

Secure land rights: Exploring their central role in climate change mitigation and adaptation in the Philippines

Introductory note:

On 7 May 2024, the Asian NGO Coalition for Agrarian Reform and Rural Development (ANGOC) organized a Learning Event on the Philippine National Adaptation Plan (NAP) and the Nationally Determined Contribution (NDC) Implementation Plan in order to explore ways in which land rights can be incorporated in these frameworks.

Supported by the Global Land Tool Network (GLTN), United Nations Human Settlements Programme (UN-Habitat) and We Effect, the event was participated in by 31 representatives from farmers, fisherfolk, indigenous peoples, urban poor, and CSOs. Jerome Ilagan, Chief of the Policy Research and Development Division of the Climate Change Commission (CCC), gave an overview on the country's NAP and NDC. Maria Jannell Feliz Talavera, Project Development Officer of the Department of Agriculture Climate Resilient Agriculture Office (DA-CRAO), discussed the conditional NDC commitments of the Philippine agriculture sector.

This briefer is produced by ANGOC to provide practical knowledge and understanding of the climate change mitigation and adaptation strategies that have been adopted by the Philippine Government, their gaps and areas for improvement, specifically the integration of land rights in their indicators and implementing rules.

ANGOC thereby hopes that the current discourse on the country's Nationally Determined Contribution (NDC) would finally be framed by the land rights dimension, which it has been missing and without which future programs and policies would inevitably lack an essential core.

What are Nationally Determined Contributions?

Nationally Determined Contributions (NDCs) are country-specific climate action plans that outline a nation's commitment to addressing climate change.

They include both mitigation (reducing greenhouse gas emissions) and adaptation (building resilience to climate impacts) components.

Box 1: What are Greenhouse Gas Emissions (GHGs)?

Greenhouse gas is any gas that has the property of absorbing infrared radiation (net heat energy) emitted from Earth's surface and reradiating it back to the Earth's surface, thus contributing to the greenhouse effect. Carbon dioxide, methane, and water vapor are the most important greenhouse gases. Human activities — especially fossil-fuel combustion since the Industrial Revolution — are responsible for steady increases in atmospheric concentrations of various greenhouse gases, especially carbon dioxide, methane, ozone, and chlorofluorocarbons (CFCs).

NDCs are at the heart of the Paris Agreement on climate change — a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It entered into force on 4 November 2016.

The Paris Agreement¹ mandates each country to outline and communicate its post-2020 climate actions, known as the NDCs. An NDC is a climate action plan to cut emissions and adapt to climate impacts, consistent with the principle of common but differentiated responsibilities and respective capabilities, in light of different national circumstances.²

Each Party to the Agreement needs to update its NDC every five years.³ A Party may, at any given time, adjust its NDC with a view to enhancing its level of ambition, in accordance with the guidance adopted by the Conference of the Parties serving as the meeting of the Parties to the Agreement.⁴ The Paris Agreement on climate change envisioned a very low emissions scenario, with its call to hold the global average temperature increase to well below 2 °C and to pursue efforts to limit the temperature increase to 1.5 °C.

The Paris Agreement requests each country to outline and communicate their climate actions, or their NDCs. Together, these climate actions will determine whether the world achieves the long-term goals of the Paris Agreement and to reach global peaking of greenhouse gas (GHG) emissions as soon as possible and to undertake rapid reductions thereafter. The result should be a balance between emissions caused by human activity and GHG removals through “carbon sinks” in the second half of this century.

¹ Adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016.

² Article 2 (par. 2), Paris Agreement

³ UN, All about the NDCs, <https://www.un.org/en/climatechange/all-about-ndcs>

⁴ Article 4 (par. 11), Paris Agreement

Box 2: What are carbon sinks?

A carbon sink is a natural or artificial process that removes a greenhouse gas from the atmosphere. Globally, the two most important carbon sinks are vegetation and the ocean. For climate change mitigation purposes, the enhancement of natural carbon sinks, mainly soils and forests, is important. In the past, human practices like deforestation and industrial agriculture have depleted natural carbon sinks. This kind of land use change has been one of the causes of climate change.

NDCs are submitted every five years to the United Nations Framework Convention on Climate Change (UNFCCC) secretariat. The next round of NDCs will be submitted in 2025, and then in 2030.

Box 3: What is the UNFCCC?

The United Nations Framework Convention on Climate Change (UNFCCC) is the UN process for negotiating an agreement to limit dangerous climate change. It is an international treaty among countries to combat "dangerous human interference with the climate system." The main way to do this is by limiting the increase in greenhouse gases in the atmosphere. It was signed in 1992 by 154 States at the United Nations Conference on Environment and Development (UNCED), informally known as the Earth Summit, held in Rio de Janeiro. The treaty entered into force on 21 March 1994.

The Philippines’ Nationally Determined Contribution

In 2021, the Philippines submitted its NDC to the UNFCCC. Through the NDC, the country commits to a projected GHG emissions reduction and avoidance of 75 percent, for 2020 to 2030, of which 2.71 percent is unconditional, using the nation’s resources, and 72.29 percent is conditional, i.e., using the Means of Implementation (MOI) to be provided by developed countries through support for technology development and transfer, capacity building, and climate finance.

Only 2.71 percent of this GHG reduction target is *unconditional*, meaning the government commits to make this reduction using its own resources, with or without external aid.

The bigger proportion of the target (72.29 percent) is *conditional*, which means that the reduction is dependent on how much financial resources, including technology development and transfer, and capacity building, will be made available to the Philippines by Developed Countries.

The targeted sectors include: agriculture, transport and energy, wastes, and industry. The commitment is referenced against a projected cumulative economy-wide emission of 3,340.3 million metric tons of carbon dioxide equivalent

(MtCO₂e) for 2020 to 2030, if the Philippines continues with a business-as-usual (BAU) approach in the five aforementioned sectors.

NDC implementation will support the following “non-negotiable considerations:” (a) sustainable industrial development, (b) poverty eradication and provision of basic needs, (c) securing social and climate justice, and (d) energy security.

Priority Policies and Measures (PAMs) in five sectors are intended to deliver the Philippines’ NDC target: (a) agriculture, (b) transport, (c) energy, (d) waste, and (e) industrial processes and product use.

These PAMs are expected to achieve GHG reductions in the order of 990 MtCO₂e. They require an estimated total investment of USD72 Billion.⁵

Agriculture PAMs will focus on adopting innovative practices in paddy rice cultivation for water and cropland management and on promoting biodigesters for livestock manure management, among others. The Agriculture PAMs are expected to contribute a GHG reduction of 211 MtCO₂e (103 MtCO₂e of which were crosscutting PAMs with the Energy Sector, i.e. use of renewable energy). These interventions will require USD 1 Billion investment.⁶

Focus areas for PAMs in the other four sectors, including targeted GHG reductions are shown in the diagram in page 3.

Agriculture in the Philippines NDC

In 2010, GHG emissions in the agriculture sector totaled 43.152 MtCO₂e, making agriculture the third-largest emitting sector in the national inventory on the basis of the economy-wide model. By 2050, GHG emissions from the agriculture sector are projected to increase by 30 percent over 2010 figures, to about 68 MtCO₂e. Rice cultivation is projected to remain the largest source of GHG emissions, even with land area planted assumed to be constant in the baseline. At the same time, the 3.6 million hectares of coconut plantations are functioning as carbon sink with estimated annual sequestration rate of 63.14 Mt CO₂e.

The Philippines’ NDC provides for a conditional commitment to reduce GHG emissions from the agriculture sector by 29.37 percent, referenced against the business as usual (BAU) scenario, for the period 2021 to 2030 conditioned on the Developed Parties’ provision of means of implementation, including but not limited to scaled-up provision of climate finance, capacity building, and technology transfer.

⁵ Indicative amount, still being reviewed

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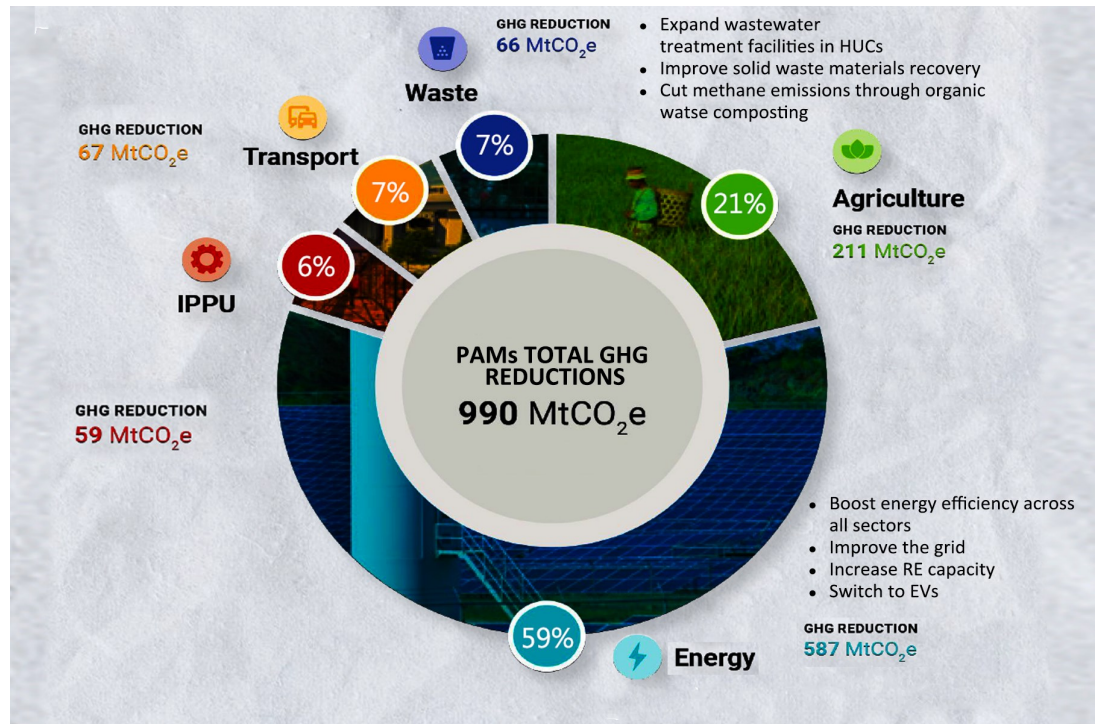


Figure 1. Commitments of NDC Programs and Measures. Taken from the presentation of Jerome Ilagan, Chief of the Policy Research and Development Division of the Climate Change Commission (CCC), during the Learning Event organized by ANGOC at the National Anti-Poverty Commission (NAPC) Office on 7 May 2024.

According to the Philippines' Department of Agriculture (DA), "A well-financed conditional NDC will enhance, and augment existing agricultural equipment, software, machinery, and post-harvest facilities and technologies. It will fund the development of innovative technologies, practices and systems that are proactive and responsive to the needs of farmers and fisherfolk, for a resilient low-carbon future."

The DA has proposed mitigation measures with adaptation co-benefits focusing on the major sources of GHG emissions, as follows:

- paddy rice cultivation: alternate wetting and drying (AWD) in combination with water management systems and cropland management;
- livestock enteric fermentation and manure management: use of nature-based solutions, breeding interventions, and adoption of noncorrosive biodigesters;
- soil cultivation: cropland management, precision agriculture, and use of biotech crops;
- urea application: use of nature-based solutions and precision agriculture; and,
- biomass burning: use of nature-based solutions.

The aforementioned measures are expected to mitigate around 54.1 million tCO₂e cumulatively by 2030 and reach a climate mitigation level of up to 128.38 million tCO₂e (cumulative by 2040). This already covers one-third of the agriculture sector's intended conditional target of reducing 158.33 million tCO₂e from its BAU scenario by 2030.

Box 4: Mitigation vs. adaptation: What's the difference?

Mitigation strategies aim to enhance soil and vegetation (land) sinks for absorbing atmospheric CO₂ and to minimize net emissions.

On the other hand, adaptation consists of strategies which minimize vulnerability to climate change, for example, by increasing the resilience of the ecosystems and communities. In the context of the resource-poor and small landholders in developing countries, adaptation to climate change is essential because of their vulnerability to harsh environments especially with regard to food insecurity, water scarcity, climate related hazards (floods, droughts), and degradation of soils and other natural resources.

The DA has also proposed the following:

- Additional measures to reduce the carbon footprint of agricultural products, i.e., use of pest-resistant crops and biocontrol agents, use of fast-growing climate resilient crops/livestock/aquaculture species, microbial inoculation to reduce inorganic fertilizer requirement, renewable energy-powered cropland, and water management in collaboration with the Department of Energy (DOE); and, precision agriculture with digital technology, nature-based solutions, and the use of climate information system in collaboration with the Department of Science and Technology - Philippine Atmospheric, Geophysical and Astronomical Services Administration (DOST-PAGASA);
- Carbon sequestration measures, i.e., use of organic fertilizers/biochar; expansion of coconut areas; rehabilitation and expansion of mangrove areas in collaboration with the Department of Environment and

Natural Resources (DENR); establishment of bamboo plantations in coordination/collaboration with Department of Trade and Industry (DTI), if necessary; and, increasing soil organic carbon sequestration); and,

- Renewable energy-powered service centers and offices of the DA in collaboration with the DOE.

National Adaptation Plan

What is the National Adaptation Plan?

The National Adaptation Plan (NAP) process is a country-driven undertaking where national governments analyze current and future climate risks and deliberate with stakeholders how the risks can be addressed.

In all sectors, the NAP focuses on building resilience. Particularly for the agriculture sector, the World Bank defines adaptation:

“[As consisting] of strategies, which may be either anticipatory or reactive, and by which crops, forages, trees, and domestic livestock can become better suited to climate change by minimizing their vulnerability to alterations in temperature, effective precipitation, and seasonality. Adaptation strategies are synonymous with sustainable development objectives, which is to increase resilience of the cropping/farming systems.”⁷

The Philippines’ National Adaptation Plan

The Philippines’ First NAP covers the period 2023 to 2050.

The Philippines’ NAP was developed through the collective effort and knowledge of local experts. The process of NAP formulation included: (a) engagements with National Government Agencies; (b) brainstorming with sector experts; (c) multi-stakeholder engagement, including with local government units, civil society organizations [CSOs], the private sector, and academia; and, (d) alignment with heads of specific agencies, such as the Department of Science and Technology [DOST], the DENR, and CCC.

The NAP supports and aligns with other national policies, including: (1) the National Framework on Climate Change 2010 to 2022; (2) National Climate Change Action Plan 2011 to 2028; and, (3) Philippine Development Plans starting from 2011 to 2016 until 2035 to 2040.

The NAP underscores the importance of aligning with the National Security Policy, among others framed within the context of social and climate justice, inclusivity towards a “societal transformation-focused NAP.”

As of 30 May 2024, the NAP has been submitted to the UNFCCC, and is now publicly accessible through this link: https://unfccc.int/sites/default/files/resource/NAP_Philippines_2024.pdf

Priority Outcomes. The NAP identifies the following priority outcomes in specific sectors, which make up the pillars for well-being and stability:

- Agriculture and fisheries and food security – availability, stability, access, affordability of safe and nutritious food is ensured amid climate change;
- Water resources – water resources are sustainability managed amid climate change and equitable access to this resource is ensured;
- Health – climate change risks to population health and health systems are reduced or avoided;
- Ecosystems and biodiversity – resilience and stability of different ecosystems and natural systems are ensured; and,
- Cultural heritage and population displacement and migration — cultural heritage and well-being of persons and communities displaced by conflicts and disasters caused by climate change are protected.

The NAP lists the following strategies to achieve the abovementioned outcomes: (a) securing food supply, (b) safeguarding water security, (c) climate-adaptive healthcare for all, (d) safeguarding biodiversity, and (e) safeguarding communities and culture.

Enabling Factors. The NAP lists the factors that underpin economic resilience and resilience-building:

- Land use and human settlements - Human settlements and infrastructure are adapted and secured against climate change impacts;
- Livelihoods and industries – Industries, jobs, and livelihoods are adaptive to climate change and contribute to resilience building; and,
- Energy transport and communications – Energy systems and infrastructure are climate-proofed.

Strategies. The NAP proposes the following: (1) data-driven land use; (2) climate-proofing economies; and, (3) protecting critical infrastructure systems, and securing/sustaining access and connectivity.

⁷ Lal, Rattan, Enos E. Esikuri. *Sustainable Land Management for Mitigation of and Adaptation to Climate Change*, World Bank Environment Department, 29 June 2010. Accessed on 24 May 2024 at: <https://documents.worldbank.org/en/publication/documents->

NAP Strategic Framework



GOAL The Philippines effectively builds resilience to minimize climate-related losses and damages and builds its adaptive capacity towards transformative resilience and sustainable socioeconomic development by 2050.

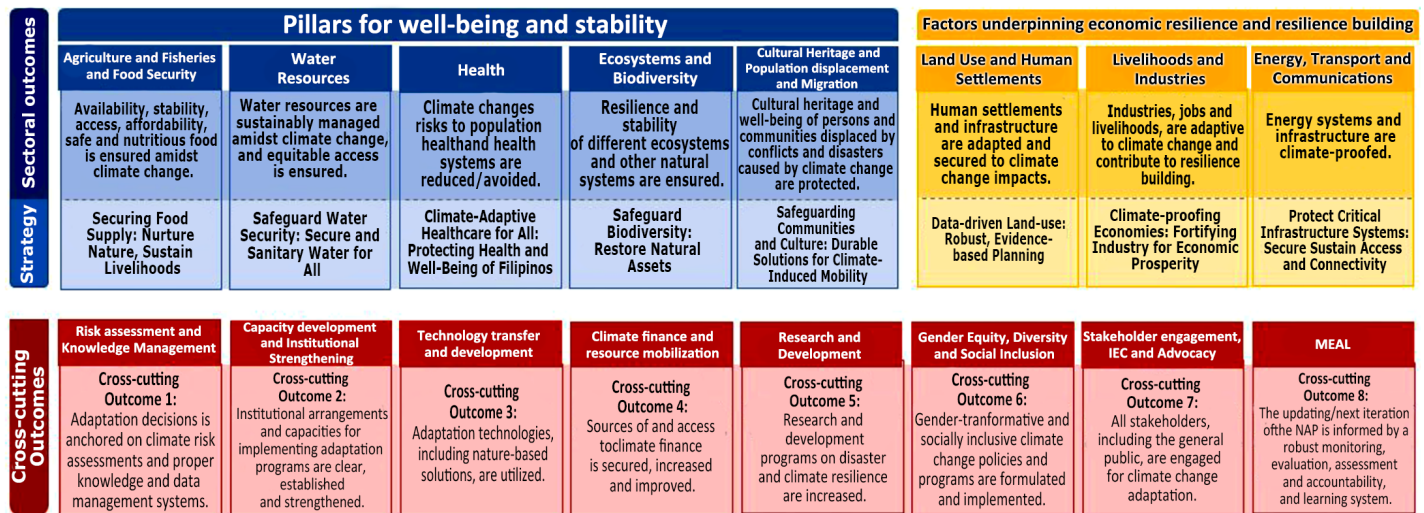


Figure 2. The National Adaptation Plan Strategic Framework (as indicated in the NAP).

Cross-Cutting Outcomes. A number of cross-cutting outcomes pertain to the following:

- *Risk assessments and knowledge management:* Adaptation decisions are anchored on climate risk assessments and proper knowledge and data management systems;
- *Capacity development and institutional strengthening:* Institutional arrangements and capacities for the implementation of adaptation programs are clear, established, and strengthened;
- *Technology transfer and development:* Utilization of adaptation technologies, including nature-based solutions;
- *Climate finance and resource mobilization:* Sources of and access to climate finance are secured, increased, and improved;
- *Research and development:* Research and development programs on disaster and climate resilience are increased;
- *Gender equity, diversity, and social inclusion:* Gender transformative and socially inclusive climate change policies and programs are formulated and implemented;
- *Stakeholder engagement, IEC, and advocacy:* All stakeholders are engaged for climate change adaptation;
- *Monitoring, evaluation, accountability, and learning (MEAL):* The updating of the NAP is informed by robust MEAL system;
- *Completion of the Philippines' NAP is one of the key deliverables of the Philippine Development Plan (2023 to 2028).*

Adaptation and mitigation in agriculture: Community experiences

Government adaptation programs: Beyond the rhetoric

The DA highlighted its program called Adaptation and Mitigation Initiative in Agriculture (AMIA) as a concrete way in which the government agency builds farming and fishing communities, livelihoods, and enterprises that are resilient to economic and climate shocks. Currently, there are 181 AMIA Villages in 59 provinces and 127 municipalities in the Philippines. These villages receive tailor-fitted and integrated support services, such as:

- Community-level climate-resilient agri-fisheries technologies;
- Climate information service;
- Computer-aided climate risk-based decision-support tools;
- Links to market;
- Training on Climate Change Adaptation and Disaster Risk Reduction-productivity enhancing practices and technologies;
- Easy access to credit and affordable insurance;
- Organization of farmers and fisherfolk; and,
- Capacity building support and technical assistance for establishment of businesses/enterprises.

However, farmer representatives at the Learning Event cited experiences that indicate that the touted benefits of the AMIA program are not accessible to all farmers everywhere.⁸

⁸ As per DA-CRAO, the AMIA Villages are meant only to showcase community-based climate resilience building. Adopting and implementing the approach in other areas is for the community/LGU to consider.

For instance, they have reported the age-old tragedy of farmers dumping their produce on the roadsides because it would cost more to transport them to the markets. This situation is also regarded as an indictment of the DA's Agribusiness and Marketing Assistance Service (AMAS), which endeavors to facilitate linkages of farmers and consumer markets in order to avoid just such a problem.

The farmer representatives also cited the recurring problem of oversupply of agricultural produce that depresses their market price. The farmers agreed that they need market information to guide them on which crops to grow and how much of it to produce. Local government units (LGUs) were regarded as the best source of this information because their offices are closest to the farms in contrast to the central office of the DA, and thus, they would have greater access to farm and cropping data. The farmers proposed that LGUs could help them to prepare a cropping calendar informed by weather forecasts. Such a calendar would enable farmers to make better decisions on what to plant in anticipation of severe weather events. However, LGUs need granular information and capacity-building to provide farmers with this kind of support.

Maladaptation

Climate change-induced natural disasters have adversely affected the agriculture sector of the Cordillera Administrative Region (CAR). According to a report entitled "Adopting to Climate Change: The Cordillera Experience"⁹

"Climate change has escalated the uncertainties in the region's agricultural production as the increased occurrence, intensity, and length of rainfall events — which consequently increase erosion rates, trigger landslides, and make certain crops susceptible to diseases — have impacted crop production in the region, particularly during the crops' critical growth stages."

However, farmer representatives from the CAR have criticized a particular response of the government to climate change-induced natural disasters as an example of maladaptation.

The Intergovernmental Panel on Climate Change (IPCC) defines "maladaptation" as consisting of "actions that may lead to increased risk of adverse climate-related outcomes, increased vulnerability to climate change, or diminished welfare, now or in the future."

⁹Sandoval Jr., Roberto and Baas, Stephen (2014), *Adapting to Climate Change: The Cordillera Experience*.

The Learning Event participants cited specific instances of maladaptation. The farmers' organizations in the CAR reported that the DA had introduced a new rice variety that took three months to harvest, as opposed to the six-month cropping cycle that their traditional rice variety required for harvesting. The problem with the new rice variety was that it came with a package of chemical fertilizers and pesticides. Storage of the harvest also proved to be an issue because the rice grains tended to fall out of their stems.

The National Anti-Poverty Commission (NAPC) Vice Chairperson for the Basic Sectors, Ruperto Aleroza, cited another example of maladaptation. Section 4 of Republic Act (RA) 7161 explicitly bans the cutting of all species of mangroves. Section 43 of Presidential Decree (PD) 705 (Revised Forestry Code of the Philippines) also bars clear cutting operations in all mangrove swamps set aside for coast protection purposes.

These legal prohibitions against the cutting of mangroves may be regarded as adaptation measures because mangrove forests shield coastal communities from the extreme impacts of typhoons that routinely tear through the Philippines. In addition, as climate change induced global warming melts ice sheets at an alarming rate, sea levels are expected to rise and threaten to inundate entire coastal areas. Unfortunately, as of February 2024, over half of the country's 450,000 hectares of mangrove forests have disappeared, mainly because of their conversion to fishponds and other coastal projects. The Philippines is now ranked second in Southeast Asia for mangrove depletion.

Laws seeking to protect the country's mangroves are being undermined by inconsistent policies that are being vigorously promoted by other government agencies, such as the Bureau of Fisheries and Aquatic Resources (BFAR) of the DA.

The unfair tradeoff from government mitigation programs

The DA has touted its mitigation strategy of establishing tree plantations in strategic areas, e.g., planting coconut trees in areas prone to storm surge. At the Learning Event, the DA representative cited the fact that 3.6 million hectares of coconut plantations sequester every year more than the total GHG emission from Philippines agriculture. The DA listed the establishment of bamboo plantations among its priority carbon sequestration plans.

Field verified data have demonstrated the potential of forest plantations to enhance carbon sequestration on degraded lands. However, there are trade-offs involved in such tree-plantation strategies. For example, certain tree species may become vulnerable to pests and diseases when grown as

monocultures. Most require additional water and nutrients and compete for scarce land resources. Other tree species may in fact present ecological problems in some areas particularly if they have potential to become invasives. But perhaps one of the most important concerns about tree monocultures is that they undermine efforts to promote and sustain biodiversity. As tree plantation areas expand all over the country, the genetic pool of tree species becomes narrower to the point that in the near future, only a few tree species will survive. Would it not be better to address deforestation, and thus, protect, preserve, and enhance the biological diversity that exists in the country's natural forest areas?

The DA CRAO has cited the mitigation benefits of reducing the use of inorganic inputs in farming. The DA has assigned the same importance to promoting the use of bioengineered crop varieties that are considered to have beneficial characteristics, such as resistance to pests and diseases and extreme weather events (like typhoons and drought) as well those containing enriched minerals and vitamins. Scientists and advocates of different persuasions argue one way or another — either genetically engineered (GE) crops increase the use of pesticides, or GE crops decrease the use of pesticides. Scientific consensus on this question has yet to be firmed up. However, what is not in dispute is the fact that purveyors of GE crops have not proved without a doubt that consuming GE food does not pose a danger to people. On 19 April 2024, the Philippines' Court of Appeals (CA) upheld a lower court's decision to stop the distribution and commercial propagation of two GE crops, namely, GM Golden Rice and Bt Eggplant.¹⁰ In effect, the CA agreed that the purported benefits of these two GE crops were not worth the potential harm that the GMOs pose to the environment, to farmers' safety, and to the health of Filipinos in general. The CA ordered the government agencies concerned, including the Bureau of Plant Industry (BPI) of the DA to stop the use, field testing, commercial propagation, and importation of GE organisms until the requirements of safety have been fully met.

Lastly, the DA, in its purported commitment to mitigate climate change, must address the problem of agricultural land conversion (ALC). ALC has raised concerns about endangering food security, reducing food production, diminishing agricultural labor, increasing rainfed land, and transformations in the culture and the livelihoods of indigenous peoples. In addition, recent studies have shown "significant effects of ALC on GHG emissions." In June 2023, a scientific journal reported that:

"Increasing ALC to more than 8 percent of available land led to increasing GHG emissions during the economic development process... Thus, to achieve sustainable economic development, policymaking should prevent the conversion of more than 90% of agricultural land to other uses."¹¹

Land rights and the Philippines' NDC

The links between land tenure and climate change are not readily understood. Tenure, or the relationship between people with respect to land, has traditionally been viewed from the perspective of an individual, family, or community. Climate change, on the other hand, is often viewed from a global perspective and is attributed to the collective or human use or abuse of natural resources. The connection often becomes clearer only when viewed from a broader perspective, a panoramic view from which relationships can be observed.

In the 2023 ANGOC publication, titled *"Putting land rights in the climate change narrative: Voices from the ground,"*¹² ANGOC presented 12 case studies that provide compelling evidence that the absence of secure land rights exposes impoverished rural communities to significant vulnerabilities arising from climate change impacts and hampers their ability to recover from climatic events. The cases also illustrated how land tenure insecurity undermines the capacity of eight communities to engage in climate adaptation and mitigation; disqualifies them from government compensation for loss and damage; deters them from implementing sustainable land use and governance practices; and, severely constrains their right to make decisions and investments that ensure their survival and improve their resilience.

This current brief offers the beginning of an exploration of another dimension of this discourse: how secure land rights and tenure can contribute to the Philippines' NDC, specifically its mitigation and adaptation goals.

As early as 2010, the World Bank (WB) had been promoting the adoption of Sustainable Land Management (SLM) practices. According to the WB:

¹¹ Huang, et al., (2023), Contribution of agricultural land conversion to global GHG emissions: A meta-analysis, *Science of The Total Environment*, Volume 876, 10 June 2023. Accessed on 24 May 2024 at: <https://www.sciencedirect.com/science/article/abs/pii/S0048969723008859>

¹² Asian NGO Coalition for Agrarian Reform and Rural Development (ANGOC). (2023). *Putting land rights in the climate change narrative: Voices from the ground*. ANGOC. See <https://angoc.org/portal/putting-land-rights-in-the-climate-narrative-voices-from-the-ground/>

¹⁰ As per DA-CRAO, bioengineered crops for CCAM indicated in the NDC are generally stress-tolerant rice varieties, not Golden Rice & Bt talong (which are subjects of the DA Biotechnology Program).

“[A]gricultural practices can render a soil either a sink or a source of greenhouse gases (GHGs, particularly CO₂) (Lal 2004; Lal 2005). Agricultural practices that lead to emissions of GHGs from the soil to the atmosphere include: deforestation (CO₂, CH₄, N₂O), biomass burning (CO₂, CH₄, N₂O), plowing and soil disturbance (CO₂), draining of wetlands (CO₂, N₂O), and uncontrolled grazing (CO₂,N₂O).”¹³

In many countries with large rural and landless populations, SLM practices are undermined by insecure land tenure. The link between poor land management and the lack of land rights is manifested in a number of ways.

Lack of stewardship of land and other resources

It has been proven that farmers generally take better care of land and resources for which they have a sense of ownership. Farmers also tend to make long-term investments on such assets, even to the point of foregoing instant rewards in the expectation of future gains. Sustainable agriculture is one such investment. Farmers undertake labor-intensive work to wean themselves from dependence on chemical fertilizers and pesticides, which pollute the soil and water, based on the promise of long-term rewards. Without secure land rights, poor farmers can not be expected to make such sacrifices; they will resort to the fastest way to produce as much as they can, as a matter of survival. The DA has specifically cited shifting from the use of inorganic farm inputs as an important mitigation measure. However, this option will make sense to farmers only where the cost-benefit calculation would work in their favor.¹⁴

Conflict between livelihoods and biodiversity conservation in forestry areas

The Philippines’ forestry sector is particularly critical to the country’s mitigation and adaptation strategies. In its NDC, the Philippine Government attributed its status as a “net sink” to this sector’s high performance in carbon sequestration.

At the same time, the country’s forests provide a wide range of ecosystem services which are vital in building climate resilience in the country. This underlines their importance to adaptation strategies.

However, what is invariably ignored or neglected in accounting for the value of forest resources is the fact that they provide income and livelihood opportunities to upland communities.

¹³The World Bank Environment Department, Sustainable Land Management for Mitigation and Adaptation to Climate Change, 29 June 2010.

¹⁴As per DA-CRAO, the promotion of balanced fertilization (50% reduction of urea application) is included in the Agri NDC PAMs.

Indigenous Peoples (IPs) have long-held rights to use their ancestral domains, which sit astride vast forest areas. But because of poor enforcement of the Indigenous Peoples Rights Act of 1997 (IPRA), IPs are unable to enforce their rights. They come into conflict with encroachers, who are driven by poverty and the lack of livelihood opportunities in the lowlands.

Under these conditions, many of these forest-dependent groups forego responsible stewardship of forest resources, but rather take as much as they can get to fulfill immediate needs.

If these communities are to become partners of the government in maximizing the use of forests as carbon sinks, they must be assured of secure and long-term rights to sustainably use forest resources. Unless arrangements such as community-based forestry projects are effectively and fairly implemented, forest-dependent communities will become agents of deforestation rather than of forest protection.

Leading the discourse on the centrality of land rights in heading off climate change

There are opportunities to highlight land rights and land tenure dimensions in the NAP, the NDC Implementation Plan, or in the DA’s emission reduction strategies. The Climate Change Commission (CCC) and the DA Climate Resilient Agriculture Office (CRAO), have expressed their commitment to work with Peoples Organizations (POs) and Civil Society Organizations (CSOs) to ensure that land rights are incorporated in the implementation of such plans and in future iterations of these documents.

More future collaboration among the CCC, DA-CRAO, and CSOs, through ANGOC, is envisioned to continue the dialogue process of ensuring land tenure as an essential component of effective climate change mitigation and adaptation programs. ■

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