. It should be clarified that this resolution clashes with and contradicts other laws such as Law 6676/21 (*Prohibiting the transformation and conversion of areas with forest cover in the eastern region*). Even so, it is used in a rather discreet and hidden manner, as it does not appear in the MADES Environmental Information System. It is therefore a form of state corruption, where an inferior legal body such as a resolution is used to modify a law.

- The environmental certificates established in the regime do not consider the carbon stock as an environmental service. For instance, it only recognizes that the nature of the area is "Forest," but does not obligate the need to account for carbon. They are not related to the carbon issues in the Emissions Reduction Payment Agreement (ERPA) either, or other similar mechanisms.
- The calculation of the value of environmental services is only an estimate of their opportunity cost, multiplied by a risk factor that decreases their value to avoid an incentive to non-production. They are not valued for their services per se and there are substantial differences when compared to basic estimates of the real value of these ecosystem services. In the GEF Paraguay Biodiversity project, for example, it was calculated that the value of the environmental services of one hectare of the BAAPA is equivalent to between 647.50 USD to 1,424.20 USD (Bonilla and Aguilar 2015), while its reference price for environmental certificates is 453.61 USD.
- The application of the basic concept, that of compensating for damage caused by acquiring certificates, sometimes lacks support. For example, if a project such as a highway causes potential environmental impacts in forested areas, it should acquire forest certificates, and if it is in grassland areas, it should have grassland certificates. However, any certificate can be used such as, for example, the scenic beauty certificate, which has a totally different valuation logic and lacks additionality, since it corresponds to already protected areas. How is it intended to compensate for damage to natural areas with certificates for areas already conserved, which are not at risk of disappearing?

In relation to the experiences of **Indigenous Peoples**, I conducted a series of interviews with technical referents who were working in indigenous communities that have been involved with Law 3001/06. The purpose of the survey was to analyze the experiences in the certification process and subsequent sale of these certificates in indigenous communities. The results of the survey are summarized in the following table:

Table 1. Experiences with the sale of environmental certificates (Law 3001/06) in indigenous communities

Location - People	How was certification achieved?	Could the certificates have been sold?	How did the administration of funds received turn out?	Factors influencing good or bad management
Puerto Esperanza - Ishir	It was a private initiative, a neighbouring landowner paid for the certification process.	Yes, it was the first community to sell.	Negative. No accountability to the community, funds did not reach the community. Bad experience.	The lack of a community council and the lack of an agreed-upon regulation for the use of the money has meant that the funds have not reached the community, considering that the environmental certificates have expired and that the community has not taken the necessary steps to update them.

Ignapui – Ayoreo	Thanks to the support of the Promesa Chaco project	No. They are not able to obtain legal invoice	-	Through the PIMA-MAG project, the community has a legal invoice but has fines generated by noncompliance with the tax office. This is because they do not have a qualified accountant to make these arrangements. This issue must be understood by the leaders and members of the community in order to meet the requirements of Law 3001 and its resolutions.
Santo Domingo – Angaite	Thanks to support from the Forests for Sustainable Growth Project (BCS)	Yes. In three opportunities.	There is a history of negative experiences. Representative leaders have not been accountable to community members, funds did not reach the community. Community members must be forced to complain through road closures. As a result of these conflicts, a change of leadership was made in the leadership resolution issued by INDI.[10]	The lack of a Council or community decision making with effective participation of community members on agreements for the use and good management of the funds. The lack of a common vision and an agreed-upon regulation for the use of the money has meant that the funds do not reach the community.
Karcha Balhut – Ishir	Thanks to the support of the Promesa Chaco project	Not yet. Apparently, the community is advised by an independent consultant who has promoted the necessary steps for compliance with the tax office.	-	The accounting requirements to have a legal invoice imply a monthly cost and several administrative procedures before the tax office.

10 National Institute for Indigenous People (INDI). The Paraguayan Institute of Indigenous People (INDI) is an autonomous entity with legal status and its own assets whose relations with the Executive Branch must be maintained through the Ministry of Education and Culture but with autonomy to establish direct links with other Powers of the State or dependencies of the National Government.

Ñu Guasu – Ñandeva	Thanks to support from the Forests for Sustainable Growth Project (BCS)	Yes.	No information available.	There is not much information, but there is a history of change of leadership and dismemberment of the community that apparently, according to some members of the indigenous community, is the result of disagreements in accordance with the transactions carried out.
Jesudi – Ayoreo	Thanks to support from the Forests for Sustainable Growth Project (BCS)	No. They are not able to obtain legal invoice	-	Through the PIMA-MAG project, the community has a legal invoice but has fines generated by noncompliance with the tax office. This is because they do not have a qualified accountant to make these arrangements. This issue must be understood by the leaders and members of the community in order to meet the requirements of Law 3001 and its resolutions.
Pykasu – Ñandeva	Thanks to the support of the Promesa Chaco project	Yes. Perhaps the most positive experience.	The community, through community leaders and members, make decisions on the investment of the funds received through transactions. They are permanently supported by an accountant who oversees the assisting of the administrative process as well as technical support for monitoring compliance and updating of the documentation of the certificates.	They have an internal Forestry Committee (Comité de Bosques), with the effective participation of men and women to make decisions on the management of the resources received in the transaction processes that are registered.

Sirakua Centro – Ñandeva	Thanks to the support of the Promesa Chaco project Resolution 324/21 (08/25/2021)	Yes	The community, through community leaders and members, make decisions on the investment of the funds received through transactions. They are permanently supported by an accountant who oversees assisting the administrative process as well as technical support for monitoring compliance and updating of the documentation of the certificates.	The community meets on a monthly basis to discuss issues related to the transaction processes that may occur.
Patrimonio Natural y Cultural Ayoreo Totobiegosode PNCAT Chaidi y Aocojnadi (BLOQUE I) – Ayoreo	Thanks to the support of the Promesa Chaco project Resolution 308/22 (05/10/2022)	No information available	No information available	According to comments from leaders and members of the community, there is a legal invoice. They have a team of external advisors who accompany them in this process.
Patrimonio Natural y Cultural Ayoreo Totobiegosode PNCAT Chaidi y Aocojnadi (BLOQUE II) - Ayoreo	Thanks to the support of the Promesa Chaco project Resolution 309/22 (05/10/2022)	No information available	No information available	According to comments from leaders and members of the community, there is a legal invoice. They have a team of external advisors who accompany them in this process.
Patrimonio Natural y Cultural	Thanks to the support of the	No information available	No information available	According to comments from leaders and members of the community, there is
Ayoreo Totobiegosode PNCAT Chaidi y Aocojnadi (BLOQUE III) – Ayoreo	Promesa Chaco project Resolution 310/22 (05/10/2022)			a legal invoice. They have a team of external advisors who accompany them in this process.
San Agustín Guaraní I	Thanks to the support of the Promesa Chaco project Resolution 828/22 (11/15/2022)	No	-	WWF-Py is currently supporting the community through a project for the necessary steps to comply with the tax office and to open a bank account in order to participate in public bids.

San Agustín - Guaraní II	Thanks to the support of the Promesa Chaco project Resolution 829/22 (11/15/2022)	No	-	WWF-Py is currently supporting the community through a project for the necessary steps to comply with the tax office and to open a bank account in order to participate in public bids.
San Agustín Nivaclé	Thanks to the support of the Promesa Chaco project Resolution 833/22 (11/16/2022)	No	-	WWF-Py is currently supporting the community through a project for the necessary steps to comply with the tax office and to open a bank account in order to participate in public bids.
San Agustín Manjui	Thanks to the support of the Promesa Chaco project Resolution 834/22 (11/16/2022)	No	-	WWF-Py is currently supporting the community through a project for the necessary steps to comply with the tax office and to open a bank account in order to participate in public bids.
Anaconda - Sanapaná	Thanks to the support of the Promesa Chaco project Resolution 856/22 (11/24/2022)	Yes	No information available	The community has apparently assigned all its rights to the certificates to an independent consultant.
Casanillo – Lengua Maskoy	Thanks to the support of the Promesa Chaco project Resolution 857/22 (11/24/2022)	No	-	No information available
Fischat - Nivaclé	Thanks to the support of the Promesa Chaco project Resolution 858/22 (11/24/2022)	No	-	WWF-Py is currently supporting the community through a project for the necessary steps to comply with the tax office and to open a bank account in order to participate in public bids.
Campos y Ampú - Nivaclé	Thanks to the support of the Promesa Chaco project Resolution 859/22 (11/24/2022)	No	-	WWF-Py is currently supporting the community through a project for the necessary steps to comply with the tax office and to open a bank account in order to participate in public bids.

Novoctás - Nivaclé	Thanks to the support of the Promesa Chaco project Resolution 862/22 (11/28/2022)	No	-	WWF-Py is currently supporting the community through a project for the necessary steps to comply with the tax office and to open a bank account in order to participate in public bids.
El Estribo – Enxet Sur	Thanks to the support of the Promesa Chaco project Resolution 863/22 (11/28/2022)	Yes	Community members commented that they have successful experience. But it is highlighted that women demand participation in decision-making in transaction processes.	"El Estribo" has the authorization of the tax office, which was managed through agreements they have with the ASCIM,[11] with those who have productive jobs.

In the project, 20 communities have gotten their certificates in various ways. Seven managed to sell their certificates: two reported that the experience was very positive; two of them mentioned having positive experiences, but there are complaints or indications of increasing internal conflicts; two have related negative experiences, where abuse of power by their leaders resulted in the wasting of profits; while some did not disclose any information about fund management, and one did not mention any information on the over-all management of the project

The most positive experience of all the communities in relation to the sale of certificates are from both the Pykasu Community and Sirakua Centro of the Ñandeva people. These community are different from the others by having a very participatory and broad decision-making system. It also has the support of organizations such as World Wildlife Fund (WWF) Paraguay, Alter Vida, and the Asociacion de Servicios de Cooperacion Indigena-Menonita (ASCIM).

In the two of the communities of Ñu Guasu (Ñandeva) and in El Estribo (Enxet) who managed to sell their certificates, they saw their experiences as positive but with certain reservations because of growing internal conflicts. In the case of Ñu Guasu, a dispute between the leaders resulted in the creation of a new community that separated from the original one. In the case of El Estribo there are persistent complaints from women demanding greater participation in decision-making.

Very negative experiences were reported in two communities, where all the benefits acquired from the sale of certificates were monopolized and poorly spent by their leaders. These communities, Puerto Esperanza (Ishir) and Santo Domingo (Angaite), presenedt constant complaints and denunciations against their leaders regarding this issue. In the case of Santo Domingo, they even staged public protests and road closures. Both communities lack broad participatory scheme in decision-making. Both communities also suffered from a long history of political malpractice and corruption that I mentioned earlier.

Finally, I want to mention the striking case of the Anaconda community. According to information gathered, they transferred their rights to a consultant, a private third party. We do not know if their experience regarding this was positive or negative, as it exposes them to great risk. This is a relevant issue, since there are already previous experiences with unscrupulous people doing business of this type, and have placed the indigenous peoples at a great disadvantage.

11 The Association for the Cooperation between Indigenous People and Mennonites.

Another important aspect emerging from this analysis are the requirements that communities have to comply with as demanded by the tax office. This was the problem seen in 13 communities, where they still do not have their official registration in the single taxpayer registry, making it impossible for them to have a legal invoice. Furthermore, to maintain their participation and operations, it is necessary to hire a specialized accountant to keep track of accounting books and manage them in a timely manner to avoid sanctions and fines. This come with a cost that many communities are not willing to shoulder; still others fail to understand the need of such services.

Yet another important problem are documents required by the administrative system but which are impossible to produce. For example, MADES requires an insurance policy on the area to be certified. No pre-need company issues this type of insurance to indigenous lands since the territories have a constitutional guarantee ratified through international agreements, and therefore these documents are not necessary. However, the Ministry does not recognize its failure and does not rule in favor of indigenous rights.

Law 7190/23 "On carbon credits"

The main objective of this Law is to establish a framework for the registration and sale of Carbon Certificates, whether in mitigation projects through the capture, storage, or avoidance of carbon emissions. Also among its objectives are: "*to determine the ownership of the Carbon Credits generated by projects developed in the Republic of Paraguay, as well as to constitute a formal accounting mechanism for the Carbon Credits that were the subject of mitigation projects and the entry of the transactions that are formalized from those credits, in order to encourage and facilitate the participation of public and private sectors in the mitigation of Greenhouse Gas emissions and in Carbon Markets, safeguarding compliance with contributions determined at the national level. Likewise, it is the object of this Law to identify all the parties involved in the operations carried out in the Carbon Market and leave a record of them*" (Sic).

This law establishes some critical points related to carbon credit projects and the national and international market, such as:

1. Creation of a Carbon Credit Registry. This is also for the purposes of establishing a mechanism for accounting for those credits.

2. That the ownership of the carbon belongs to the owner of the land.

3. A definition of additionality that is not the same as the one used at the international level, which says: "*Additionality: is the quality of the project or activity developed by its owners that implies that its execution effectively reduces, avoids or captures Carbon in accordance with the methods established by a Carbon Standards Administrator and national regulations*" (Sic).

4. That the MADES is the enforcement authority of this law and a fee for the registration of credits in the registry stated as follows: "*the Enforcement Authority will establish fees of up to 500 (five hundred) applicable minimum wages, as the case may be, for registration, notification of issuance, transfer and modifications in the Carbon Credit Registry.*"

5. A percentage that will be allocated to the "Nationally Determined Contributions" (NDC)[12] as it says: "*In order to safeguard compliance with the Nationally Determined Contributions of the Republic of Paraguay, the Holders of the Carbon Credits are obliged to withhold and not transfer a percentage of said Carbon Credits derived from the same Project by 3% (three percent), and up to a maximum of 10% (ten percent), to be determined by the Application Authority*."

12 The NDCs "National Determinate Contributions" are equivalent to the quantification of the country's contribution to the commitments established within the framework of the UNFCCC. 13 Communities with forestlands and able to get Certified Carbon projects.

6. A "certificate of no objection" issued by the application authority that is required, to guarantee that there is no double accounting and that the established contributions to the NDCs are guaranteed.

This law **has not yet been implemented** but regulations are currently being worked on. The main problem that exists is that, although this law is necessary to organize the carbon market and present a serious framework at the international level as a state policy, it was not properly consulted at any level. That goes, too, with Indigenous Peoples consultation. Furthermore, the law makes no mention about basic and necessary safeguards.

There is criticism, especially about the fact that the criteria for establishing the percentage of credits allocated to NDC and the cost of the Canon (which can even reach more than US$7,000), are not clearly established and can be very subjective depending on the MADES. The application of the maximum ranges mentioned may make small and medium-sized carbon credit projects unviable.

Depending on the regulations, this law may benefit indigenous peoples to a greater extent, especially by eliminating or reducing initial financial barriers, regarding the percentage of NDC required and the registration fee. It is very logical to think that if some indigenous communities cannot sell their Law 3001 Environmental Certificates due to fines in the order of 410 USD, then how are they going to pay fees of a maximum of 7,000.00 USD? This is a high-risk situation where communities[13] are exposed to unscrupulous intermediaries with capital who can finance these costs at the expense of the transfer of their rights, as has already occurred in the sale of environmental certificates.

Unfortunately, considering the hastiness and absence of consultation in which this law was approved, coupled with the experiences obtained in the sale of environmental certificates, not much positive outcome of it can be expected for indigenous peoples. As the law is established, it appears that there is a manifest intention of the private sector to force the conditions of access to carbon credit markets to access these resources. From this perspective, it is very possible that, if this occurs, payments could be directed towards enormous leaks, both social and environmental, since there is no central objective of mitigating climate change.

This is important to take note of, since ironically the sector promoting the approval of Law 7190 is the same sector with the largest number of skeptics who do not believe that climate change is anthropogenic. The matter is even more serious when this skepticism and position is reflected by national authorities, as when the Minister of Agriculture himself publicly disclosed his own subscription to this belief (ECO NEWS 2023).

However, despite these issues with the Carbon Law, in Paraguay there are some previous carbon credit projects in the international voluntary market. For example since 2011, an environmental NGO called Guyra Paraguay developed a REDD+ project for the voluntary international carbon market. This was the first project of this type in the country, with the participation and involvement of the Ishir Indigenous People in Alto Paraguay. It is detailed in the following section.

Law 7190 opens the possibility of formalizing the sale of carbon certificates both internationally and nationally. At the international level we have a well-known framework through the decisions and commitments made in the UNFCCC. However, at the national level there is still nothing regarding the purchase of carbon certificates, and its inclusion within Law 3001/06. In fact, there are no apparent reasons why any initiative that is emitting carbon outside of Land Use, Land Use Change and Forestry (LULUCF) and agriculture would want or need to purchase these credits. On the contrary, there is an apparent risk that this type of transactions could be used arbitrarily and have leaks towards sectors of LULUCF and agriculture.

Due to the relevance of the experiences cited and the current legal framework, some relevant differences between the two Payments in Environmental Services (PES) systems established in the country are shown in Table 2. This table assumes that the sale of carbon certificates by Law 7190 /23 is carried out internationally (international carbon credits markets).

Table 2. Differences between environmental certificates (Law 3001) and Carbon Certificates (Law 7190).

Topic	Law 3001	Carbon Certificates
Ecosystem services	Ecosystem services are not valued. The value is based on the opportunity cost of its agricultural use, subtracting an adjustment factor.	What is measured is the final balance of the amount of Carbon avoided, captured, or saved in the ecosystem or activity.
Indigenous people	There is a FPIC requirement on claimed areas but it does not fully guarantee indigenous rights.	There are safeguards that include the FPIC and the impact of indigenous rights, requiring a clear and broad agreement on limitations on the use of certified areas. Subject to audits and complaints.
Traditional use on the certified area	It is absolutely limiting and protectionist, it does not tolerate any use.	A percentage extraction of biomass, fibres, and proteins is allowed if it does not affect the Carbon Cycle in the committed period.
Certificate value	There is an official reference cost that is based on opportunity cost, but purchasing agencies bid for contests at the lowest price.	It is based on the quantification of Carbon and associated social and environmental benefits. It depends on the international market, the UNFCCC and the characteristics of the benefits achieved.
Certifying agency	MADES	VERRA
Additionality	There is no precise definition of additionality in the issue of Certificates for scenic beauty, since they compete for forest certificates that do have additionality.	It must demonstrate clear additionality with the execution of the project, measurable and demonstrable.
International recognition	It does not have international recognition, nor the necessary reliability.	In fact, it is an international procedure and regulated by the UNFCCC.
Registry	Must be registered in the National Registry of Environmental Services Certificates, within the MADES.	International certifying agencies authorized by the UNFCCC must also register with MADES (in the regulatory process).
Sales process	At the national level. In calls for price competition by the MOPC, ANDE, Hydroelectric Power Plants. In sentences to trials for environmental crimes. In direct purchase.	In the voluntary market: to companies that need to improve their corporate image.
Audit and verification	Made by MADES and costs assumed by the owner.	Carried out by international certifying agencies authorized by the UNFCCC and approved by VERRA standards. Costs assumed by the owner.
Finances	You generally receive payment for certificates in advance. Or an initial payment and then installments.	Generally, payments are upon presentation of results and products throughout the project, which generally lasts 20 to 30 years.

It can be seen that Law 7190/23 creates more confusion and inserts itself into a complicated scenario due to the previous existence of Law 3001/06. Obviously, this issue of carbon certificates should have been inserted into the framework of the first law, as another 7th window just as grasslands, which were not contemplated at the beginning, have now been included. That was a clear intention in 2016 when the GEF project called "Chaco Promise" began through the conservation organization "Conservation International," which developed in collaboration with MADES and the Guyra Paraguay organization, with the latter as the implementing organization pertaining to the funds. In its beginnings, this project had among its objectives the analysis and evaluation of the possibility of including the issue of Carbon as an environmental service within the framework of Law 3001/06. However, MADES requested to discard this objective and focus on the current scheme of the payment regime for environmental services. Then unilaterally, MADES requested the executing agency Conservation International to terminate the contract with Guyra Paraguay, and therefore the project lost the historical foundation of its design.

Payment for Results Project

When Guyra Paraguay obtained the first REDD+ project in the country, numerous workshops were held under the project called "ONU REDD Paraguay" through the MADES with the UNDP as executing agency. Its objectives included establishing the bases, policies and procedures to comply with the safeguards of the rights of indigenous peoples in REDD projects. Its evaluation report, however, reached a blunt conclusion about its results, establishing that the project structure was ironically centralized in organization and not so participatory. Nevertheless, it served as the basis for the development of a needed results-based payments project known as "Paraguay + Verde," which is likewise quite centralized and less participatory.

In November 2019, with the support of the UN Environment Programme, the Government of Paraguay signed a REDD+ results-based payments (RBP) agreement with the Green Climate Fund (GCF) to exchange the of 9.8 million tons of CO2 equivalent from avoiding deforestation during the 2015-2017 period. The government of Paraguay made a commitment to the GCF to use the payments received to generate new reductions in CO2 emissions through the implementation of the National Strategy for Forests and Sustainable Growth (ENBCS).

The results-based payments project was planned to focus on two main outputs:

- Output 1: Capacities, enabling environment and monitoring systems put in place for the implementation of the ENBCS; and
- Output 2: Governance and operational procedures of the national Climate Change Fund established, and finance channelled to support NDCs, the ENBCS and low carbon development plans.

Within the framework of this "Paraguay + Green" project, MADES received the sum of 50 million USD. But very little is known about its progress and intermediate results. Most of the execution was oriented only to conducting workshops and training for the involved stakeholders, including indigenous people. It also contemplated the construction of a central building at MADES at a cost of US$ 8,000,000 to expand its offices. There has been a general belief that this project cannot achieve its objectives, and that money will be misallocated.

Indigenous Peoples Views and Experiences on Carbon Markets

To date, there is only one REDD+ project related to indigenous peoples in operation in Paraguay since 2010. It carries the title *Paraguayan Forest Conservation Project Reduction of GHG emissions due to deforestation and forest degradation in the Chaco-Pantanal ecosystem*. This project was proposed by the logistics company Swire Pacific Offshore, through the British organization World Land Trust (WLT), and the Paraguayan organizations Guyra Paraguay and the Union de Comunidades de la Nacion Yshir (UCINI).

In practice this project is divided into two: one related to the Chaco Pantanal region and the UCINI; and the other related to the Atlantic Forest in a peasant community called "La Amistad." Both publish their reports on the VERRA and CCBA[13] pages. In this topic I can present an analysis of the development of its component with the UCINI in the Chaco Pantanal. But I must clarify that since I was part of it previously, and currently as head of Guyra Paraguay, this analysis is from my perspective.

Guyra Paraguay is a non-governmental organization whose mission is the conservation of the country's biodiversity through organized action, with knowledge of society, and oriented towards sustainable development. It is a civil society association, with national and foreign partners that annually elects a Board of Directors at its annual assembly. It currently manages biodiversity conservation, REDD+, and sustainable rural development projects with a budget of between 1.5 to 2 million dollars annually.

The UCINI is a Paraguayan indigenous organization that brings together almost all the communities of the Yvytoso and Tomaraho groups comprising the Ishir people. The Tomaraho represent a tiny minority in the country, with only 213 people (INE 2023), while Ishir counts as one of the most endangered languages in the world. Legally, it forms a Civil Association, and although it brings together its representatives from their communities, each community remains autonomous. The UCINI's mission is to fight for reclaiming ancestral lands, and coordinates the efforts of the communities in this regard.

The communities that are part of it are: Puerto Diana (569 inhabitants), Puerto 14 de Mayo or Karchabalut (68 inhabitants), Puerto Esperanza (418 inhabitants), and Misión Santa Teresita (329 inhabitants), according to data from the 2004 Indigenous Atlas (DGEEC 2004) since there are still no good data about their current populations. The most updated census reports a total population in the country of 2,339 Ishir people (INE 2023). The UCINI also includes the communities of Puerto Pollo, Puerto Ramos, Puerto Esperanza and 2 Estrellas that use their traditional lands but are not in possession of them.

This REDD+ project aims to "*protect a sufficient extension of forests in danger of deforestation to avoid the emission of 255,686 tCO2e (expressed in voluntary carbon units or VCU) into the atmosphere over a period of 20 years. The project is being validated against the VCS standard to quantify emissions reductions from avoided planned deforestation and uses the Climate, Community and Biodiversity (CCB) project design standard to certify that co-benefits are being created or maintained. This component of the project focuses on the Quebracho forests of the Chaco-Pantanal transition zone in eastern Alto Paraguay*" (Fig 1).

For the development of this project, a 4,700-hectare property had to be purchased in the Fuerte Olimpo district, jointly between Guyra Paraguay and the UCINI, forming an indivisible condominium for the duration of the project. This property which is currently called "Tobich" will subsequently be fully titled in the name of UCINI as the sole owner upon completion of the project.

The project is a partnership between Guyra Paraguay and the UCINI since it began, and therefore the procedures of the FPIC[14] were respected. It includes an annual payment to the UCINI for the sale of carbon certificates which is a fraction of its heat, and amounts to 4,700 US$ annually. The amount of the payment is less due to the need of purchasing the property at market price, and for which a loan was incurred. The WLT participated in the general design, administration, and involvement of the purchasing company, which in this case is Swire Pacific Offshore, a Chinese company based in Hong Kong and Singapore.

13 https://www.climate-standards.org/2010/06/21/the-paraguay-forest-conservation-project-reductionof-ghg-emissions-from-deforestation-and-forest-degradation-in-the-chaco-pantanal-ecosystem/

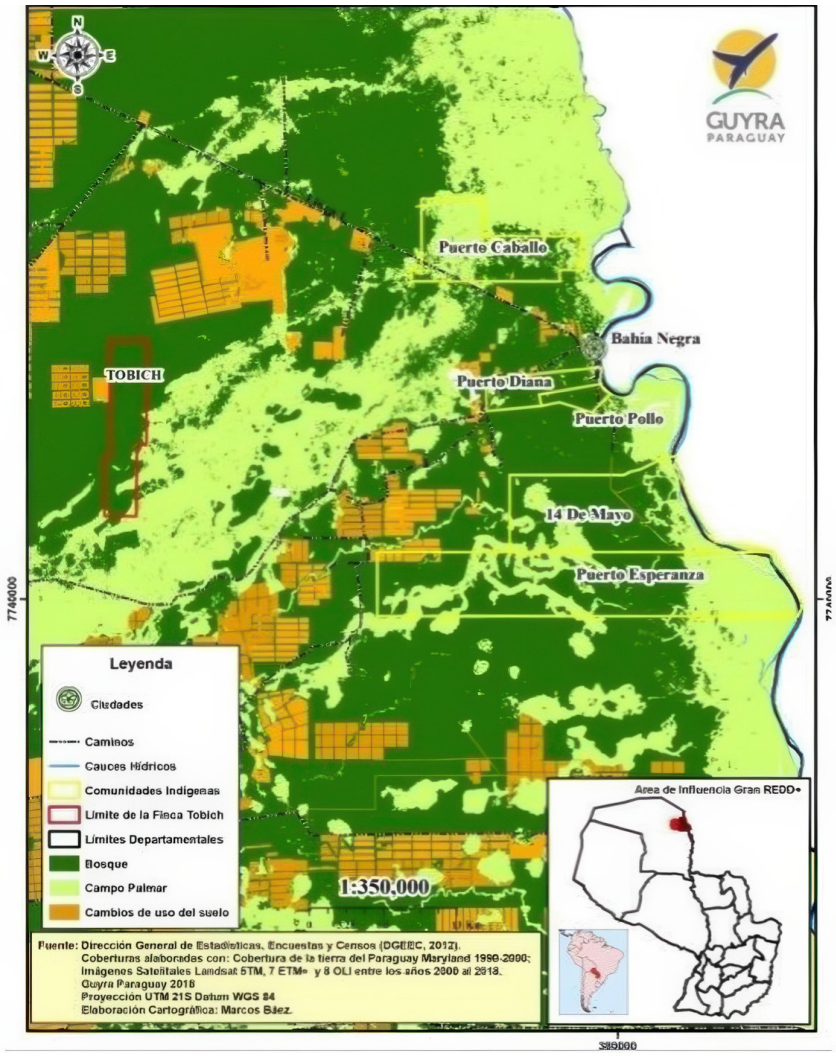
14 Free, prior and informed consent

This project is published and certified under VERRA standards. It has a “Gold Standard” rating due to its social and environmental benefits, as it protects an ecosystem that has numerous species threatened with extinction, and also for the benefits received by the Ishir people through the UCINI. Although the project itself has voluntary commitment in maintaining the forest, it is clear that this role is to be assumed by leaders representing the Ishir People themselves. The Ishir expressed their aspiration about having control on these natural areas that are integral to their worldview and cultural identity, naming these properties as “Tobich,” which means sacred place in their language.

For Guyra Paraguay, the project goes beyond the FPIC and signed agreements as it entails a continuous process of dialogues. Project management, outcomes, and documentations must follow social and environmental guidelines, sound procedures for carbon monitoring, and the requirements as to periodic audits. Recertification work in 2024 must be carried out under VERRA standards.

The agreement established with the UCINI on behalf of the associated Ishir communities includes the recognition of their rights to traditional extraction and use of fibres, biomass, fire wood, and proteins from the forest. Although relatively far from the communities mentioned, Indigenous Peoples of these area should be allowed to do traditional economic activities such as hunting and gathering, and collection of firewood and fibres in the area if they do not affect carbon standards. Such activities will not create problems and conflicts because these activities only pose insignificant disturbance to biodiversity.

Fig. 1. Location of the Tobich property (red polygon) in Paraguay and in relation to some Ishir communities (yellow polygons) in the Bahía Negra area.



Within the framework of the project, UCINI is a partner organization and a legal co-owner of the acquired property for the purpose of conserving the carbon stock in its biomass. All monitoring work carried out must be properly made known to the community so that they are aware of how the project is evolving. The people should also participate in carbon measurement and biodiversity monitoring work. At the end of the project, the condominium of multiple ownership on the property will be dissolved and the property will be titled in the name of UCINI as the sole owner.

Challenges and Opportunities in the Carbon Markets

This REDD+ project between the UCINI and Guyra Paraguay worked and continues to work well since there is an agreement with the UCINI, thanks to the process of dialogue, continuous support, and the promise to acquire those lands definitively. The annual payment being received, although relatively small at 4,700.00 USD annually, is helpful in supporting the maintenance of the UCINI as a functional organization. The office has its own accountant who carries out administrative and legal procedures requested by the tax office to maintain their financial capacity.

Based on my experience working with different indigenous communities in many projects involving the Ache, Mbya Guaraní, Ñandeva and Ishir peoples, this type of project is very consistent with communities that meet conditions such as:

- Having political and spiritual leaders who possess a clear vision about the need to conserve nature to preserve their cultural identity and they work to achieve it.
- Having a way of making decisions that is broad and participatory, or at least they let some women participate in it.
- Having trained, or minimally trained, people and are clearly aware of the need to train in the trades and skills of modern society, such as accounting and administrative issues.

When these factors come together, especially the first one related to their cultural identity, this type of project is feasible. This was reflected in what the Ishir spiritual leaders expressed mainly, who see the need to train young people in their art since almost all of them are elderly people more than 80 years of age. They are worried about successive generations, because according to them they are losing that vision. This is a major issue that may represent a great challenge in how to maintain that deep and long-term vision of maintaining their cultural identity.

One of the most results that is observed, both in Paraguayan legislation and in many organizations that work for indigenous rights, is that this Indigenous Peoples' identity is maintained if they live in their own traditional ways. But this requires having enormous natural areas that can cover all their needs. However, this possibility is becoming lesser as time goes by. For example, in the Eastern Region there are no longer sizeable natural areas to maintain any indigenous community in their traditional ways of life. The Western Region is following the same pattern.

This is important because projects like REDD+ offer the possibility of having at least representative samples of natural ecosystems where they can maintain, even partially, their traditions and worldviews. Certainly, it is increasingly urgent to accept indigenous people into contemporary mainstream society. But so that they do not lose their cultural identity, they must have the capacity and opportunity to maintain natural areas that identify them. This represents a great deal of work today, both externally in mainstream society, and internally in the indigenous communities. This is compounded by the fact that older leaders who have a true vision of maintaining integrity of identity and good traditional values are now disappearing, and in their place are newer leaders who get involved in political malpractice and state corruption schemes.

The great challenge partly lies therefore in breaking the extensive history of political malpractice exercised by local authorities and the central government. These practices include influence peddling and the generally illegal favours that political candidates promise in exchange for votes during elections. These unethical and perverse customs generated a history of behaviour based on the famous "*quid pro quo*"[15] philosophy. This philosophy promotes actions of corruption and a system of injustice. Above all, also pay attention to the need for effort and work required in projects of this type. It is a challenge to be able to allow good participatory decision making, come up with consensus, avoid conflicts, and make good use of resources being received by the whole community.

Another critical point on the issue of carbon markets in general refers to **the financial capacity** necessary to prepare, propose, obtain, and maintain a project of this type. In this sense, I am going to limit myself to the experience with international carbon markets, since at the national level there is still no experience on this topic.

As the first step, there is the preparation of the project, which involves expensive work such as carbon calculation following one of the methodologies established by VERRA, and if it is a project with social and environmental advantage, the baseline work for both issues must also be included. These works include the inputs for the preparation of the project document and its subsequent certification by one of the authorized certifying agencies. These certifiers are international organizations that demand high fees.

Next come carbon market payments, which are generally results-based. This implies an enormous challenge, which is to have the financial, and therefore operational, capacity to carry out the preliminary and monitoring work until the expenses are reimbursed and the payment corresponding to the result of X period is obtained (either yearly, biannually, or quarterly, depending of the project). Perhaps this is the most critical point, since all buyers of carbon credits[17] need to ensure that they are paying for carbon that is effectively stored, captured, or reduced during a specific period. This is very important if we attend to the preparation process which implies a very high cost. Due to this complication and cost, generally these types of projects are offered by companies that act as a link between the bidders, owners of the carbon, and the certifying organizations, and even the buyers of that carbon. These companies are called "Brokers."

These Brokers are so varied, and exist in greater numbers each day. They are international organizations and some national ones are in formation, although most of the latter do not have sales experience in the carbon market. They generally require receiving the benefits of a high percentage of participation that can range from 45, 30 to 25% in the best of cases.

Certification costs depend greatly on the size of the project. This is because the heart of this type of work is based on the estimation of the amount of carbon stored, avoided, or captured. For REDD projects, this is equivalent to surface and vegetation with high carbon content, that is, forests in a good state of conservation. These calculations must strictly adhere to the guidelines established by the authorized official certifying agency, in this case VERRA. If the area is large, then greater measurement effort must be applied since minimal sampling is required through established forest study methods, which represents quite expensive work. All of this, apart from the biodiversity analyses and the social part as well, must also comply with all the requirements and processes pre-established by VERRA. If we add to all these what is established by the recent "Carbon Law," where just by registering the project in the registry a fee greater than US$7,000 must be paid, and up to 10% of the certificates are retained as part of the NDC, that can put at risk the viability of many projects, especially those that concern indigenous peoples and smaller projects.

Even if the project is obtained after all application difficulties are hurdled, monitoring and audit work must continue to be carried out periodically. Therefore, the issue of payments against results requires a relatively large initial fund to be able to carry out these commitments. The financial management capacity and finances themselves represent perhaps the greatest challenge, and not only for indigenous peoples but for anyone who wishes to generate a project like this.

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15 Something for something, or Favour against favour, is when two persons made questionable immoral actions regarding some advantage or benefit that both can obtain. 17 Any buyer from the international markets.

At the national level there are many opportunities, especially about projects based on REDD due to the surplus forests in the country. An important point is that indigenous peoples are the largest owners of forests and that represents an opportunity and a great risk at the same time. It is an opportunity because we have already seen that interesting REDD projects can be achieved through obtaining benefits for both the climate and indigenous peoples and the conservation of important natural resources and biodiversity, if their additionality can be justified. It is a risk because, as described, only with strong initial operating capital is it possible to carry out these efforts. This means that brokers, and other financiers so to speak, are looking for indigenous communities to establish agreements that are not going to benefit the communities much. Generally, these financiers seek to formalize very asymmetrical and unethical agreement frameworks. I am pretty sure that right now several private organizations and third persons are very interested to venture into carbon certificate opportunities, and the main source for these are indigenous peoples' land.

This mentioned risk is very important because there have already been previous negative experiences as shown in Table 1 pertaining to environmental certificates by Law 3001/06. Also, I personally witnessed a particular case at the beginning of the Promesa Chaco Project, which dealt with the payment regime for environmental services I mentioned in the previous sections. Here, an indigenous community from Chaco owning a significant area of land had an offer to manage & sell its certificates for a project. It was to be facilitated by a third private person, where this person would keep 50 percent of the profits from the certificate sales. Fortunately, this did not come to fruition. In situations such as this, Indigenous Peoples have very little or no participation in the establishment of public policies and carbon markets in general. Nor do they have much knowledge about these issues, which have their own complexities and require being able to understand not only the basic issues but also the constant changes that occur in recent UNFCCC meetings.

The cooperation projects mentioned and others still in the development stage, should aim in theory to correct these deficiencies and asymmetries. Although many of them were important for obtaining environmental certificates such as what I have mentioned above, all of them fall within a purely welfare vision. Once these cooperation projects are finished, all the results disappear or will be at risk of disappearing. In this part I am only talking about the few cooperation projects that achieved some results. Unfortunately, there are many others that wasted resources without any results. Regarding the most successful and positive cases, there is evidence that constant guidance and advice from private organizations show favourable results. If these organizations continue with these good practices, it is possible that projects will continue to give positive results. However, I must also seriously insist on the need to create and strengthen capacities in indigenous communities.

Conclusions & Recommendations

The decision to participate or not in this market is the sole and exclusive decision of the Indigenous Peoples. From a technical perspective, it can be said that our country is in an advantageous situation, where forest surpluses and forest restoration opportunities are many, being able to guarantee a real contribution to national development commitments (NDCs), and at the same time sell the credits surpluses to the international market. Within our country, indigenous lands are the largest owners of forests, and therefore of biomass, in the country.

There are however legal and social obstacles that must be hurdled, and these were experienced by indigenous communities that were successful in selling their environmental certificates. This goes to show the need to clearly demonstrate the additionality of any Carbon-based project that must be carried out on indigenous lands. At this point, it may be very difficult to justify a REDD project on the basis that these lands cannot legally change their land use. But the risk of these lands being degraded and lost can be demonstrated, considering the illegal practices carried out in many indigenous communities where outside users mechanize agriculture or extract all forest resources for wood or charcoal.

Indigenous communities have unmet basic needs and need resources. For this reason, they are forced to engage in illegal activities such as renting their land to agricultural companies, or extract wood, coal, and all possible resources for commercial exchange. The results of these always point to greater impoverishment and the consequent migration of people in search of illegal means of livelihood or begging for money on the streets. This further aggravates the situation, especially for women and children who are used for this purpose such as in prostitution.

Another opportunity is to qualify the area under the **carbon capture by restoration scheme**. This is feasible due to the degraded conditions in which many indigenous lands are found, whether due to exploitation, forest fires, or natural disasters. At this point, a community commitment is needed to restore natural forest cover and be able to qualify to sell the carbon credits that are generated from the growth of the plants. It is also more feasible because international buyers are much receptive to this restoration issue. At this moment, I am working personally through Guyra Paraguay in coalition with the FAPI[16] to assess and develop a carbon project in the Tekoha Guasu on the south of the country, based on this concept of restoration.

Regarding standards and procedures, these should go far beyond what FPIC processes would be. As mentioned above, Indigenou Peoples are in a vulnerable position mainly due to the lack of operating capital to carry out a project of this type, which is paid against the results obtained. This implies that the standards must incorporate Fair Trade criteria and safeguards to avoid abuse of the depressed socioeconomic situation in which they live. Likewise, a process of reinvesting resources in strengthening and generating capabilities in its human resources should be done.

In conclusion, I could recommend the following steps and conditions that should be taken in indigenous communities to obtain the best benefit from international Carbon markets:

- Strengthen decision-making processes and the construction of widely participatory bodies aimed at the public good, or the long-term good of the community;
- Make a plan from their traditional perspective, based on the vision they want, and carry out a participatory and clear construction that benefits the entire community;
- Demonstrate with legal and technical studies the additionality that this type of projects can offer to the international market;
- Protect and shield the processes that indigenous communities can carry out on this issue so that organizations or Brokers cannot exploit these communities;
- Provide information and training opportunities on this type of projects to indigenous communities touching on the scope, method, implications, and other important aspects;
- Require that CPLI processes remain constant over time and instances of broad and extensive dialogue be created throughout the projects;
- Demand a fair-trading framework from carbon buyers, and adequate justification of the social benefits that these projects claim;
- Generate a fund that can pay for the initial stages of this type of projects and facilitate the capacities of indigenous communities;
- Offer and train IPs on the economic and financial possibilities that they can generate with this type of projects, especially considering the financial sustainability of their life plans and other items, through investment mechanisms such as trust.

16 Federation for the Indigenous People Autonomy.

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Annex

Climate Change Basics and Carbon Markets

Nowadays there is a lot of talk about selling carbon in international markets. But it is a subject that very few people know about. This topic is presented here to serve as foundational knowledge that is useful for understanding the science behind climate change and the rationale of carbon markets.

What is Carbon?

Carbon is a chemical element, an atom, represented by the letter «C», which is present in nature in various forms:

- As a mineral chemical element, in mineral soil deposits, in rocks.
- As deposits of prehistoric living things converted into subsoil hydrocarbons, also known as oil and natural gas deposits.
- As structural tissue of plants and animals, contained in what is known as «organic matter» which are molecules of substances that contain C, such as: cellulose, sugars, fat tissue, muscle tissue, etc.
- As a gas in the air, contained in the molecules of certain gaseous substances such as carbon dioxide (CO_2), carbon monoxide (CO), methane (CH_4), among others. In parentheses, the conformation of the

molecule of the substances is indicated, indicating the number of atoms of each component.

- As an extraterrestrial chemical element, contained in asteroids and planets, as well as meteorites that reach the earth.

An interesting point is that C is a fundamental element for life, as it has the ability to form complex molecules in long chains of what we call «organic compounds» such as sugars, proteins, and fats that make up our bodies and that of all living beings.

Carbon flows in nature through cycles

Water runs in a cycle wherein it is evaporated, accumulates as gas in the atmosphere in the form of water vapor, forms clouds, then falls to earth as rain, snow, or hail. As water encounters heat, it evaporates and the cycle proceeds again. The same goes with carbon, which is found in all living things and nature. It forms organic molecules which in turn compose the tissues and organs of living organisms. When organisms die, the carbon in their bodies are released into the environment. The great multitude of organisms that lived in times past were buried deep in the earth forming the fossil fuels and their derivatives we know today: peat, coal, oil, petroleum, and fuel gas, and related compounds. Because the earth is a living planet, volcanic eruptions occur regularly, and these are the causes of carbon being brought up into the atmosphere. Another cause of carbon release into the atmosphere, although very rare, are asteroids striking the earth that can rip open the planet's surface to release carbon deposits. When man came into the picture, our relentless extraction and use of fossil fuels became the more common way of letting carbon permeate the atmosphere in bigger amounts.

The Biogeochemical Cycle of C

This cycle is initiated thanks to the photosynthesis that plants do. This process, which is vital for all forms of life, takes water and carbon dioxide ($CO_{2)}$ molecules from the air and undergoes a chemical reaction with the help of light. The resulting products are oxygen and glucose, the latter being the basic building blocks of carbohydrates. In this way, the plant generates the structural units of cellulose to form its own body, its stem, leaves, roots, flowers and fruits, which in essence are all composed of molecules that are built on carbon from the CO_2 that the plant always use. Carbon then is kept in the roots, stems, leaves of all plants in the forests. That is then distributed to herbivores, such as cows, goats, capybaras, and deer, among many others, that capture and digest those vegetables. From herbivores, these molecules pass to predators that hunt and eat them, such as ocelots, pumas, jaguars, vultures, and foxes. Predators then take that energy stored in the organic molecules. From these molecules acquired, they form their own muscles, blood, bones, fats, and other tissues. These molecules enter the atmosphere when living organisms die. Thus, with the decomposition of organic matter or with its burning, those molecules containing Carbon are released, in the form of carbon dioxide (CO_2), carbon monoxide (CO), Methane (CH_4), which return to the atmosphere, thus repeating the cycle.

The Fossil carbons

Fossil fuels and its derivatives are the remains of prehistoric living beings which were buried and have undergone processes that take place within the earth. These fuels are called "hydrocarbons" because they are basically composed of carbon and hydrogen, often with additional atoms such as that of oxygen, depending on their nature. In other words, in past paleontological epochs millions of years ago, these plants and animals were part of the biogeochemical cycle mentioned above. But as they died, their bodies eventually comprised deposits that got buried and found their way into deeper layers, and through millions of years they were subjected to processes happening deep in the earth. Fossil fuels have several forms: when it's liquid, we're talking about petroleum or naturally occurring crude oil, and when it is in the gaseous state, we're talking here of natural gas. This crude oil is processed to make fuels and other derivatives, such as plastics. When these fuels are burned directly or through their use in engines and generators, their carbon components are released into the atmosphere. According to a panel that brings together thousands of scientists from all over the world, the problem of excess CO_2 in the atmosphere causing global warming and climate change is primarily caused by these fuels being burned to fuel our cities, industries, transportation, and all modern necessities that need energy.

Why is that C sold today?

Nowadays "carbon certificates" can be sold because they correspond to mechanisms established by an international convention, where countries agreed to reduce their Greenhouse Gases, called: "United Nations Framework Convention on Climate Change" (UNFCCC). To understand all of this, let's go step-by-step with all of these topics.

What is Climate Change?

Climate Change refers to alterations in weather patterns that eventually show as changes in the climate of a region when they become established for a lengthy period of time. A main cause of Climate Change is "Global Warming," or the warming of the earth's surface and atmosphere due to the accumulation of Greenhouse Gases in the atmosphere. This accumulation is hastened by human activities such as the burning of fossil fuels and the use of chemical compounds which release large amounts of carbon-based gases in the atmosphere.

What are Greenhouse Gases?

Greenhouse gases are gaseous substances released by various sources into the atmosphere that produce a warming effect. They are called as such because their large presence in the atmosphere simulates the conditions happening in a greenhouse. As the greenhouse is made of glass, it allows light to pass through with all its caloric energy. The heat bounces off the things inside the greenhouse in the form of infrared rays but cannot leave, as glass does not allow it to pass through. Thus, these rays heat up the interior environment of the greenhouse, similar to what is happening to our atmosphere. The increase in Earth's temperature due to this is estimated at 1.5 to 3 degrees Celsius, and may even reach 4 degrees Celsius. Although this may seem very little, on a planetary scale it is a very harmful phenomenon as it causes a series of disturbances in climate patterns.

Greenhouse gases are of several kinds. The most abundant of all is CO_2, which comes from the burning of fossil fuels (oil, natural gas, coal), the burning of plant biomass, volcanic eruptions, and meteorite impacts on the Earth's surface. But there are also many others such as methane; carbon monoxide; industrial emissions in the form of sulphides, fluorides, ozone, and water vapor; and those from agricultural sources such as nitrous oxide (N_2O), and which is 264 times more potent than CO_2.

What does the UNFCCC do?

Participants of the UNFCC agreed to reduce emissions of greenhouse gases, especially those being emitted in developed countries. To do this, carbon (C) is first used as a standard measurement, and all gases are measured according to their equivalence to Carbon. With this measure, effective mechanisms were established to reduce or avoid the release of atmospheric C. Carbon markets are thus designed to help countries meet their national goals and promote cleaner development free of emissions of these gases.

C projects based on reduce, avoid, or capture strategies

The problem of solving excess carbon in the atmosphere can be addressed by adopting three possible strategies, which are:

- **Reduce:** refers to reducing or eliminating carbon emissions from the transport sector powered by the combustion of oil and derivatives, and from industry or from any activity that may generate these similar kinds of wastes. Many countries produce electricity with fossil fuel generators. If the Municipality of Asunción proposes to establish measures that actually reduce traffic emissions in the city (more controls, smart traffic lights, efficient mass public transport, more fluid traffic), that would qualify as a carbon project through the reduction of emissions. A factory which uses technology to reduce its energy consumption can be counted as another example.

- **Avoidance:** refers to carbon stores that are mainly found in forests and contained there, without being disturbed and processed so as not to be released into the atmosphere. In other words, these are carbon deposits preserved in the biomass of fully developed and mature plants in the forest. The strategy of containing carbon in its source and avoiding its release into the atmosphere is the principle behind the REDD mechanism, which is to prevent deforestation and forest degradation. It is a good potential strategy especially for Paraguay. In this context, the concept of "Additionality" can also be demonstrated by arguing that land and forest will be preserved and saved from destruction by outside exploiters if placed under REDD projects. In terms of energy, another concrete example would be for our country to renounce the exploitation of gas in dunes, and the benefits accruing from the preservation of the Chaco gas deposits can also be argued in terms of the REDD principle.
- **Capture:** refers to removing carbon molecules from the atmosphere through plant growth, in which you consider the carbon capture work done by plants through photosynthesis. As an example, we have the case of forest plantations that entail the cultivation of tree seedlings until maturity, which in the process will be doing their work of sequestering carbon from the air as they grow. The argument for forest plantations extends to benefits incurred in terms of habitat protection of biodiversity, and in terms of benefits to Indigenous Peoples needs for food and daily necessities that cause negligible disturbance to the environment.

