Report on policy review and institutional analysis for development of commercial forestry investment sub-projects

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Acronyms and abbreviations

AO	Administrative Order
CAR	Cordillera Administrative Region
DAR	Department of Agrarian Reform
DAO	DENR Administrative Order
DENR	Department of Environment and Natural Resources
DMC	DENR Memorandum Circular
EO	Executive Order
FLEGT	Forest Law Enforcement, Governance and Trade
FMB	Forest Management Bureau
FPIC	Free, Prior and Informed Consent
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, a German agency for international development
ha	hectare
ICRAF	World Agroforestry
INREMP	Integrated Natural Resources and Environmental Management Project
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature
JAO	Joint Administrative Order
km	kilometer
m^3	cubic meter
MC	Memorandum Circular
MO	Memorandum Order
MoA	Memorandum of Agreement
NTFP	Non-timber forest product
PD	Presidential Decree
PHP	Philippine peso
RA	Republic Act
REDD+	Reducing Emissions for Deforestation and Forest Degradation
SME	small- to medium-sized enterprise
US	United States
USD	United States dollar

Executive summary

Key findings

This policy and institutional review puts forward six clusters of conclusions and recommendations to help restore investors' confidence in the Philippines, and the emergence of stronger and better-organized smallholders and small-to-medium-sized enterprises (SMEs) producing both timber and non-timber forest products (NTFPs).

1. Clarity and stability in the overarching forest policy framework

The Revised Forestry Code of the Philippines enshrined in Presidential Decree (PD) 705 s. 1975 remains the only overarching policy framework to govern the use, management and protection of the country's forest resources even though "most of its provisions have become obsolete, particularly, the allocation of forest lands and tenure" (Forest Investment Road Map (FIRM):47). Currently, there are an estimated 97 laws, Executive Orders (EOs), and Department Administrative Orders (DAOs) (Domingo and Manejar 2019:17) governing land and forest administration in the Philippines (some of these are listed in Annex 1). A draft Sustainable Forest Management Bill has been languishing in the country's legislature for more than three decades. The enactment of the Sustainable Forest Management Bill remains elusive owing to the lack of widespread support from members of both Houses of Congress.

A new draft Administrative Order of the Department of Environment and Natural Resources (DENR) entitled, Implementing Rules and Regulations of EO No. 318 of 2004, was submitted to the DENR Secretary in mid-2019 following an 18-month consultative process. In the absence of a new Sustainable Forest Management Act and/or a National Land Use Act, DENR's Forest Management Bureau (FMB) formally proposed Implementing Rules and Regulations of EO No. 318 of 2004.

2. Development of a simplified, harmonized and streamlined land-tenure system

Convergence of initiatives by national government agencies has not yet been able to process, or manage, tenurial conflicts and overlaps (see, for example, De Vera 2017). Further, existing tenurial instruments have not secured livelihoods nor promoted economic development and sustainable land and forest use owing to their narrow focus, insecurity and conflict with other titles and instruments (see, for example, Pulhin et al 2008, GIZ and DENR 2015, Esplana and Quizon 2017). In the uplands, "millions of people live illegally on public forest lands without clear tenure rights or in situations where the same piece of land is claimed by different parties" (GIZ and DENR 2015:10).[1] Tenure is a major factor both in reducing deforestation and forest degradation and in defining which individuals and groups may gain from investments, including through climate financing. This challenge is particularly acute in the context of multiple tenurial instruments, where only 38% of production forests are under some form of tenurial agreement (FIRM:13). Furthermore, multiple laws, EOs and DAOs etc, multiple

1 17–22 million Philippine citizens are estimated to be living as "informal settlers" on public land (Fortenbacher and Alave 2014, GIZ and DENR 2015:31)

planning frameworks[2], and proposals for financing mechanisms in the framework of Reducing Emissions for Deforestation and Forest Degradation Plus render this context even more complex. FMB is currently exploring the adoption of new sustainable forest management agreements, which, if considered as part of the Forest Investment Road Map proposal — Identification/Validation, Mapping and Assessment of Potential Investment Areas (FIRM:48–49) — represents a promising initiative to simplify, harmonize and streamline land tenure to stimulate new domestic and foreign direct investment in the forest sector. The promulgation of the proposed National Land Use Act would provide additional clarity as an overarching legal framework for land-related issues.

3. Strengthening capacity development of local government units and other third-party forest managers

The promulgation of the Local Government Code in 1991 has not been followed by adequate decentralization of human and financial resources to govern natural resources at the local (provincial, city, municipality and barangay) levels. This is manifested in terms of shortages of staff and limited budgets among local government units. This has been compounded by the continued over-regulatory and tree-planting focuses of DENR FMB, changing tenurial arrangements (for example, following the promulgation of the Indigenous Peoples' Rights Act in 1997 and the expiry/non-renewal of 50% of the former Certificates of Stewardship Contracts issued by DENR during the Integrated Social Forestry Program, which started in 1982), and restricted capacity development of, and coordination with, local government units and other "third-party" forest managers (for example, non-governmental organizations, civil-society organizations, academe, the private sector). It is not known how many Co-Management Agreements and/or sub-management agreements have been reached between DENR and local government units to co-manage public forest lands.[3] These factors have all contributed to restricting DENR's ability to either significantly improve the management of open-access forests or restore degraded forest lands by mobilizing private-sector investment. Major investments are needed to develop the capacities of local government units and other third-party forest managers, combined with focused information and education campaigns. As one recent report notes, "The joint management of forest lands by local government units and DENR can be potentially successful. However, tenure issues, capacity and lack of technology, as well as conflicts of interests between local and national authorities hinder successful implementation." (GIZ 2015:28).

DENR and the Integrated Natural Resources and Environmental Management Project (INREMP) both have enjoyed successful collaboration with local government units, for example, in Bohol Province and Cordillera Administrative Region (CAR) and can draw additional lessons from other examples of successful decentralized sustainable forest management in the Philippines (Section VIII).

4. Facilitating a change in the organizational culture of DENR FMB

Although significant progress has been made to introduce Community-Based Forest Management Agreements, DENR's continued focus on regulation and extractive timber-

2 For example, regional development plans, Integrated Watershed Management Plans, local government units' Comprehensive Land Use Plans and Forest Land Use Plans, and the Indigenous People Groups' Ancestral Domains Sustainable Development and Protection Plans

3 No clear national guidelines for the implementation of Co-Management Agreements exist and, thus, interpretation of the Co-Management Agreements approach varies between regions (Belino 2014:32)

driven systems drawing on past timber license agreement experience[4] underlines the challenge to fully adjust policies and strategies that respond to devolved, holistic, interconnected and community-managed ecosystems coordinated by local government units. This will necessitate a further redefinition of roles at the national, regional and local government levels. DENR will need to further decentralize functions and to delegate greater responsibility to regional DENR offices as well as Provincial Environment and Natural Resources Offices and Community Environment and Natural Resources Offices. DENR regional and local offices will need to be more facilitative and less regulatory in promoting sustainable forest management with third-party forest managers. DENR and FMB at the national level will continue to define key policies and strategic and regulatory frameworks of the forest sector whilst facilitating devolved implementation by others.

The recent adoption of the Forest Investment Road Map (DAO 2019–22) in December 2019 is a welcome initiative by DENR's Forest Investment and Development Division to attract new domestic and foreign direct investment in the forest sector. The vision, goals and objectives of the Forest Investment Road Map include a seven-point strategic framework (FIRM:45–81), which will collectively assist in facilitating a change in the organizational culture of DENR FMB, whilst contributing to the requirements of Republic Act (RA) 11032 s. 2018 on the Ease of Doing Business and Efficient Government Service Delivery. Two policy areas merit particular attention.

4.1. Simplifying and harmonizing the continuous implementation of Community-Based Forest Management Agreements to improve development outcomes

The dominant tenure instrument in the Philippines is now the Community-Based Forest Management Agreement (1884 agreements with people's organizations covering more than 1.6 million hectares (ha)).[5] Several studies highlight that community-based forest management has not met its socio-economic targets (see, for example, Tesoro 1999, Guiang et al 2001, Harrison et al 2004, Rebugio et al 2010). Current forest management planning, regulation, monitoring and policy-making remain influenced by the timber-oriented rules and regulations of the timber license agreement era. The strict requirements for obtaining approvals to cut and transport timber products are preventive measures to eradicate the proliferation of illegal logging but are, in essence, the same for community organizations and private-sector tenure holders. The high degree of regulation is similar to that formerly applied to holders of Timber License Agreements and Industrial Forest Management Agreements.

Five critical processes could be streamlined or developed by DENR to ensure the continuity of community-based forest management agreements to improve development outcomes in terms of livelihood benefits to local communities and indigenous people (see page 81). It will be important for DENR and INREMP to harness the lessons learned by the Japan International Cooperation Agency-financed Forestland Management Project, notably in terms of securing land-tenure rights and enterprise development for food security and income (DENR FASPS n.d.).

4 For example, the total area under the former Integrated Social Forestry Program in 1986 was only 446,156 ha while 159 timber license agreements covered a total area of 5.85 million ha (Pulhin et al 2008)

5 The original DENR strategic action plan for community-based forest management targeted 9 million ha of forest lands to be placed under community management

4.2 Strengthening the emergence of community-based timber enterprises by simplifying and harmonizing harvesting, transportation and processing regulations for smallholders and small-to-medium-sized enterprises

Forest-sector SMEs, like SMEs in general, suffer from limited access to business and financial services, lack of support to enhance their competitiveness, regulatory measures that constrain their ability to operate in a "legal" space or that create perverse incentives, and limited access to markets. These and other challenges and constraints for SMEs have been widely identified, but recommendations and efforts to address them have often been fragmented and sectoral, limiting the effectiveness of the interventions.

Five processes could be streamlined by DENR to facilitate the emergence of SMEs in the Philippines (see pages 82–83). The adoption of the Forest Investment Road Map (DAO 2019–22) provides new opportunities for DENR to build, strengthen and sustain relationships with partners and existing tenure holders, explore new partnership mechanisms between the Government and the private sector and develop six new approaches to marketing strategies (FIRM:75–81). The latter may include the marketing of products from commercial forestry investment sub-projects — conservation farming, agroforestry, and commercial tree plantations — drawing on lessons learned from successful private-sector initiatives (Section IX).

5. Mainstreaming lessons learned by INREMP and National Greening Program

Three processes will enable DENR to capitalize on the experience of INREMP and the National Greening Program by harnessing the human capital of third-party forest managers to improve the management of open-access forests and/or restore degraded forest lands through the more widespread adoption of commercial forestry investment sub-projects throughout the Philippines.

5.1 Accreditation of People's Organizations (building social capital)

The complex accreditation assessment process of people's organizations that was introduced by INREMP in 2018 was based on the principles of the Forest Stewardship Council's certification system (INREMP 2018). It has been confronted with several implementation challenges. The DENR national and regional (Mindanao) workshops provided opportunities to explore ways of simplifying the process (see Enhanced Theory of Change Workshop Report). It was first introduced as a way to improve the disbursement and monitoring of natural resources management and livelihood enhancement support Type 1 grants to rural communities in the four INREMP regions. The process was inspired by the Council's 10 principles, 35 criteria and 70 indicators and the introduction of corrective action requests and annual audits during the accreditation process.

A technical bulletin, Guide for Implementation of the People's Organizations (PO)/Indigenous People's Organizations (IPO) Accreditation Assessment, was published in October 2019. Although DENR has completed the accreditation of 90 people's organizations in the Bukidnon Region, the full transaction costs of the process have not yet been assessed. Large differences exist between people's and indigenous people's organizatoins in terms of their

histories, technical and financial capacities, leadership and engagement in earlier and on-going tree-planting projects (for example, Forestry Sector Project I, II, NGP). Similarly, the capabilities of Site Management Officers reporting to Community Environment and Natural Resources Offices and other DENR/INREMP project staff are extremely varied. Facilitation skills are, in general, weak.

A joint DENR and World Agroforestry (ICRAF) workshop was conducted in Cagayan de Oro, Region X in October 2019, which identified potential opportunities to simplify the accreditation process.

5.2 Securing Certificates of Pre-Condition to renew Community-Based Forest Management Agreements (strengthening convergence initiatives)

Many existing Community-Based Forest Management Agreements are coming to the end of their first 25-year mandate and will be subject to renewal. Per the Indigenous People's Rights Act Law 1997, National Commission on Indigenous Peoples AO No. 3, s. 2012 (Revised Free, Prior and Informed Consent Guidelines) and JAO No. 1, s. 2012, a new FPIC requirement of the National Commission on Indigenous Peoples, a seven-step process of consultation is required to obtain a Certificate of Pre-Condition from indigenous people's and indigenous cultural communities given the (now) primacy of customary laws, traditions and practices following the Indigenous People's Rights Act. Additional efforts will be needed to support the implementation of JAO 2012-01 to manage tenurial conflicts and to resolve jurisdictional issues among the different agencies (De Vera 2017). Additional details are presented in the Tenure Arrangements in the Philippines report.

DENR will need to mobilize additional human (legal specialists) and financial resources to expedite FPIC processes to secure Certificates of Pre-Condition and facilitate the renewal of Community-Based Forest Management Agreements in ancestral domain lands, particularly, those in the uplands, if it is to avoid a repetition of the non-renewal of large numbers of Certificates of Stewardship Contracts issued by DENR in the 1980s.

5.3 Sustaining and maintaining agroforestry and commercial tree plantations and the establishment of conservation farming demonstration sites (learning and consolidation)

In 2011, the Aquino Administration created the National Greening Program to regain 1.5 million ha of forest lands by planting 1.5 billion trees within six years. To cover the rest of the forest lands, the National Greening Program was extended until 2028. Around PHP 47.22 billion was allocated to the DENR from 2011 to 2019 to implement the program. However, despite eight years of implementation, legislators remained skeptical as to its actual impact. As a result, the Program's budget was cut in half from PHP 5.15 billion in 2018 to PHP 2.60 billion in 2019.

DENR has an opportunity to sustain and maintain existing conservation farming, agroforestry, and commercial tree plantation demonstration sites established by INREMP by transferring, where appropriate, such activities to the National Greening Program. This would require that DENR learns from the findings and follows the recommendations of the Commission on Audit's *Performance Assessment Report* 2019 of the National Greening Program.

The Commission found that the most crucial issue was DENR's strategy of fast-tracking the program, which led DENR to 1) impose targets on its field officials beyond their absorptive capacities; 2) proceed with the program without conducting a survey, mapping and planning; 3) include far untenured areas, which will be abandoned after the term of the maintenance and protection contracts (3 years); and 4) cause POs to miss financial opportunities, such as profits from producing their seedlings. The National Greening Program's targets were too ambitious. Instead of increasing forest cover, fast-tracking reforestation activities only increased the incidences of wastage. Based on the latest Philippine forest statistics, forest cover increased marginally by 177,441 ha: from 6,836,711 ha in 2010 to 7,014,152 ha in 2015. This is only 11.8% of the 1.5 million ha target of the Program under EO No. 26.

The key recommendations of the performance audit were as follows.

1. Consult the Provincial Environment and Natural Resources Offices and/or Community Environment and Natural Resources Offices, the private sector and beneficiaries when formulating the action plan and targets.

2. Ensure that the people's organizations benefit from seedling production by providing them with sufficient time to produce the seedlings themselves.

3. Make community organizing as a pre-requisite before proceeding with the program.

4. Implement the convergence initiative at the national and local levels (Commission on Audit Performance Audit Report PAO-2019-01)

DENR may opt to transfer the establishment and maintenance of conservation farming demonstration sites to the National Greening Program. To this effect, DENR will need to convert INREMP Technical Bulletin #10 Series 2017 (17 May 2017) into a DENR AO. The future establishment of agroforestry, and commercial tree plantations, should follow the Forest Investment Road Map and recommendations of the Commisson on Audit PAO-2019-01 and not be based on project financing.

6. Additional measures to create an improved enabling environment in the Philippines

These measures may encompass, among others, 1) field-testing the regional Forest Stewardship Council for smallholders in the Philippines; 2) pro-active investment promotion with targeted incentive schemes; 3) developing new financial instruments favoring long-term investments; 4) reducing investment risks through guarantees, public–private partnerships and innovative financing schemes; 5) collecting, collating and improving access to information concerning the availability of suitable land for investments, growth and yield, growing conditions, risks etc; 6) improving forest-sector governance and transparency; 7) additional support for forestry and agroforestry research and development to increase productivity; 8) helping to organize smallholders and communities so that they can enjoy economies of scale, become more eligible to access finance, and gain negotiating power.

Some of these measures have already been initiated by DENR as part of the short-term (2018–2020) activities in the Forest Investment Road Map (FIRM:82–89). These include the signing of a new memorandum of agreement between DENR and the Development Bank

of the Philippines and the establishment of eight regional investment registers to guide and support investors.

B. Summary of research

The Philippines has a rich history of both logging and, more recently, tree planting and forest restoration. The complexity of forest management in the Philippines — from licensing and management through harvest and processing to sale and renewal — has involved multiple sets of policies and guidelines as well as changes and reversals of same, some of which can be considered as perverse because they contributed more to deforestation and forest degradation than to conservation of forests. The lack of clarity, uncertainty and unpredictability in forest policies has discouraged private-sector investment. This has not been helped by the persistence of "standard operating procedures" (informal payments) associated with checkpoints and spot-checks by DENR, FMB, military and Philippine National Police personnel to monitor the harvesting, transport and processing of timber. DENR FMB has successfully developed a watershed-based integrated ecosystem management approach as the national planning framework for forest lands. Weaknesses remain, however, in terms of the delimitation of boundaries and Local government units' capacities and resources to develop, implement and monitor both Forest Land Use Plans and Comprehensive Land Use Plans.

1. The Philippines has a total land area of 30 million ha, 47.3% (14.2 million ha) of which is identified as Alienable and Disposable lands while the other 52.7% (15.8 million ha) is classified as forest lands. A significant part of public forest lands is without forest cover. Furthermore, many of the forest lands are not yet delineated on the ground and this has resulted in widespread encroachment and forest degradation. By clearly defining the location and extent of forests, uncertainty will be lessened, particularly for private investors (SEPA 2018:4).

2. The country's forest cover has progressively declined from an estimated 17 million ha in 1934 to 5.5 million ha in 1999, with an estimated average annual forest loss of 100,000 ha per year. Philippine forestry statistics show that the country had 7.014 million ha remaining in 2015. Most of these forests are in fragmented stands.

3. Most of the former dipterocarp forests were heavily exploited both before and immediately after the Second World War. The country continued to exploit its forests after independence through the export and/or processing of raw logs, timber, semi-processed lumber, veneer and plywood until the early 1980s. This opened up large areas for agricultural expansion and settlement. The Philippines has been a net importer of logs, lumber, veneer and plywood to meet domestic demand since 1989. The Philippines continues to import timber to meet its supply–demand deficit. Seventy% of locally-produced timber comes from the so-called "timber corridor" in Caraga Region.

4. After independence in 1946, when ownership of all forest lands was nationalized, the industry became more mechanized and large-scale logging expanded to meet strong postwar US and Japanese demand. Forest products, only 1.5% of total exports in 1949, grew to 11% by 1955. Driven by incentives, strength in the world log market,

and mechanized harvesting, the timber boom peaked in 1969. Annual harvests averaged 8.8 million cubic meter (m^3) and the forest area under logging concessions nearly doubled, from 5.5 million ha in 1960 to 10.6 million ha in 1971. Forest products became the leading export commodity, reaching 33% of gross export values by 1969.

5. The timber boom was driven by the vast profits that logging companies accumulated because the Government was unable to capture an appropriate share of resource rents through forest revenue systems. Government revenues in the Philippines averaged only 8.8% of the sector's export values between 1970 and 1982. Forest taxes and fees amounted to only 0.5–1.3% of total Government revenues during the 1970s. The primary revenue source was a volume-based charge for logs used domestically and for exported logs. Other volume-based charges were imposed to finance reforestation, extension and research and development. These fees were consolidated in 1980 to a charge of 20 pesos per m^3 and raised by 50% to USD 1.52 in 1984.

6. Forest concessions were initially granted for 1–10 years in the 1970s and provided concessionaires with few incentives to practise sustained-yield management. Concessions were later extended to 25 years, with potential for renewal for an additional 25 years, but these were still short relative to the 70-year growing cycles of many tropical species. The effects of excessive rents and short-term leases were compounded by the structure of forest charges that failed to differentiate charges by timber grade, species and accessibility, rather basing charges on the volume cut rather than on the volume of merchantable timber. Weak enforcement of regulations on harvesting methods, stand improvement and forest protection also contributed to the problem owing to inadequate funding and personnel to supervise private loggers.

7. The Philippine Government's program to develop the wood-processing industry was initiated in the 1960s and aimed to increase foreign exchange, to create domestic value addition, to stimulate employment, and to use dwindling forest resources more effectively. Forest concessions were initially issued preferentially to companies that agreed to establish lumber and plywood mills. In 1967, a Government directive required all harvesters to build processing plants and progressively reduce log exports. Many companies complied by building small, inefficient and little-used mills while continuing to export logs. The Marcos Administration responded in 1975 with a ban on log exports. As a result, in 1977, sawmills and plywood processing plants were only operating at 29% and 35% of capacity, respectively. Processed wood exports, mainly lumber and plywood, increased as a share of total sectoral exports from 14% in 1970 to 76% in 1983. The value of processed wood exports peaked in 1979 at USD 317 million but had declined by 1983. The number of Wood Processing Plants (WPPs) also declined: from a peak in 1976, the number of sawmills fell from 325 to 190 in 1982; plywood mills from 209 to only 35; and veneer mills from 23 to 11. Reported log export volume declined to only 11% of total production by 1980. In 2016, 11 regular sawmills, 115 mini-sawmills, 44 veneer plants, 20 plywood plants, 1 blockboard plant, and 21 integrated plants remained in the Philippines (FIRM:17). Sixty-seven percent of log production in 2017 came from Region 13 (Caraga). Eighty-seven percent of lumber was produced in Regions 10 and 13 in the same year.

8. As mentioned, DENR is still using the Revised Forestry Code of the Philippines (PD 705 [1975], as amended by PD 1559 [1978]) in the utilization, management and protection of forest resources. The forest condition then was different than now after more than 40 years. Such that most of its provisions are no longer applicable (FIRM 2019), for example, the tenure and allocation of forest lands where agricultural cultivation exists even in the protection forest zone.

9. The 1987 Philippine Constitution declares that all lands of the public domain, forests or timber, wildlife, flora and fauna, and other natural resources are owned by the State. It allows the exploration, development and utilization of natural resources through co-production, joint venture or production-sharing agreements entered into by the DENR with Philippine citizens, corporations or associations for 25 years, renewable for the same period (Section 2, Article XII). The DENR is the primary Government agency responsible for the conservation, management, development and proper use of the country's environment and natural resources, specifically forest and grazing lands, mineral resources, and lands of the public domain, as well as the licensing and regulation of natural resources.

10. In 1987, a Reorganization Act (EO No. 192) mandated DENR to "assure the availability and sustainability of the country's natural resources through judicious use and systematic restoration or replacement, wherever possible", among other functions (Section 4, EO No. 192 of 1987). It also resulted in the establishment of the FMB. To date, an estimated 97 laws (Republic Acts from the legislative branch), EOs (from the executive branch), and DAOs (departmental, for example, from DENR) are governing land and forest administration in the Philippines (Domingo and Manejar 2019:17). These are adopted at three levels through a) Congress; b) PD, order or proclamation; and c) departmental administrative order or memorandum circular as well as joint administrative orders or circulars between DENR and other national government agencies.

11. Section 4, Article XII of the 1987 Philippine Constitution also mandates Congress to determine by law the specific limits of forest lands and national parks and mark their boundaries on the ground. DENR issued AO No. 2008-24 in 2008, which provided for comprehensive and clear guidelines in delineating boundaries between forest lands, national parks, and agricultural lands. DENR subsequently implemented the Forest Land Boundary Assessment and Delineation project, which was completed in 2017. It covered 80 provinces nationwide and a total of 89,092 kilometers of forest land boundary lines were delineated. As a result, about 345,286 ha currently regarded as forest lands are proposed to be reclassified or converted to alienable and disposable lands. If approved, this will effectively reduce forest lands by 2.29%. Region 7 will have the largest increase in forest land area, of about 74,942 ha.

12. Over the past century, the forest policy of the Philippines has evolved from a corporate timber-license-agreements approach to forest management towards a community-based forest management system. After four decades since the inception of the Integrated Social Forestry Program in 1982, forest policy now recognizes local communities and indigenous people as joint forest managers, if not the custodians of the land and forest resources. Three milestone policy instruments adopted in the

1990s underscored the role of public and community involvement in land and forest resource management. These were the Local Government Code (RA 7160) in 1991, the National Integrated Protected Area System (RA 7586) in 1992 (as amended by RA 11038, the Expanded National Integrated Protected Area System Act of 2018), and the Indigenous People's Rights Act (RA 8371) in 1997.

13. The progressive recognition of the use, withdrawal, management and exclusive rights of local communities, indigenous people's organizations and indigenous cultural communities through the introduction of different land-tenure instruments reflects a long process of negotiation, contestation and accommodation among many groups with diverse interests at multiple levels. The emergence of social or community forestry in the Philippines was also in response to worsening poverty and forest degradation in the uplands, international funding, and as part of a State-led strategy to control and stabilize the intense political unrest in the countryside in the 1970s and 1980s. Community-based forest management strategies were consolidated in the 1990s as well as the growing recognition of indigenous people's rights and protected areas.

14. The plethora of different forest-tenure instruments introduced after the 1970s has been followed by more recent attempts to rationalize and simplify the types of forest tenure arrangements. Nevertheless, an estimated 17–22 million people living in the uplands of the Philippines, half of whom are indigenous people and indigenous cultural communities, currently have no written land-tenure agreement and are often considered illegal or landless (Fortenbacher and Alave 2014, GIZ and DENR 2015:31). In many cases, this is because their Certificate of Stewardship Contracts that were mainly issued in the 1980s have expired and/or have not been renewed. Indigenous people and indigenous cultural communities are often constrained to use forest resources within their ancestral domains. Despite efforts in the past to streamline tenure instruments — including the unified tenure system established through JAO 2012-01 and signed by DENR, Department of Agrarian Reform, Department of Agriculture, and Department of the Interior and Local Government — agreements have rarely been reached. Implementation problems have been rooted in Government inertia, ambiguity about who takes the leading role, and limited capacity to enforce. Further, existing tenurial arrangements have not ensured livelihoods, economic development, and sustainable forest use owing to their narrow focus, insecurity and conflicts with other titles and instruments (Tesoro 1999, Guiang et al 2001, Harrison et al 2004, Rebugio et al 2010).

15. Community-based forest management was adopted by the Government as the National Strategy to Ensure the Sustainable Development of the Country's Forest lands Resources and Providing Mechanisms for its Implementation after the adoption of EO 263 in 1995 and provided mechanisms for its implementation. This was reaffirmed by the Government after the adoption of EO 318 on Promoting Sustainable Forest Management in 2004. Further, community-based forest management was to be encouraged in all private-sector forestry enterprises and ventures. The key strategies adopted by DENR FMB included a) security of tenure: mechanisms to legitimize resource access and use rights through the issuance of long-term tenurial instruments, particularly, the Community-Based Forest Management Agreements for participating upland migrant communities and the Certificate of Ancestral Domain

Claim for indigenous people; b) social equity: a basic principle underlying community-based forest management in granting forest communities and comprehensive rights to use and develop forest resources; c) DENR and local government units partnerships: both DENR and local government units were expected to provide technical assistance to community-based forest management participants to help them attain sustainable forest management; and d) investment capital and market links: community-based forest management was intended to help participants' access investment capital, identify markets and build marketing capabilities.

16. Emerging lessons after three decades of community-based forest management in the Philippines indicate that unstable policies, overly bureaucratic procedures, project-based approaches, and weak institutional support systems have limited effective implementation. Further, "progress on the ground in terms of achieving the goals of sustainable and equitable forest management remains elusive" (Pulhin et al 2007:865, see also Johnson 1999, Guiang et al 2001, Harrison et al 2004, Rebugio et al 2010). Recent research has also highlighted that the promise of community forestry (to reduce rural poverty, improve reforestation and potentially offset carbon emissions) has often failed, either partly or completely (Baynes et al 2015).

17. EO No. 318 on Promoting Sustainable Forest Management was issued by then-President Gloria Arroyo in 2004. It underlined the need to harmonize policy reforms adopted since PD 705 in 1975 and to "pursue the sustainable management of forests and forest lands in watersheds" (Section 1, EO 318). It encompasses five guiding principles related to the delineation, classification and demarcation of forest lands: a) holistic, sustainable and integrated development of forestry resources; b) community-based forest conservation and development; c) incentives for enhancing private investment, economic contribution, and global competitiveness of forest-based industries; d) proper valuation and pricing of forestry resources and financing sustainable forest management; and e) institutional support for sustainable forest management. The implementing rules and regulations for EO No. 318 were first drafted by six technical working groups under the leadership of the FMB in 2004. This was not signed into an AO and, hence, was not implemented.

18. In 2010, extreme climatic events resulted in significant loss of lives and property in the Philippines and led to then-President Benigno Aquino issuing two EOs in 2011. EO No. 23 (1 February 2011) declared a moratorium on the cutting and harvesting of timber in the natural and residual forests (plantations not included) and created the anti-illegal logging task force. EO No. 26 (24 February 2011) declared an interdepartmental convergence initiative for the NGP to reforest and rehabilitate degraded forests and open areas.

19. Logging bans have been in force since 1991, covering an estimated 61 provinces and, after EO No. 23 s. 2011, nationwide. The moratorium on the cutting and harvesting of trees covers only those areas that are part of natural forest. Logging is still allowed in tree plantations. There have been calls to lift or review the total ban on logging since 2005. The draft Senate Bill No. 402 (July 2018), An Act for Promoting Sustainable Forest Management, includes (s. 25) a proposal to include a permanent ban on commercial logging.

20. In the Philippines, there are many ongoing activities aimed at developing a national system that would function similarly to the timber legality assurance system, chain of custody, and forest certification processes. However, views are somewhat polarized between Government and the private sector regarding the most appropriate approach for strengthening timber legality, with the Government favoring a regulatory approach and the private sector preferring to follow a route towards voluntary certification. Different donors are supporting these two approaches, with the International Tropical Timber Organization supporting the Government in the development of a timber legality assurance system and the Programme for the Endorsement of Forest Certification supporting private-sector associations with development of voluntary certification standards. The Food and Agriculture Organization of the United Nations (FAO) support is currently directed at closing this gap, through measures to increase awareness among private-sector players of Government legality requirements and building the capacity of Government committees working on timber legality and certification.

21. A draft Sustainable Forest Management Act and both a National Land Use Act and a Land Administration Reform Act have been resting in the country's legislatures for more than three decades. Also, a more recent initiative to delineate the Philippines' specific forest limits culminated in three bills (Senate Bill Nos. 35, 741 and 861), which were still pending in the Senate Committee on Environment and Natural Resources in 2018. The enactment of these acts and bills remains difficult to achieve because of a lack of widespread support from members of both Houses of Congress and Senate.

22. In the absence of either an Sustainable Forest Management Act or a National Land Use Act, multiple policy fiats were issued by DENR FMB and other agencies as EOs, AOs, JAOs, Memorandum Orders, Memorandum Circulars and Joint Memorandum Circulars and proclamations throughout the period 1980–2019.[6] This resulted in a changing and increasingly complex policy arena as the number of local government units and national government agencies implicated in the sustainable management and development of forest resources in the country increased significantly. Some have suggested that policy provisions for the allocation of forest land to the private sector have changed every time the DENR leadership changed. Joint MC No. 2007-01 established between DENR and the National Commission on Indigenous Peoples in 2007 has proved particularly difficult to implement.

23. The issuing of multiple policy fiats in the absence of a coherent and cogent national forest policy was exacerbated as the Government and DENR FMB responded to new global opportunities and challenges after 2005. This resulted in, among others, the promulgation of the Biofuels Act (RA 9367) in 2006, preparing a list of Convention on International Trade in Endangered Species of Wild Fauna and Flora-related threatened species in 2007 (DAO No. 2007-01), the development of the Philippine National REDD+ Strategy in 2010 (EO No. 881, s. 2010), engagement in a dialogue to inform and prepare a potential FLEGT Voluntary Partnership Agreement after 2012, the adoption of the Philippine Master Plan for Climate Resilient Forestry Development in January 2016, and the preparation of the Forest Investment Road Map in 2018.

6 These included 3 Republic Acts, 7 combined EOs, proclamations and Presidential Decrees and 87 MOs, MCs and AOs issued dealing with forestry (Domingo and Manejar 2019:17).

This "policy inflation" was not matched by any significant increase in either human or financial resources at a time when most externally funded natural resource management projects had been completed[7] and DENR FMB was concomitantly expected to strengthen support for, and collaboration with, Local government units. For example, the devolution of forest protection responsibilities to Provincial and Community Environment and Natural Resources Offices was not complemented with additional labor or fiscal resources.

24. The preparation of the Forest Investment Road Map is a welcome recent initiative of the Forest Investment Development Division of DENR with the vision, "Revitalized Philippine Forestry Investment towards inclusive growth and sustainable development through local and foreign direct investment to increase the gross domestic product contribution of the forest sector in the national economy". The Road Map was formally adopted by DENR as DAO-2019-22 on 2 December 2019. DENR is the lead agency responsible for creating an enabling environment through responsive policies, one of which is to rise to the challenge of mobilizing new forestry investments to make sustainable forest management more commercially competitive and economically attractive to investors, be they small, medium or international business operators. The Forest Investment Road Map was developed, in part, in response to RA 11032 s. 2018, on the Ease of Doing Business and Efficient Government Service Delivery, as a way to reduce regulatory transaction costs associated with the production, harvesting, transport and processing of timber from private lands, thereby, making timber plantations a more attractive business for smallholders.

25. A new draft DAO entitled, Implementing Rules and Regulations of EO No. 318 of 2004, was submitted to the DENR Secretary in mid-2019 following an 18-month consultative process conducted by the Forest Development Centre, College of Forestry and Natural Resources, University of the Philippines Los Baños, guided by a technical working group comprising representatives of Government (65%), people's organizations (17%), private sector (6%), non-governmental organizations (6%), academics (3%) and FAO FLEGT (3%), with financial support provided by FAO EU FLEGT.

26. Forest-cover loss over the past century has impacted the lives of more than 100 diverse Philippine cultures and resulted in at least 418 species appearing in the International Union for Conservation of Nature's Red List of threatened species. Forest loss has been due to, among others, commercial logging, illegal timber extraction, agricultural expansion, weak governance, local elite capture, failure to collect rents from licensees, population growth, mining and conversion of forest land to agricultural, residential and commercial uses. The underlying causes of deforestation and forest degradation in the Philippines include policy, institutional and governance issues, such as unstable, confusing and conflicting forest policies and mandates; logging bans as perverse incentives; open-access forest lands owing to lack of clear tenure; limited coordination with other sectors; poor monitoring and law enforcement; and the inability of institutions to adapt and carry out effective strategies (Guiang 2008, GIZ and DENR 2013).

7 Notable exceptions are the ADB, IFAD and GEF-financed Integrated Natural Resources and Environmental Management Program and the JICA-financed Forestland Management Project.

27. Although the forestry sector's contribution to the country's gross national product declined from 2.4% in the 1980s to 0.07% in 2006, it remains significant in diminishing the impact of poverty by providing habitats and resources for formal and informal settlements and to sustain livelihoods. The forestry sector's underestimated value can be observed in its contribution of PHP 5.26 billion (0.12%) to the gross domestic product of the Philippines in 2013 (Carandang 2012, SEPO 2015, Esplana and Quizon 2017). The share of gross value added in forestry to gross domestic product has progressively declined from 2006 to 2016 (FIRM:41). Despite the incentives provided, and the prescriptions of both the Philippines Revised Forestry Master Plan (2006) and the Philippines Forestry Sector Outlook (DENR FMB 2010), no substantial wood resources are likely to be forthcoming from either private or Government plantations soon, unless, and until, there are significant improvements in the enabling policy and institutional environment.

28. The Government has poured billions of pesos into reforestation programs for over a century. The country has undertaken reforestation programs from 1916 through to the launch of the National Greening Program in 2011, which was extended in 2016 to 2028. The Revised Master Plan for Forestry Development adopted in 2003 estimated that only 460,000 ha of fully established and well-managed forest plantations were needed to meet the country's plantation wood requirements. Several federal programs, including reforestation, industrial tree plantations and social forestry were adopted to regenerate forest resources during the period before 1980 through to 2001. An estimated 1.4 million ha of plantations were established up to 2001, of which only 150,190 ha were planted by the private sector (10.6%). Only 78,440 ha of industrial timber plantations (5.5% of the total) were established during the same period, suggesting that the range of incentives provided was ineffective. The major constraint was probably limited financial resources for extensive planting as no substantial credit support was provided by either Government or financial institutions. Hence, the only alternative was to generate revenue from exploiting natural forests to finance plantation development. The Forest Investment Road Map estimates in 2019 that, "The establishment of 1.4 million ha in 2028 of commercial tree plantations is expected to generate a total of 12 million m^3 in log production annually by 2028, which can then be processed further into lumber, plywood, furniture and other wood-based manufactured articles (FIRM:42).

29. The recurrent costs of reforestation/afforestation programs could be effectively reduced in the Philippines if the Government were to adopt a more supportive enabling environment to promote the emergence of, for example, community-based tree enterprises. The standing volume of second-growth production forests in the Philippines is estimated at more than 217 million m^3, representing a natural resource asset worth more than USD 13 billion (at USD 60/m^3) that could generate 60,000 full-time jobs by selling 500,000 m^3 of timber per year. DENR needs to simplify the regulations for smallholders to trade timber to help in reducing the transaction costs associated with timber marketing and processing at central, regional and local levels (Pulhin and Ramirez 2016).

30. There is a critical need to move beyond a "culture of tree planting", "meeting planting targets" and providing direct incentives such as tree seedlings to one that also

recognizes the critical role of indirect incentives, such as an appropriate enabling environment to establish an overarching climate of an enterprise. This will include greater recognition of the phasing of incentives, the importance of smallholders' tree and forest management, and facilitating entrepreneurship and the marketing of timber and NTFPs by smallholders. The latter will also require good end-markets for smallholders' processed timber. Both are already present, for example, in the Caraga Region.

31. A series of policy restrictions on commercial operations in natural forests and the nationwide logging moratorium introduced in 2011 triggered a shift in accessing timber from natural forests to plantation forests. Owing to the difficulties in accessing forest lands to establish tree plantations, many farmers in Mindanao shifted to planting trees on private land. This had several advantages, including the price of plantation wood remaining stable given the lack of wood supply from natural forests, a good existing road network for easy transport and marketing, and the remaining wood processing plants in Butuan City (6 veneer and 7 plywood plants) served as a ready market for plantation wood for the smallholding tree farmers holding Private Tree Plantation Ownership Certificates. Many downstream industries, such as trading, trucking and final processing of products, were also created. Additional incentives, such as tax breaks on revenues, provision of low-interest and long-maturing loans, less stringent requirements for wood processors, improving access to price information, improved maintenance of farm-to-markets roads used by tree farmers, and opportunities to export plantation logs, may enable other provinces to replicate the success in Caraga Region. The fiscal and non-fiscal incentives specified in the Forest Investment Road Map are limited to biomass investments (Renewable Energy Act RA 9513 s. 2008 and DAO 2009-05-008) (FIRM:25). No incentives are specified for the other potential investment areas (FIRM:14–38).

32. The aforementioned issues in the forest sector highlight an historical and institutional focus on regulation and extractive timber-driven systems and underline failures to adjust policies and strategies that respond to devolved, holistic, interconnected and community-managed ecosystems. The Philippines is still in an "initiation" phase of providing direct incentives, such as tree seedlings, but has the potential to accelerate with revisions of the enabling policy and institutional frameworks. Forest-sector SMEs, like SMEs more generally, suffer in the Philippines from limited access to business and financial services, lack of support to enhance their competitiveness, regulatory measures that constrain their ability to operate in a "legal" space or that create perverse incentives, and limited access to markets. These and other challenges for SMEs have been widely identified, but recommendations and efforts to address them have often been fragmented and sector-bound, limiting the effectiveness of the interventions.

33. The key barriers to financing private investments in sustainable forest management in the Philippines follow.

- Higher real and perceived risks than in Latin American and industrialized countries. These include political risks, insecure land tenure, currency risks, social and environmental risks, as well as reputational risks.

- Limited availability of, and access to, both domestic and foreign equity and loan financing. International equity financing is especially difficult to secure for projects under USD 25 million.

- Forestry businesses face unfavorable terms for financing. Even if domestic debt financing is available, the interest rates can be excessively high (in local currency) and loan payback periods very short (from six months to three years).

- Higher up-front costs of preparing investment projects in the forestry sector owing to, among others, a lack of reliable information about the forest; higher transaction costs throughout the investment cycle for small-and-medium-sized projects; and the need for tax reforms. In 2017, PHP 441 billion of foregone revenues (representing 2.8% of GDP) was provided as tax incentives to 3150 companies, including the elite top 1000 companies. This excluded all SMEs that paid the regular 30% corporate income tax. A comprehensive tax reform package aims to lower the corporate income tax rate from 30% to 20% and to reorient fiscal incentives to strategic growth industries and make incentives available to investors who make "net positive contributions to society" (Department of Finance 2020).

- The Forest Investment Road Map adopted by DENR in December 2019 aims to make sustainable forest management more commercially competitive and economically attractive to small-, medium- or large-sized investors by reducing transaction costs and providing a new suite of incentives.

Introduction

Background

The Philippines boasts a rich history of both logging (Repetto 1987, Boado 1988, Repetto 1998, Bautista 1990, Laarman et al 1995, Pulhin et al 1998), and a century of tree planting and forest restoration activities (Agaloos 1990, Pulhin 2002, Chokkalingam et al 2006). The latter has encompassed multiple externally funded reforestation/afforestation projects (Bernales and de la Vega 1982, Korten 1994, Harrison et al 2004, Hidayat 2018) implemented during the 1980s and 1990s, Government-led initiatives (DENR FMB 1991, 2003, 2012, 2016) and more-recent Government-financed programs, such as the National Greening Program,[8] first adopted in 2011, and extended in 2016.

There are imperative needs to move beyond a "culture of tree planting" and "meeting planting targets" in the Philippines to one that also recognizes the importance of, and builds, smallholders' tree and forest management and entrepreneurship and marketing of their timber and non-timber forest products. This also requires good end-markets for smallholders' processed timber. Both are already present in the Caraga Region (Carandang et al 2015, Israel and Bunao 2017). DENR needs to simplify the regulations for smallholders to trade timber to help in reducing the transaction costs associated with timber marketing and processing at central, regional and local levels.

The recurrent costs of reforestation/afforestation programs could be effectively reduced if the Government were to adopt a more supportive enabling environment to promote the emergence of community-based tree enterprises. The standing volume of second-growth production forests in the Philippines is estimated at more than 217 million m^3, representing a natural resource asset worth more than USD 13 billion (at USD 60/m^3) that could generate 60,000 full-time jobs by selling 500,000 m^3 of timber per year (Pulhin and Ramirez 2016).

Experience from other countries in Southeast Asia indicates that the businesses of most smallholding timber growers are not strictly market-oriented. Consequently, opportunities to make a better income from selling timber are often lost although timber plantations do generate important additional income for farmers. There is often a wide range in timber prices at village, watershed, provincial and regional levels but the farm-gate price generally lies at the lower end of the range. This is generally because of 1) poor quality of logs produced by farmers; 2) low bargaining power of farmers when selling their timber; 3) high transaction costs owing to cumbersome timber market regulations; and 4) transport costs (Rohadi et al 2015).

INREMP, co-financed by the Asian Development Bank, International Fund for Agricultural Development, Global Environment Facility, and the Government of the Philippines, seeks to address unsustainable forest land use and management practices in four river basins and 23 watersheds in the Philippines (Chico, CAR; Wahig-Inabanga, Bohol-Region 7; Upper Bukidnon, Region 10; and Lake Lanao, BARMM) from August 2013 to December 2020 (World Agroforestry (ICRAF) 2019).

8 See, for example, DENR Caraga 2016. *The National Greening Program: Stories of Success: The road to a greener Caraga* (Vol. 1) and *A greener and richer Caraga* (Vol. 2)

The objectives of INREMP are to:

1. Reduce and reverse the degradation of watersheds and associated environmental services caused by forest degradation and unsustainable farming practices; and

2. Provide incentives to local communities, local government units and the DENR for improving NRM by generating sufficient and tangible economic benefits.

Component 2 of INREMP focuses on smallholder and institutional investments and includes three sub-components.

1. Protection forestry sub-projects

   a. At least 80,000 ha effectively protected through community-based monitoring in four upper river basins

   b. At least 21,000 ha of natural forestland rehabilitated through reforestation and assisted natural regeneration

3. Commercial forestry investment sub-projects (Table 1)

   a. Over 14,000 ha of agroforestry with community participation and 3000 ha of commercial tree plantations established;

   b. Over 3000 ha of conservation farming demonstrations established.

3. Livelihood enhancement support sub-projects, including the construction of concrete drying pavements and water supply, livelihoods, farm machinery, milling and food-processing facilities.

The objective of this report is to present an overview of the evolution of forest policies and institutional arrangements in the Philippines and their scope, relevance and limitations in terms of promoting commercial forestry investment sub-projects, which are project "constructs" rather than Government policy itself.[9]

The report focuses on the period after the adoption of the Revised Forestry Code, Presidential Decree (PD) 705 in 1975 (as amended by PD 1559 in 1978). The report also identifies a selection of successful experience in decentralized forest management from Caraga (Region 13), CAR and Palawan and some successful private-sector investments in sustainable forest management.

Methodology

The research strategy of this report relied on an initial, and subsequently more detailed, literature review, key informant interviews with DENR and FMB personnel, meetings

9 Three INREMP Technical Bulletins were issued by DENR between 2015 and 2017: #2 Sub-project development in Agroforestry (9 March 2015); #4 Sub-project development for Commercial Forest Farm and Tree Plantations (9 March 2015); and #10 Sub-project development on Conservation Farming (17 May 2017)

with resource persons from ICRAF, Forest Development Center at the University of the Philippines Los Baños, Forest Foundation Philippines, and Ateneo School of Government, and participation in three INREMP workshops (national DENR FMB workshop, 24–25 September 2019; regional DENR and Department of Trade and Industry workshop, Cagayan De Oro, 1–2 October 2019; and National Stakeholders Forum, Butuan City, 11–12 March 2020; and fieldwork in Bukidnon (Region 10), CAR and Caraga (Region 13).

The aim was to generate both secondary and primary data. A list of references is presented in Section X of the report. A list of laws, letters of instructions, proclamations, EOs and departmental AOs cited is shown in Section XI. A summary of the organizations consulted and people's organizations and field sites visited is presented in Annex 2. Senate Economic Planning Office Policy Brief #PB-18-01 entitled, *Delineating the Philippines' Specific Forest Limits*, is presented in Annex 3.

This policy and institutional review should be read in conjunction with the incentives review, the Enhanced Theory of Change Workshop Report, the *National Stakeholders Forum Report*, and the *Tenure Arrangements in the Philippines' Forest Lands Report*. This report forms the basis for a separate INREMP Policy Brief #3, *Facilitating the Shift from Tree Planting to Supporting the Emergence of Community-Based Forest Enterprises in the Philippines*.

DENR and FMB data

There were challenges in using and interpreting DENR and FMB data over extended periods because definitions and classifications, as well as institutional mandates, changed over time (Table 1). DENR, as with any vertically integrated and centralized bureaucracy, is a data-centric institution using data to meet different Government and donor reporting requirements. DENR no longer reports on Certificates of Ancestral Domain Claims.

Table 1. Forest tenurial instruments in the Philippines, 2000–2018

Tenurial instrument	2000		2006		2018	
	No.	Area (ha)	No.	Area (ha)	No.	Area (ha)
CBFMA	600	1,971,000	1,781	1,622,129	1,884	1,615,598
TLAs	19	910,000	15	691,019	2	119,650
IFMA/ITPLA	184	548,000	153	770,719	127	961,510
SIFMA	-	-	1,803	34,743	1,530	32,219
PFDA	-	-	91	4,992	115	5,275
FLGMA	-	-	395	111,005	186	53,536
Tree FL	155	19,000	127	15,651	35	3,856
Agroforestry FL	80	91,000	71	84,343	2	398

Tenurial instrument	2000		2006		2018	
	No.	Area (ha)	No.	Area (ha)	No.	Area (ha)
FLAgT	-	-	-	-	32	306
SLUP	-	-	-	-	126	516
SPLULA	-	-	-	-	14	67
Total non-state tenure	1,038	3,539,000	4,436	3,334,601	4,053	2,798,711
CADTs	181	2,546,000*	n/a	4,086,271	n/a	n/a
Protected Areas				2,333,000		
National Parks				1,342,579		
Military/naval and civil registrations				292,076		
Total state tenure				8,053,926		
Total non-state and state tenure				11,388,527		
Total Forest Areas				15,855,000		
Total Open Access Areas				4,466,473		

Note: CBFMA = Community-Based Forest Management Agreement; TLA = Timber License Agreement; IFMA = Industrial (and after 1999) Integrated Forest Management Agreement; ITPLA = Industrial Tree Plantation Lease Agreement; Socialized Industrial Forest Management Agreement; PFDA = Private Forest Development Agreement; FLGMA = Forest Land Grazing Management Agreement; TFL = Tree Farm Lease; AFL = Agroforestry Farm Lease; FLAgT = Forest Land Use Agreement for Tourism purposes; SLUP = Special Land Use Permit; SPLULA = Special Land Use Lease Agreement; CADTs = Certificate of Ancestral Domains Titles (comprising Certificates of Ancestral Land Claims (CALCs), Certificates of Ancestral Land Titles (CALTs) and Certificates of Ancestral Domain Claims (CADCs)

* Estimated that 10–15% of this area was with approved Ancestral Domain Management Plans

Sources: Philippine Forestry Statistics 2000, 2006, 2018.

Certificates of Ancestral Domain Claims were formerly issued by DENR and can now be converted to Certificates of Ancestral Domain Titles, per the Indigenous People's Rights Act promulgated in 1997, which also established the National Commission of Indigenous Peoples.

Although incomplete, the data presented in Table 1 suggest the following.

1. There is some overlap among Certificates of Ancestral Domain Claims and Community-Based Forest Management Agreements: of the 4.5 million ha (2000) and 5.7 million ha (2006) of land allocated to communities, at least 2.5 million ha is under

Certificates of Ancestral Domain Claims, some of which already have Certificates of Ancestral Domain Titles (World Bank 2004). The rest is covered by Community-Based Forest Management Agreements or related tenure instruments.

2. The number of Community-Based Forest Management Agreements increased almost threefold during the period 2000–2006, indicating that EO #263 of 19 July 1995 adopting Community-Based Forest Management as the National Strategy was, initially, effective.

3. The number and area of Community-Based Forest Management Agreements have been stable since 2006 although the total area has declined since 2000.

4. Does the decline in the Community-Based Forest Management Agreement area reflect a decline in external funding or are there other factors, including how Community-Based Forest Management Agreement data is classified by DENR?

5. Have logging ban policies introduced in the Philippines during the past three decades also negatively impacted Community-Based Forest Management Agreement performance? How many, if any, of the original Certificates of Stewardship Contracts (an estimated 442,124 were issued between 1983 and 1996, covering a total area of 815 ha) were renewed based on the (assumed) 25-year extension principle?

6. What land(s) are the former Certificates of Stewardship Contracts holders now occupying? (815 ha, that is, half the current area of all Community-Based Forest Management Agreements). How many former Certificates of Stewardship Contracts holders became members of Community-Based Forest Management Agreements?

7. Both the number and total area of Timber License Agreements have progressively declined to zero after the nationwide logging moratorium was adopted in 2011.

8. However, the variation in the number and area of the Industrial or Integrated Forest Management Agreements issued is still unclear.

Overview of forests and land use in the Philippines

The Philippines has a total land area of 30 million ha, 47.3% (14.2 million ha) of which is identified as alienable and disposable lands while the other 52.7% (15.8 million ha) is classified as forest lands. A significant part of public forest lands is without forest cover. Further, many of the forest lands are not yet delineated on the ground and this has resulted in widespread encroachment and forest degradation. By clearly defining the location and extent of forests, uncertainty is lessened, particularly for private investors (SEPO 2018:4).

Table 2 presents an overview of the governance of lands in the public domain in the Philippines.

The country's forest cover progressively declined from an estimated 17 million ha in 1934 to 5.5 million ha in 1999 with an estimated average annual forest loss of 100,000 ha per year. Philippine forestry statistics show that the country had 7.014 million ha remaining in 2015 (Table 3).

Table 2. Governance of lands in the public domain

Land classification, allocation, uses				
Agricultural land (alienable and disposable)	Forest land			
	Protected areas	Forest lands		
		Production	Protection other than protected areas	Mineral lands
Comprehensive Agrarian Reform Law Public Land Act	National Integrated Protected Areas System Specific protected areas' laws Wildlife Act International commitments Energy Law	PD Revised Forestry Code EO Community-Based Forest Management EO Sustainable Forest Management RA Forest Charges Energy reservation JMCs: DENR and DILG; DENR DAR NCIP FIRM 2019		Mining Act Small Scale Mining Act
Indigenous Peoples Right Act, Local Government Code, Disaster Risk Reduction Law, Climate Change Act				

Source: Belino 2014

Table 3. Philippine Forest Cover, 2015

Land-cover classification	Area (ha)	%
Closed forest	2,028,015	6.9
Open forest	4,682,764*	15.8
Mangrove forest	303,401	1.0
Total forest	7,014,180	22.7
Total land	29,563,368	100

Source: DENR FMB 2019, Philippine Forest Statistics 2018, Table 1.03:8

*Land-cover statistics presented at the Land-Cover/Land-Use Change and its Impacts on the Environment in South/South-east Asia International Regional Science Meeting, Manila, 30 May 2018, estimated the Open Forest area as 4,681,371 ha (Santos 2018: slide 25)

Most of these forests are in fragmented stands. Forest cover loss over the past century has impacted the lives of more than 100 diverse Philippine cultures (Poffenberger 2000). The loss of original forest has resulted in at least 418 species appearing in the International Union for Conservation of Nature's *Red List* of threatened species.

Forest loss has been due to, among others, commercial logging, illegal timber extraction, agricultural expansion, population growth, migration, weak forest governance, local elite capture, failure to collect rents from licensees, mining, and conversion of forest land to agricultural, residential and commercial uses (Liu et al 1993, Pulhin et al 1998, Carandang et al 2013, Rebugio et al 2013, GIZ and DENR 2013, Bugayong et al 2016, Domingo and Manejar 2019).

Changes in land use during the period 1990–2010 in the Philippines are presented in Table 4.

Table 4. Land-use distribution in the Philippines, 1990–2010 (,000 ha)

Land-use categories	1990	1997	2010
Forest land			
Old-growth dipterocarp	984	906	880
Second-growth dipterocarp	3,456	3,167	2,927
Pine	238	225	217
Sub-marginal	1,413	1,346	1,307
Mangrove	119	106	104
Forest plantation	478	1,153	2,298
Agroforestry	4,705	5,062	5,343
Brushland	2,500	2,200	1,400
Grassland	1,987	1,715	1,404
Alienable and disposable land			
Arable land	4,730	5,120	5,200
Permanent crops	4,400	4,400	4,450
Other lands	4,990	4,600	4,470
Total	30,000	30,000	30,000

Source: Paringit 2018

Section 4, Article XII of the 1987 Philippine Constitution mandates Congress to determine by law the specific limits of forest lands and national parks and mark their boundaries on the ground. DENR issued AO No. 2008-24 in 2008, which provided for comprehensive and clear guidelines for delineating the boundaries between forest lands, national parks and agricultural lands. DENR implemented the Forestland Boundary Assessment and Delineation project, which was completed in 2017. It covered 80 provinces nationwide and a total of 89,092 km of forest land boundary lines were delineated. As a result, about 348,288 ha

Table 5. Forest land Boundary Assessment and Delineation project status, 2017

Region	Area before (ha)	Area after (ha)	Proposed reversion (A&D to FL) (ha)	Proposed conversion (FL to A&D) (ha)	Difference (ha)	Change in FL (%)
CAR	1,513,243	1,489,309	357	24,290	23,934	-1.58
7	449,761	524,702	97,066	22,124	-74,942	16.66
10	796,778	789,092	1,174	8,859	7,686	-0.96
13	1,280,267	124,812	0	32,157	32,157	-2.51
Total	15,095,917	14,750,630	111,285	456,573	348,288	-2.29

Note: A&D = alienable and disposable; FL = forest land

Source: extracted from SEPO 2018:5

currently regarded as forest lands are proposed to be reclassified or converted to alienable and disposable lands. If approved, this will effectively reduce forest lands by 2.29%. Region 7 will have the largest increase in forest land area of about 74,942 ha (Table 5). An attempt was made to introduce three bills to delineate the Philippines' specific forest limits (Senate Bill Nos. 35, 741 and 861), which were still pending in the Senate Committee on Environment and Natural Resources in 2018.

Additional details about the process of delineating the Philippines Specific Forest Limits are presented in Annex 3.

Evolution of forest policy in the Philippines

Forests in the Philippines, long before the colonial period, have been, and continue to be, shaped by climate, soil, fire, volcanic activity and animals as well as by human actions (Fernandez 1976, Bankoff 2013). The following sections summarize the key features of forest policy during four dominant and evolving management regimes (De Jong 2010) from the colonial era to the present day. Additional details on the evolution of forest policy in the Philippines are presented in Pulhin (2002), Carandang et al (2013), Dolom et al (2018) and Domingo and Manejar (2019).

A tabulated summary of key Republic Acts (RAs), PDs, Executive Orders (EOs), Proclamations, and AOs during the period 1975–2019 is presented in Section XI.

Colonial period (1863–1945): foundations of state-controlled forest management

There were three key elements to the 'empire forestry model' developed in colonial India and then Burma following Lord Dalhousie's Forest Charter of 1855: a) the appropriation of large areas of customary land to establish national networks of protected areas; b) the generation of revenues to help finance the colonial administration; and c) the introduction of "scientific forestry". This model was exported to many anglophone countries (see, for example, Grove 1995, Rajan 1998, Barton 2002, Wardell 2019). The Philippines' colonial experience was similar but distinct given both Spanish and American influences.

During the early Spanish colonial era, royal decrees placed land and natural resources under State control and regulation to a) secure timber to meet Spanish civil and naval requirements; b) generate government revenue; and c) protect forest resources. A forest bureaucracy was established in 1863 — *Inspeccion General de Montes* — with the authority to allocate proprietary rights to use forests. However, little forest exploitation took place until the United States took control of the Philippines in 1898 because Spain only controlled a small part of the archipelago. In 1904, the first Forest Act was passed by the US Congress and rapid development of mechanized logging and forest industries followed. The Philippines became a major exporter of logs and timber. The country continued to exploit forests during the Second World War and saw the "steady loss of forest throughout the era of American rule" (Poffenberger 2000). Reforestation projects were first initiated in 1916 to address the perceived problem of deforestation. Inspeccion General de Montes and the Forest Act 1904 established the decisive State-controlled regulatory mechanism as the basis for all elements of forest management in the Philippines until 1975 (Boado 1988). This effectively extinguished customary rights to land ownership as well as other claims of indigenous people's and indigenous cultural communities to forest resources. Recent research continues to emphasize the importance of indigenous people's lands for the conservation of intact forest landscapes (Fa et al 2020).

Post-colonial forest exploitation (1946–1970s): Timber License Agreements

After independence, there was little change in forest policy, with the 1946 Constitution reasserting that all forest lands belonged to the State. Hence, the authority to allocate, classify, regulate and manage forests and timberlands remained with the Government. Large-scale logging increased to meet growing demand in Japan and the US. Timber License Agreements were introduced as the key tenure instrument to allocate forest concessions and, after 1965 during the Marcos presidency, to secure political patronage. Despite efforts to introduce timber-oriented rules and regulations in 1953 (the Philippines Selective Logging System, see Revilla 1998, and Guiang and Manila 1994), both the population and number of Timber License Agreements grew and resulted in widespread deforestation of the dipterocarp forests and forest degradation in the uplands. Almost one-third of the country's total land area (8–10 million ha) was under the control of timber licence operators. The highest production was recorded in the late 1970s, when 75% of log production, amounting to 7.9 million m^3, was exported. Local communities benefited little, if at all, from the Agreements. Early concerns about the loss of forest cover led to a Presidential Letter of Instruction No. 145, s.1973 to determine which alienable and disposable lands should be converted into industrial plantations and tree farms, determine sources of funding, and promote cooperatives and/or joint ventures.

Following several decades of forest exploitation, the 1970s heralded the beginning of a pioneering period (Pulhin 1997) to introduce and develop both community forestry and watershed management in the Philippines. Several programs were introduced by the Government to engage with upland communities through the Forest Occupancy Program in 1970, Family Approach to Reforestation in 1976, and Communal Tree Farming in 1976. The Program for Forest Ecosystem Management introduced in 1978 required all Philippine citizens to plant one tree a month for a period of five years. Most of these programs depended on local communities providing a source of labor rather than as partners in forest conservation and development (Pulhin 2002).

Promoting local participation in forest management (1980s–present): decentralization and community-based forest management as the national strategy

Presidential Letter of Instruction No. 1260 was issued in 1982 and led to the consolidation of the three programs mentioned above into an Integrated Social Forestry Program (Payuan 1983, DENR Policy Advisory Group 1987, Agaloos 1990).[10]

After the 1986 revolution, the concepts of decentralization, people's participation and the recognition of the socio-political dimension of forestry were mainstreamed in forest policy development (Lynch and Talbott 1988, Sajise 1998). Moreover, the 1987 National Reforestation Program introduced a new reforestation policy offering market incentives and opportunities

10 Following support for the Integrated Social Forestry Program in the early 1980s from, among others, Ford Foundation, United States Agency for International Development (USAID Regional Resource Management Project), Asian Development Bank, United Nations Development Programme and the Comprehensive Agrarian Reform Program), almost all community-based forest management areas in the Philippines have received external funding from, among others, USAID (Natural Resources Management Program), World Bank (Environment and Natural Resources Sectoral Adjustment Loan Program), Philippine–German Community Forestry Program, Asian Development Bank (Forestry Loans I and II), and DENR FMB

to engage with communities, non-governmental organizations and the private sector in forest management. DENR's DAO No. 22 issued in 1993 established the Community Forestry Program.

Strategies for community-based forest management were consolidated in the 1990s after EO No. 263 was issued in 1995 by then-President Fidel V. Ramos. DAO No. 96-29 issued in 1996 established community-based forest management as the national strategy for sustainable forest management and social equity in the Philippine uplands (Guiang et al 2001).

Under DENR's Community-Based Forest Management National Strategic Plan, 9 million ha of classified forest lands were earmarked for community management by 2008. Most of these community-based forest management projects and programs recognized local communities and indigenous peoples as partners in forest conservation and development or as custodians of the land and forest resources with either individual or collective rights (Dahal and Capistrano 2006, Lasco and Pulhin 2006).[11]

DENR FMB tenurial instruments in force in 2018 accounted for a total of 2,798.71 ha and included 1884 Community-Based Forest Management Agreements covering 1,615.59 ha. This represents 18% of the original target but excludes areas under former Certificate of Stewardship Contracts that expired and/or were not renewed.

The emergence of multiple-use sustainable forest management (2006–present): sustainable forest and plantation management in a legislative vacuum

All AOs for the Industrial Forest Management Agreements were repealed in 1999 to become Integrated Forest Management Agreements, to ensure consistency with the principle of sustainable development, as per DAO 99-53, and the subsequent EO No. 318 on Promoting Sustainable Forest Management issued by then-President Gloria Arroyo in 2004.

The latter underlined the need to harmonize policy reforms adopted since PD 705 in 1975 and to "pursue the sustainable management of forests and forest lands in watersheds" (Section 1, EO 318). The necessity for such an instrument reflected the fact that a draft Sustainable Forest Management Act and both a National Land Use Act and a Land Administration Act had all been left immobile in the country's legislatures for more than two decades.

Three milestone policy instruments adopted in the 1990s underscored the key role of public and community involvement in land and forest resource management.

These were the

a. Local Government Code (RA 7160) in 1991;

b. National Integrated Protected Area System (RA 7586) in 1992 (as amended by RA 11038, the Expanded National Integrated Protected Area System Act of 2018); and the

11 Multiple community-based forest management initiatives were undertaken, including the Integrated Social Forestry Program, Upland Development Project, Forest Land Management Program, Community Forestry Program, Low Income Upland Communities Project, Regional Resources Management Project, Integrated Rainforest Management Program, Forestry Sector Project, Coastal Environmental Program and Recognition of Ancestral Domains/Claims

c. Indigenous People's Rights Act (RA 8371) in 1997.

These instruments culminated in a changing and increasingly complex policy arena as the number of Local government units and national government agencies implicated in the sustainable management and development of forest resources in the country has increased significantly. Unclear institutional mandates and jurisdictional limits have led, in some cases, to still-unresolved conflicts. One example is explored in detail in Section IV below with Joint Administrative Order (JAO) No. 01 series of 2012 on "Clarifying, Restating and Interfacing the respective jurisdictions, policies, programs and projects of Department of Agrarian Reform (DAR), DENR, Land Registration Authority and National Commission on Indigenous Peoples to address jurisdictional and operational issues between and among agencies".

"Policy inflation" compounded this increased organizational complexity (Wardell 2000) as the Government and DENR FMB responded to new global opportunities and challenges since 2006. These included the

a. promulgation of the Biofuels Act (RA 9367) in 2006;

b. preparing a list of threatened species for the Convention on International Trade in Endangered Species of Wild Fauna and Flora in 2007 (DAO No. 2007-01);

c. development of the Philippine National Reducing Emissions for Deforestation and Forest Degradation plus (REDD+) Strategy in 2010 (EO No. 881, s. 2010);

d. engagement in a dialogue to inform and prepare a possible Forest Law Enforcement, Governance and Trade Voluntary Partnership Agreement after 2012 (Keong et al 2012, ITTO/IMM 2019);

e. adoption of the Philippine Master Plan for Climate Resilient Forestry Development in January 2016 (see also Lasco and Pulhin 2003, Rawlins et al 2017, DENR FMB 2017); and a

f. process led by the Forest Investment Development Division of DENR FMB during 2016–2018 to develop a Forestry Investment Road Map.

"Policy inflation" has not been matched, however, by any significant increase in either human or financial resources at a time when most externally funded natural resource management projects had finished or were close to completion.

DENR FMB is leading efforts to simplify both tenurial agreements and licensing procedures whilst increasingly recognizing the multiple uses and multiple benefits of forest lands. It is planned to replace existing agreements established since the 1980s with Sustainable Forest Management Agreements.[12] However, there are currently no DENR FMB guidelines or regulations for this. The Forest Investment Roa Map adopted by DENR FMB as DAO 2019-22 on 2 December 2019 does, however, provide a general framework — "Identification/validation, mapping and assessment of potential investment areas" (FIRM:48–49) — that represents a promising new initiative to simplify, harmonize and streamline land tenure to stimulate new

12 Zoom software meeting between DENR FMB and ICRAF to discuss draft INREMP reports 5.1 and 5.2 and policy brief 5.3, 2 July 2020

domestic and foreign direct investment in the forest sector. Additional efforts will still be needed to support the implementation of JAO 2012-01 to manage tenurial conflicts and to resolve jurisdictional issues among different agencies. The promulgation of the proposed National Land Use Act would provide additional clarity as an overarching legal framework to promote sustainable and equitable land use.

Introduction of INREMP Commercial Forestry Investment Sub-Projects (2015–2017)

Component 2 of INREMP focuses on smallholder and institutional investments, which include Commercial Forestry Investment Sub-Projects (Table 6), with the overarching planting targets by end 2020.

- Over 14,000 ha of agroforestry with community participation
- 3000 ha of commercial tree plantations established
- Over 3000 ha of conservation farming demonstrations established

Table 6. Overview of commercial forestry investment sub-projects' targets and achievements as of 31 December 2019

Region	Target (ha)	Achievement	% achieved
Agroforestry	1,513,243	1,489,309	357
Commercial Tree Plantations	449,761	524,702	97,066
Conservation Farming	796,778	789,092	1,174

Source: DENR presentation, National Stakeholder Forum, Butuan City, 11–12 March 2020 (Annex 2)

Commercial forestry investment sub-projects are project 'constructs' rather than Government policy itself and, to this end, three INREMP Technical Bulletins were issued by DENR between 2015 and 2017: #2 *Sub-project development in agroforestry* (9 March 2015); #4 *Sub-project development for commercial forest farm and tree plantations* (9 March 2015); and #10 *Sub-project development on conservation farming* (17 May 2017). The first two bulletins issued in March 2015 were intended to assist all field implementing units in the four sites and provide cost standards with beneficiary contributions per hectare to establish agroforestry (essentially, fruit trees) and commercial tree plantations. This included details of the procurement process for engaging people's organizations or community participation to ensure consistency with the Government Procurement Reform Act (RA 9184), and six guiding principles: equity, participation, responsiveness, accountability, transparency, and value for money.[13]

The technical bulletin on conservation farming was developed more than two years later. It provides more detailed guidance to all field implementing units in the four regions in terms of technical considerations, selection criteria, a 24-day conservation-farming "process", the types of technologies and activities to be supported by INREMP, and other "support facilities" that could be funded under the Livelihood Enhancement Support Sub-projects of INREMP. It also provides an outlined Work and Financial Plan with indicative annual

13 See Resolution No. 09-2014 of the Government Procurement Policy Board per Section 53.12 of the Revised Implementing Rules and Regulations of RA 9184

costs and a 12-stage indicative payment schedule. Conservation farming — as distinct from agroforestry and commercial tree plantations — requires a (contractual) Forest Management Partnership Agreement and includes explicit reference to the need to comply with the social and environmental safeguards as prescribed in the *INREMP Project Administration Manual*, adopted in October 2012.

Multi-strata agroforestry systems mimic natural forests in structure by blending an overstorey of taller trees and an understorey of one or more layers of crops to maximize both horizontal and vertical space. Multiple layers of trees and crops achieve better natural resources management while securing food and nutritional security and income for the people in the upper river basins. The exact blend of crops and trees varies by region and culture but the spectrum includes coconut, black pepper, pineapple, banana, shade-grown coffee, and cocoa as well as rubber and timber (see business case for multi-strata agroforestry systems in Output 5, Proceedings of National Stakeholders' Forum for INREMP) . Additional technical details can be found in Kummer (1992), Tacio (1993), Belino (2014) and DAO 2005-25.

A key challenge for DENR is to mainstream lessons learned during the implementation of commercial forestry investment sub-projects to avoid a repetition of the all-too-common end of initiatives once a project is completed. For example, the majority of the 300 Multi-sectoral Forest Protection Committees established during the World Bank Environment and Natural Resources Sector Adjustment Loan project collapsed after the completion of the project (Cruz and Pulhin 2006:3).

This is a critical challenge for INREMP, which is due to close at the end of 2020. The "transfer" of commercial forestry investment sub-projects to the National Greening Program is one option for DENR to explore whilst building social capital with local government units, people's organizations, non-governmental organizations and other civil-society organizations.

A summarized overview of DENR FMB policy support for commercial forestry investment sub-projects is presented in Table 7.

Table 7. Summarized overview of DENR FMB policy support for commercial forestry investment sub-projects

DENR Administrative Order	Objective	Key feature and tenure instrument	Gaps
DAO 1989-123	Establish the Community Forestry Program	Awarded Community Forestry Management Agreements to organized upland communities for 25 years, renewable for another 25	Most of the forest areas are claimed or occupied by upland cultivators (Presentacion case, Pulhin 2000)
DAO 1993-22	Initiate community-based forest management and utilization of natural resources within second-growth upland forests and residual mangrove forests to promote social equity and prevent further degradation of natural resources	Provided long-term security for the utilization of forest resources that would consequently motivate communities to develop and manage the resource on a sustainable basis. Tenure issued: Community Forestry Management Agreements	
DAO 1993-60	Initiate Industrial Forest Management Agreements	Intended that Industrial Forest Management Agreements support timber production as Timber License Agreements were being phased out	The duration of property rights in the Industrial Forest Management Agreements presented some concern to smallholders Present tenurial systems do not assure stakeholders and investors of a long-term or semi-permanent arrangement (Harrison et al 2004)
DAO 1994-07	Revise the Guidelines Governing the Issuance of Certificates of Origin for Logs, Timber, Lumber, and Non-timber Forest Products		
DAO 2007-31	Amend certain provisions of DAO 1994-07 and prescribe the use of computer-generated Certificate of Timber Origin and Certificate of Lumber Origin forms		
DAO 1996-24	Institute the Socialized Industrial Forest Management Agreement	Intended to further democratize access to forest resources, especially to small-to-medium-sized investors and even to smallholders	Private-sector constraints: tenure duration too short for long-term investments, credit difficult to obtain, development and transport costs are high, frequently changing policies, low marketing support (Chokkalingam et al 2006)
DAO 1996-09	Additional Guidelines Governing the Issuance of Permits to Establish and Operate Mini-Sawmills		

DENR Administrative Order	Objective	Key feature and tenure instrument	Gaps
DAO 1996-29	Provide the rules and regulations for the implementation of Executive Order 263 and institutionalize the Community-Based Forest Management Program	Fully integrated other programs and utilized active and transparent community participation and tenurial security as a key strategy. Community-Based Forest Management Agreements: 25 years with 25 renewal	The approval process is time-consuming and requires a detailed proposal document (Harrison et al 2004)
DAO 2000-29	Guidelines Regulating the Harvesting and Utilization of Forest Products Within Community-Based Forest Management Areas	Preparation of a Five-year Work Plan detailing the volume and species of trees that people's organizations plan to harvest and the amount of forest development work	Costly due to several components (required hiring of a professional forester, barangay consultations, per diem of DENR personnel, timber inventories, markings, public deliberation etc), some people's organizations had no choice but use savings from previous years (Pulhin et al 2016)
DMC 2003-14	Declare a Moratorium on the Establishment of New Wood Processing Plants	Intended to curb illegal and "recycled" (expired) permits of some operators	Contradicted DAO 1996-09, created difficulty for existing people's organizations/ cooperatives to process harvested logs, opportunity costs for skilled locals in handling sawmill machinery (Pulhin et al 2016)
DAO 2004-29	Revised Rules and Regulations for the Implementation of Executive Order 263, otherwise known as the Community-Based Forest Management Strategy	Improve on the 1996 Community-Based Forest Management Implementing Rules and Regulations by allowing more flexibility to participating communities such as the requirement of a Five Year Work Plan instead of the Annual Work Plan	

Institutional mandates to manage, protect and use forests in the Philippines

Historical background

The Inspeccion General de Montes established by the Spanish in 1863 was transformed by General Order No. 50 into a Forestry Bureau by the US Commonwealth Government. The State's sole ownership of forests and forest lands was reaffirmed by the Forestry Act 1904. The Philippine Commission issued 662 logging licences between 1901 to 1902 with an official licensing procedure established under General Order No. 92.

The American Insular Lumber Company was granted a 20-year renewable timber concession in Northern Negros in 1904 (Poffernberger and McGean 1993). In 1917, a Forestry Law (Act No. 2711) established communal forests and pastures for the use of local communities although the forest land remained under State control. Some were later reclassified as alienable and disposable lands.

In 1935, the first constitution of the independent Philippine Republic supported the nationalization of Philippine forests and further alienated the rights of indigenous peoples and local communities to their ancestral lands or to participate in forest management. In 1941, Forestry Administrative Order No. 14-1 was adopted, which enabled the then-Secretary of Agriculture and Commerce to set aside communal forests upon the endorsement of the Director of Forestry and at the request of municipal councils (Borlagdan et al 2001 cited in Pulhin 2002:31).

Revised Forestry Code of the Philippines

The Revised Forestry Code of the Philippines embodied in PD 705 (1975), as amended by PD 1559 (1978) was, in fact, a revision of the Forestry Reform Code of the Philippines, PD 389 (1974). It provides the extant framework of policies on the multiple uses of forest lands; systematized land classification and survey; rationalization of wood processing plants; and protection, development and rehabilitation of forest lands.

The utilization and management of forest resources are allowed through 25-year (renewable for another 25 years) license agreements, licenses, leases or permits (Section 20, Chapter III) issued to private entities by the former Bureau of Forest Development (now the FMB) as the mandated agency responsible for all forest lands, grazing lands, and forest reservations (Section 4 & 5, Chapter I).

Revisions following the 1987 Philippine Constitution

The 1987 Philippine Constitution made several changes in the governance of natural resources although it reiterates State ownership of all natural resources, including public forests (Section 2, Article XII). The provisions of relevance to forestry follow.

- The exploration, development and utilization of natural resources may be undertaken through 25-year (renewable for a further 25 years) co-production, joint venture, or production-sharing agreements with Philippine citizens or corporations or associations with at least 60% Philippine owners (Section 2 & 11, Article XII).

- Lands of the public domain are classified into agricultural, forest or timber, mineral lands, and national parks (Section 3, Article XII).

- Congress shall determine by law the specific limits of forest lands and national parks, which may not be increased or diminished except by law (Section 4, Article XII).

- The State recognizes and protects the rights of ICCs to their ancestral lands (Section 5, Article XII; reinforced by the Indigenous People's Rights Act of 1997 (RA 8371), which requires free, prior and informed consent from indigenous people's communities before any project is done in their ancestral lands).

- Mandating Congress to enact an Local Government Code for a more responsive and accountable local government structure through a system of decentralization (Section 3, Article X).

- Respect for the role of independent people's organizations (Section 15, Article III; enforced through the CBFM Strategy, EO 263 of 1995).

Reorganization Act of the Department of Environment and Natural Resources

EO 192 of 1987, otherwise known as the Reorganization Act of the DENR, mandated the DENR to be the primary agency responsible for the conservation, management, development and proper use of the country's environment and natural resources, including forest and grazing lands, reservation and watershed areas in the public domain (Section 4). Its mandate includes the licensing and regulation of all natural resources, particularly the development, disposition, extraction, exploration and use of the country's forest, land and mineral resources (Section 5j).

The first initiative of the re-organized DENR was RA No. 7161: Increasing Forest Charges on Timber and other Forest Products. This was a response to the need to capture acceptable economic rents. From the 1950s to the mid-1990s, forest charges were applied according to value, ranging 2–6.3% of the wholesale log value (Bautista 1990). The charges were raised from as low as USD 1/m^3 to as high as 25% of the "free on board"[14] price for timber harvested on timber lands in the early 1990s (Argete 1988, Wallace 1993). The increase in forest charges was only adopted, however, when the total annual allowable cut of timber license agreements was approximately 25% of those in 1990 and only about 8% of the levels of 1980 (Guiang 2001:13).

RA No. 9175 — the "Chainsaw Act" — was promulgated in 2002 with DAO No. 2003-24 as the main implementing regulation. This aimed to support the establishment of small-scale wood-processing and furniture industries and to promote efficiency, value addition and optimization of the use of wood and minimization of waste, as in DAO No. 2018-09.

14 Free on Board" or "Freight on Board" (FOB) designation specifies whether the buyer is responsible for freight charges and determines the obligations of parties when trading goods.

DENR is also tasked to promulgate rules and guidelines on the issuance of co-production, joint venture or production-sharing agreements, licenses, permits, concessions, leases and other arrangements (Section 5l). It is, furthermore, the sole agency responsible for the classification, sub-classification, surveying and titling of lands in consultation with appropriate agencies (Section 5m).

EO 192 also provided for the creation of the FMB (Section 13) with staff functions such as advising the DENR Secretary on matters on forest development and conservation policies and the regional offices in the implementation of forestry policies and programs.

Decentralized functions: the Local Government Code

The Local Government Code (RA 7160 of 1991) declared as policy the local autonomy of local government units through decentralization whereby local government units were given more powers, authority, responsibilities and resources. It also required all national agencies and offices to conduct consultations with local government units, non-governmental organizations, people's organizations and other concerned sectors of the community before the implementation of programs and projects within a locality (Section 2).

DENR devolved some of its functions to local government units, including the implementation of community-based forestry projects and individual farms with Certificate of Stewardship Contracts; management and control of communal forests with an area not exceeding 50 km2; and the establishment of tree parks, greenbelts and similar forest development projects. At the provincial level, local government units are responsible for the enforcement of forestry laws limited to community-based forestry projects, pollution control law, small-scale mining law, and other laws on the protection of the environment, and mini-hydroelectric projects for local purposes (RA 7160, Book 1, Title 1, Chapter 1, Section 17).

A World Development special issue, *Rescaling Governance and the Impacts of Political and Environmental Decentralization*, presents a collection of empirical studies that explore how altering the scale, and the style, of governance has inevitable consequences for power structures, institutions, livelihoods and physical landscapes. Many of the articles relate to decentralized forest governance (Batterbury and Fernando 2006).[15]

Indigenous peoples and indigenous cultural communities

The indigenous peoples remain one of the most marginalized groups in the Philippines. This status continues despite progress made by communities and both Government and non-governmental partners after years of advocacy. The Indigenous People's Rights Act (RA 8371 of 1997) and its implementing rules and regulations provided, for the first time, for the recognition and protection of the rights of indigenous communities to their ancestral lands, including ancestral domain claims within public forest lands. The law requires project implementers within ancestral domains to seek free, prior and informed consent of the indigenous communities as a prerequisite for issuance of permits or clearance for project implementation.

15 The paths and pitfalls of decentralization for sustainable forest management are also explored in Ferguson and Chandrasekharan (2004) and Dahal and Capistrano (2006)

The Indigenous People's Rights Act aims to improve indigenous people's quality of life, promote unity and justice among indigenous groups and thereby promote the sustainability of indigenous resource management practices (Prill-Brett 2007, see also Section VII 2. below). The Act recognizes and promotes all individual and collective rights of indigenous people's and indigenous cultural communities over ancestral domains that have been under State control since the Spanish colonial period through the issuance of Certificate of Ancestral Domain Titles.

Further, the Act recognizes indigenous people's rights to define their development priorities through their own Ancestral Domain Sustainable Development and Protection Plan and to exercise management and utilization rights of the natural resources within their traditional territories.

Section 65 of the Act provides for the primacy of customary laws and practices in resolving disputes involving indigenous people and indigenous cultural communities. Furthermore, Section 63 of the same law states that customary laws, traditions and practices of the indigenous people and indigenous cultural communities of the land where the conflict arises shall be applied first to property rights, claims, ownership, hereditary succession and settlement of land disputes. Several AOs and guidelines of the National Commission on Indigenous Peoples also emphasize the importance and primacy of customary laws in resolving disputes. It is essential to undertake the documentation of customary laws to have a full understanding of these laws and practices and to have ready and available resources in resolving disputes brought before the National Commission on Indigenous Peoples.

The National Commission on Indigenous Peoples is the Government agency responsible for implementing the Indigenous People's Rights Act and certifying free, prior and informed consent. The Commission is headed by seven commissioners from major groupings of indigenous peoples and also has regional offices. The commissioners have administrative, quasi-judicial and quasi-legislative powers. The required process for obtaining free, prior and informed consent is detailed in the National Commission on Indigenous Peoples' Revised Guidelines on Free, Prior and Informed Consent and Related Processes of 2012, which amended and replaced the guidelines of 2006. The objectives of the revised guidelines are seven-fold.

1. Ensure genuine exercise by indigenous people and indigenous cultural communities of their right to free, prior and informed consent , whenever applicable.

2. Protect the rights of indigenous people and indigenous cultural communities in the introduction and implementation of plans, programs, projects, activities and other undertakings that will affect them and their ancestral domains to ensure their economic, social and cultural well-being.

3. Provide, and ensure compliance with, the procedure and standards in the conduct of field-based investigation and free, prior and informed consent processes, payment of fees, compensation for damages, execution of memorandum of agreements, observance of corporate social responsibility; and the imposition of sanctions for the commission of prohibited acts and omissions as provided.

4. Ensure just and equitable partnership in environmental management, land use,

development, and resource use within ancestral domains as well as benefit-sharing between and among the concerned indigenous people and indigenous cultural communities and prospective investors, Government agencies, local government units, non-governmental organizations and other entities desiring to engage or collaborate in such undertaking.

5. Ensure that when priority right to development and utilization of natural resources is validly exercised by indigenous people and indigenous cultural communities, the same shall be validated per the spirit and principles of free, prior and informed consent.

6. Ensure that any benefit derived after the grant of free, prior and informed consent or as an exercise of priority rights shall be managed and used properly by, for, and with, the concerned community, not forgetting inter-generational obligations.

7. Guarantee protection of resettled or displaced indigenous people and indigenous cultural communities.

The National Commission on Indigenous Peoples' AO No. 3, s. 2012 underscores the policy of the Government that no concession, license, permit or lease or undertaking affecting ancestral domains will be granted or renewed without going through a free, prior and informed consent process. The process is needed before the issuance of a Certification of Precondition by the Commission.

The revised free, prior and informed consent requirement of the Commission entail a complex, seven-step process of consultation summarized below.

1. Constitution of the team comprising National Commission on Indigenous Peoples' personnel and two indigenous people's elders or leaders to determine the affected area, the probable effects of the plan, program, project or activity of the applicant, and the number of affected indigenous people and indigenous cultural communities. Identification of elders or leaders and/or disputes and conflict with any adjacent ancestral domain.

2. Preparations for the pre-field-based investigation conference, including confirmation of the identities and other basic information about the applicant, and presentation of a detailed project profile.

3. Preparations for the pre-free, prior and informed consent conference, including submission of an Environmental and Social Impact Statement by the applicant.

4. First community assembly, including orientation on the Indigenous People's Rights Act and free, prior and informed consent process.

5. Second community assembly, including a presentation by the applicant of the plan, program, project or activity.

6. Preparation of the Resolution of Consent (or Non-Consent) to the proposed plan, program, project or activity and attendant memorandum of agreement.

7. Final review of the memorandum of agreement by the Regional Review Team.

Section 59 relates to the Certification of Pre-condition and specifies that "… all departments and other governmental agencies shall henceforth be strictly enjoined from issuing, renewing or granting any concession, license or lease or entering into any production-sharing agreement, without prior certification from the National Commission on Indigenous Peoples that the area affected does not overlap any ancestral domain. Such certification shall only be issued after a field-based investigation is conducted by the Ancestral Domains Office of the area concerned:

- Provided, that no certification shall be issued by the National Commission on Indigenous Peoples without the free, prior informed and written consent of concerned indigenous people and indigenous cultural communities:

- Provided, further, that no department, government agency or government-owned or controlled corporation may issue new concession, license, lease or production-sharing agreement while there is a pending application for a Certificate of Ancestral Domain Title:

- Provided, finally, that the indigenous people and indigenous cultural communities shall have the right to stop or suspend, per this Act, any project that has not satisfied the requirement of this consultation process."

To date, National Commission on Indigenous Peoples' certificates of pre-condition have been issued for, among others, 172 mining exploration and operations (49%), 57 forestry and agro-industrial projects (16%) and 32 community-solicited projects to exercise priority rights to natural resources (9%).

Presidential Executive Order No. 318 on Promoting Sustainable Forest Management in the Philippines

The adoption of EO 318 in 2004 constituted an interim policy pending Congress enacting a comprehensive Sustainable Forest Management Act to fully replace the Revised Forestry Code embodied in PD 705 of 1975, as amended by PD 1559 in 1978.

It was intended to guide national agencies on how to harmonize policy reforms introduced after 1987 and to make the forestry sector more responsive to external changes and promote sustainable forest management. It encompassed five guiding principles related to the delineation, classification and demarcation of forest lands: a) holistic, sustainable and integrated development of forestry resources; b) community-based forest conservation and development; c) incentives for enhancing private investments, economic contribution, and global competitiveness of forest-based industries; d) proper valuation and pricing of forestry resources and financing sustainable forest management; and e) institutional support for sustainable forest management.

EO 318 declares as a policy of the Government to pursue sustainable management of forests and forest land in watersheds. Thus, watersheds as "ecosystem management units shall be managed in a holistic, scientific, rights-based, technology-based and community-based

manner and observing the principles of multiple-use, decentralization, and devolution, and active participation of local government units, the synergism of economic, ecological, social and cultural objectives, and the rationalization of all resources found therein."

It also reiterates the policy of the Government to "promote sound, effective and efficient, globally-competitive and equitable forestry practices in both public and private domains" (Section 1).

The implementing rules and regulations for EO No. 318 were first drafted by six technical working groups under the leadership of the FMB in 2004. This was not signed into an AO and, hence, was not implemented.

Further, a draft Sustainable Forest Management Act and both a National Land Use Act and a Land Administration Reform Act have been before the Senate and House of Congress for more than three decades. The enactment of the Sustainable Forest Management Bill remains challenging owing to the lack of widespread support from members of both legislative branches. It is, furthermore, not among the President's priority bills in contrast to the National Land Use Act.[16]

Joint implementation agreements

The absence of either a Sustainable Forest Management Act or a Land Use Republic Act has resulted in a changing and increasingly complex policy arena as the number of local government units and national government agencies now implicated in the sustainable management and development of forest resources in the country has increased significantly. One of the first examples of a joint implementation agreement was the Department of Agriculture (DA)-DENR-DAR Convergence Initiative (Joint MC No. 1 series 2010) to develop a National Greening Program. This is explored further in Section VI below.

Three Republic Acts and multiple policy fiats comprising seven combined Executive Orders, proclamations and Presidential Declarations, as well as 87 Administrative Orders, Joint Administrative Orders, Memorandum Orders, Memorandum Circulars and Joint Memorandum Circulars were issued dealing with forestry during the period 1980–2019 (Domingo and Manejar 2019:17). Inevitably, the need to address issues of overlapping jurisdiction, operational issues and conflicting claims by, and among, the different agencies has arisen. This is best illustrated by the JAO No. 01 series of 2012 on "Clarifying, Restating and Interfacing the respective jurisdictions, policies, programs and projects of Department of Agrarian Reform, DENR, Land Registration Authority, and the National Commission on Indigenous Peoples to address jurisdictional and operational issues between and among the agencies". JAO No. 01-2012 applies to lands and/or processing by several agencies.

- Department of Agrarian Reform: including all alienable and disposable lands used for agricultural purposes.
- DENR: all lands of the public domain, including those used for agricultural purposes, the forest zone, timber lands, national parks, protected areas and mineral lands.
- National Commission on Indigenous Peoples: all lands as defined by the Indigenous

16 See, "Duterte urges legislators to pass National Land Use Act", 24 July 2017, *GMA News Online*

People's Rights Act in Sec. 3 a) and b) of R1 8371 on the Definition of Ancestral Domains and Ancestral Lands.

- Registration by the Land Registration Authority of land titles embracing lands or areas which are contentious or potentially contentious.

A Joint National Committee — which includes Department of Agrarian Reform, DENR, Land Registration Authority and National Commission on Indigenous Peoples — was created to address or resolve such issues. The purpose of JAO No. 01-2012 was to facilitate and coordinate the process of registration of the ancestral domain/land titles issued by the National Commission on Indigenous Peoples with the other titling agencies: DENR Land Management Bureau, Department of Agrarian Reform, and the Department of Justice Land Registration Authority to avoid overlap of titles under the registration regime and to ensure compliance with Section 56 of the Indigenous People's Rights Act to respect prior, existing rights within ancestral domains/lands.

The implementation of the JAO has not gone to plan and "…has been marred by Government inertia, the ambiguity of who takes the lead and the limited capacity of frontline implementers of the JAO to perform their expected duties" (De Vera 2017:14). These constraints have resulted in the very slow registration and approval of Certificate of Ancestral Domain Titles.

New guidelines were developed in 2015, which included an "operations manual" that facilitated the establishment of Joint Regional Committees to address conflicts affecting the implementation of the Comprehensive Agrarian Reform Law (RA No. 6657 s.1988), the Act strengthening the Comprehensive Agrarian Reform Program (RA 9700 s. 2009), Indigenous People's Rights Act, Public Land Act, and Land Registration Act/Property Registration Decree. The manual provides clear guidelines concerning the jurisdiction of each agency and the exclusion from the coverage of the Comprehensive Agrarian Reform Program lands that are exclusively used for parks, wildlife, forest reserves, reforestation, fish sanctuaries and breeding grounds, watersheds and mangroves under Section 10 of R1 No. 6657. A strategic plan to strengthen the implementation of JAO-2012-01 in the Caraga Region was formulated in April 2016. It is not known how many functional regional JAO committees exist

Tenure instruments in Philippine forest lands

The lack of clear tenure rights has been a key driver of deforestation, forest degradation and unsustainable resource use, which in turn threatens the sources of income and livelihoods of communities, including indigenous peoples and indigenous cultural communities, who depend on forest lands.

This section draws on past studies of forest-tenure instruments, highlighting major policies used by the Government to address tenure rights from the 1970s to the present day. From a commodity-based (timber) policy orientation, the National Forestation Program became the landmark strategy in the 1980s, with social equity at the center of the national agenda. Industrial-scale forest plantations were relatively unsuccessful (Harrison and Herbohn 2003). The 1990s, on the other hand, saw a shift towards the institutionalization of people-oriented forestry though the Community-Based Forest Management Program. During this time, new legislation on protected areas and indigenous people's rights saw key changes in natural resource governance.

A proliferation of forest-tenure instruments introduced throughout the 1970s–1990s has been followed by more recent attempts to rationalize and simplify the types of forest tenure arrangements. In the 1970s, the dominant tenure instrument was the Timber License Agreement, reflecting the then-dominant timber policy orientation, as shown in Table 8. This has changed, as shown by the type, total area and the number of tenure instruments in force in 2018, presented in Table 9 (see also Pulhin and Dizon 2003, Guiang and Castillo 2006, Pulhin et al 2007, Pulhin et al 2008a and 2008b, Pulhin and Dressler 2009, Rebugio et al 2010).

The dominant tenure instrument is now the Community-Based Forest Management Agreement, highlighting the success of EO No. 263 adopted in 1995 (Guiang et al 2001, Pulhin et al 2007). Nevertheless, current forest management planning, regulation, monitoring and policy-making remain influenced by the timber-oriented rules and regulations of the Timber

Table 8. Areas of forest land under the private sector from 1970 to 2018 (,000 ha)

Type of agreement	1970/1971		1980		1990		1995		2000		2018	
	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area
TLA	461	10,598	261	7,939	97	3,620	41	1,600	19	910	2	120
IFMA/ITPLA			12	88	81	30	248	538	184	548	127	961
CBFMA									600	1,971	1,884	1,616
Tree farm			101	9	101	1	128	18	155	19	53	6
Agroforestry			2	1	94	11	84	97	80	91	0.4	2
Total				8,037		4,189		2,253		3,539		2,799

Note: TLA = Timber License Agreement; IFMA/ITPLA = Integrated Forest Management Agreement/Industrial Timber Plantation Agreement; CBFMA = Community-Based Forest Management Agreement

Sources: DENR FMB 1980, 1990, 2000, 2018

License Agreements era. The requirements for obtaining approvals to cut and transport timber products are, in essence, the same for community organizations and private-sector tenure holders. The high degree of regulation is similar to that formerly applied to holders of Timber License Agreements and Integrated Forest Management Agreements.

An estimated 17–22 million people living in the uplands of the Philippines, half of whom are indigenous peoples and indigenous cultural communities (Fortenbacher and Alave 2004), have no written land-tenure arrangement and are often considered as illegal or landless. In some cases, this has been due to displacement (Lynch 1984, Prill-Brett 2007) but, in most cases, it is because their original Certificate of Stewardship Contracts have expired or have not been renewed.

A recent study found that, "Existing tenurial arrangements have not ensured livelihoods, economic development and sustainable forest use due to their narrow focus, insecurity and conflicts with other titles and instruments" (DENR and GIZ 2015:12).

Table 9. Overview of forest land-tenure instruments in 2018

Type of instrument	Total number of instruments	Total area of instruments (ha)
Community-Based Forest Management Agreement	1,884	1,615,598
Integrated Forest Management Agreement	127	961,510
Timber License Agreement	2	119,650 *
Forest Land Grazing Management Agreement	186	53,536
Socialized Industrial Forest Management Agreement	1,530	32,219
Tree Farm Lease Agreement	53	5,870
Private Forest Development Agreement	115	5,275
Forest Land Use Agreement	35	3,856
Special Land Use Permit	126	516
Agroforestry Farm Lease Agreement	2	398
Forest Land Use Agreement for Tourism purposes	32	306
Special Land Use Lease Agreement	14	67
Total	6,305	2,798,711

Source: FMB 2018

Recent policy developments

Three recent policy developments, two of which were introduced in 2011, continue to dominate forest policy and institutional responses attempting to address a broad array of challenges in the forest and land-use sectors. The Forest Investment Road Map was only adopted in December 2019 and is pending a more detailed set of implementing rules and regulations.

The first two policies were in response to perceptions of worsening poverty, deforestation and forest degradation, particularly in the uplands; loss of biodiversity and the destruction of watersheds associated with climate change; continuing graft, corruption and abuses by Timber License Agreement holders; and new international funding opportunities linked to climate-change mitigation and adaptation. They were EO No. 23, which declared a nationwide, "Moratorium on the cutting and harvesting of timber in the natural and residual forests and created the anti-illegal logging task force", and EO No. 26, which established the National Greening Program, the massive forest restoration and replanting program of the Government.

Nationwide moratorium on logging: EO No. 23 of 1 February 2011

The nationwide moratorium prohibited DENR from issuing logging contracts and agreements and tree-cutting permits in all natural and residual forests encompassing Timber License Agreements, Integrated Forest Management Agreements, Socialized Industrial Forest Management Agreements and Community-Based Forest Management Agreements. DENR was also tasked with reviewing and evaluating all existing Socialized Industrial Forest Management Agreements and Community-Based Forest Management Agreements; implementing a forest certification system to ascertain the sustainability of legal sources and the chain of custody of timber and wood products nationwide; closing down all sawmills, veneer plants and other wood-processing plants that were unable to present proof of sustainable sources of legally cut logs for at least five years; and creating an Anti-Illegal Logging Task Force.

There are several ongoing activities aimed at developing a national system that would function similarly to a Timber Legality Assurance System as well as Chain of Custody and forest certification processes (Keong et al 2012, DENR FMB 2017). However, views are polarized between the Government and the private sector regarding the most appropriate approach for strengthening timber legality, with the Government favoring a regulatory approach and the private sector preferring to follow a route towards voluntary certification. Different donors are supporting these two approaches, with the International Tropical Timber Organization supporting the Government on the development of a Timber Legality Assurance System (ITTO/IMM 2019) and the Program for the Endorsement of Forest Certification supporting private-sector associations on voluntary certification standards. The support of the Food and Agriculture Organization of the United Nations (FAO) is directed at closing this gap through measures to increase awareness among the private sector of Government legality requirements and building the capacity of Government committees working on timber legality and certification.

By the time the nationwide moratorium came into effect, an estimated 70% of the Philippines' 77 provinces were already covered by logging bans or moratoria issued in the period 1968–1994 (Guiang 2001:18–19, see also Brown et al 2001, Durst et al 2001, Bugayong 2006). Specifically, DENR issued an Administrative Order in 1991 that banned timber harvesting in all old-growth or virgin forests and in areas above 50% slope and over 1000 masl. Others were issued for different reasons as Presidential directives, proclamations and letters of instruction, ministerial orders, departmental Memorandum Orders, Administrative Orders and radiograms, as well as laws such as the National Integrated Protected Areas Law and RA 7611 (Strategic Environmental Plan for Palawan (see Section VIII 3).

The experience of implementing logging bans in natural forests has been mixed and variable. The imposition of the bans and subsequent cancellation, non-renewal and suspension of logging activities often turned forest lands into open-access areas. Logging bans also encouraged illegal logging (see, for example, Ploeg et al 2001), which caused market imperfections in the local prices of forest products, and led to reductions in Government revenues as well as incomes and employment in the logging and wood processing industries and increased costs associated with forest protection efforts that are not as effective as those provided by local landholders. The nationwide moratorium contradicted DENR MO 96-09 to issue permits to establish and operate mini-sawmills and disregarded component (d) in the implementation of Community-Based Forest Management Agreements ("forest products utilization"), thereby, compromising the abilities of contract holders to develop forest-based livelihoods.

In the forestry sector, SMEs are often considered as vehicles for development, jobs and poverty alleviation among forest-dependent households. SMEs are thought to constitute 80–90% of enterprises in the forest sector, with an estimated more than 40 million people employed (either part- or full-time) through such enterprises. SMEs also primarily service domestic markets for wood and non-wood products; markets that in many regions of the world are growing in tandem with the growing middle class.

Despite widespread support for SMEs, the success of such enterprises in the forest sector has been mixed. Forest-sector SMEs, like SMEs more generally, suffer from limited access to business and financial services, lack of support to enhance their competitiveness, regulatory measures that constrain their ability to operate in a "legal" space or that create perverse incentives, and limited access to markets. These and other challenges and constraints for SMEs have been widely identified but recommendations and efforts to address them have been fragmented and are often sectoral, limiting the effectiveness of the intervention.

The nationwide moratorium has not led to either improved forest management or strengthened forest or biodiversity conservation as domestic demand for timber products in the Philippines has remained strong and access to an estimated 5 million ha of forest lands is open owing to weak enforcement capacities. For example, the devolution of forest protection authority to Provincial and Community Environment and Natural Resources Offices was not complemented with additional labor or fiscal resources: "Existing forest guards were each left in charge of 4000–7000 ha of forest, which was too large for accurate monitoring and too open to armed threats with little to no security detail" (Domingo and Manejar 2019:44).

Despite these weaknesses, Chapter 8 of the proposed Sustainable Forest Management Bill proposes, in Section 25, a permanent commercial logging ban across the country while

Section 26 institutionalizes the assistance of law enforcement agencies such as Philippine National Poilce, Armed Forces of the Philippines and the National Bureau of Investigation to ensure the implementation of the logging ban. It is also proposed to strengthen the mandate of the Department of Justice by providing for special courts to adjudicate environmental cases. Section 27 provides for the creation of Multi-sectoral Forest Protection Councils in every province, city and municipality.

Section 2.6 of EO No. 23 also specified that, "DENR through the DA-DENR-DAR Convergence Initiative (cf. Joint MC No. 1 series 2010), shall develop a National Greening Program in cooperation with the Department of Education and the Commission on Higher Education to initiate the educational drive campaign; the Department of Interior and Local Government to help in establishing communal tree farms for firewood and other purposes; Department of Social Welfare and Development to identify the upland farmers covered by the National Greening Program as priority beneficiaries of the conditional cash transfer program; the Department of Budget and Management to provide the funds for the production of quality seedlings for the National Greening Program from available funds of the government,and the private sector and other concerned agencies/institutions to raise funds and resources for tree planting".

National Greening Program: EO No. 26 of 24 February 2011

The history of policies, plans, programs and projects promoting afforestation and reforestation in the Philippines spans more than a century. Estimates of the areas of plantations that have been successfully established (as distinct from the number of tree seedlings planted) are variable but it is clear that DENR has been the dominant actor, particularly after Presidential Letter of Instruction No. 145, s.1973 was issued to determine which alienable and disposable lands should be converted into industrial plantations and tree farms (Table 10). Private-sector investment in forest plantations represent, at best, a third of all plantation areas established to date. Monitoring of the effectiveness of reforestation efforts has remained weak since the start of the National Greening Program (see, among others, PIDS 2013).

Table 10. Estimates of the total plantation area established during 1975–2002

Actor	Area planted (ha)	% of total
DENR	920,962	58
Timber license holders	410,112	26
Local government units and other national government agencies	100,485	6
Other private enterprises and leaseholders	93,520	6
Private citizens and civil-society organizations	72,393	4
Total	1,597,472	100

Source: FMB 2018

From 2010 onwards, a large increase in reforestation was observed with the implementation of the National Greening Program. The Program was consistent with the updated Master Plan for Forestry Development (2016–2028) and aimed to harmonize all tree-planting initiatives by planting 1.5 billion trees on 1.5 billion ha during 2011–2016 on "forest lands, mangrove and protected areas, ancestral domains, civil and military reservations, urban areas under the

greening plan of local government units, inactive and abandoned mines sites and another suitable land" (EO No. 26, Section 2). Initial annual planting targets of 100,000 ha per year were increased to 300,000 ha per year in 2013. The importance of DENR in the areas reforested after 2010 has increased with a concomitant decline in planting by private-sector actors (Table 11).

Table 11. Area reforested by sector 2010–2018

Year	Total area planted (ha)	DENR	% DENR	Other national government agencies	Timber licensees	IFMA/SIFMA/ CBFMA/ TFLA/PLA/ ITPLA*	Others, including non-governmental and civil-society organizations
2007	27,837	25,024	90	-	-	-	2,813
2008	43,609	27,752	64	-	182	928	14,747
2009	54,792	53,842	98	-	-	950	-
2010	36,877	32,384	88	-	3,737	756	-
2011	128,558	82,163	64	20,721	-	-	25,674
2012	221,763	132,710	60	74,334	-	5	14,714
2013	333,160	273,971	82	52,135	-	-	7,054
2014	334,302	306,468	92	8,810	-	-	19,024
2015	360,357	360,357	100	287	-	-	-
2016	284,089	284,089	100	-	-	-	-
2017	202,488	202,488	100	-	-	-	-
2018	141,310	141,148	99.9	-	-	-	162

* IFMA = Integrated Forest Management Agreements; SIFMA = Socialized Industrial Forest Management Agreements; CBFMA = Community-Based Forest Management Agreements; TFLA = Tree Farm Lease Agreements; PLA = Plantation Lease Agreement; ITPLA = Industrial Tree Plantation Lease Agreement

Source: DENR FMB Forestry Statistics 2018:19

The survival rate of tree seedlings planted by the National Greening Program has consistently been below target. The Program expected an 85% survival rate but in the 2013 Audit Report of the Commission on Audit, it was noted that the survival rate, based on the sample areas surveyed, was only 68%.

Although three types of incentives were provided for under the National Greening Program[17], it is unclear who has benefited from the Program, and how. The Philippine Institute of Development Studies conducted an assessment of the efficiency and effectiveness of the Reforestation Program of DENR in 2013 and highlighted the lack of sufficient monitoring, lack of species–site–market matching, and the failure to consider site demographics and critical environmental and topographical issues (PIDS 2013). The DENR data presented in Table 9 also

17 i. All proceeds from agroforestry plantations shall accrue to the National Greening Program beneficiary communities to address food security and poverty reduction; ii. National Greening Program beneficiaries shall be considered priority in the Conditional Cash Transfer Program; and iii. Appropriate incentives shall be developed by the DAR-DENR-DAR Convergence Initiative to encourage rainforestation, particularly in the protected areas (EO No. 26: Section 3.3)

highlight the predominance of DENR in meeting annual targets during the period 2015–2018 rather than reflecting a convergence initiative as envisaged in EO 26 s. 2011.

The continued emphasis on tree planting was reflected in the bills presented to the 16th Congress to protect and develop the forestry sector. Nine bills (Senate Bill Nos. 30, 45, 520, 531, 675, 1093, 1094, 1644 and 2200) were filed on sustainable forest management and tree planting; five bills (Senate Bill Nos. 142, 171, 769, 1308 and 2237) were filed on mangrove forest protection; four bills (Senate Bill Nos. 604, 786, 1101 and 1900) on delineating specific forest limits; three bills (Senate Bill Nos. 7, 53 and 150) related to the adoption of a national land use policy; and the substitute bill (Senate Bill No. 2712) on the proposed expanded National Integrated Protected Areas Act of 2015.

The National Greening Program was followed on 12 November 2015 by EO No. 193 on "Expanding the coverage of the NGP" to cover the "estimated 7.1 million ha of unproductive, denuded and degraded forest lands which contribute to environment-related risks such as soil erosion, landslides, and flooding" (EO No. 193 s. 2015: 1). This policy decision was taken before a Commission of Audit Performance Audit Report published on 18 December 2019, which concluded that, "Reforestation remains an urgent concern but fast-tracking its process without adequate preparation and support by and among stakeholders led to a waste of resources." (CoA-PAO-2019-01 2019). Additional details of PAO-2019-01 are presented below.

By 2010, the Philippines had already lost 60% of its total forest cover. Out of 16.90 million ha of forest lands in 1934, approximately 6.84 million ha remained. To jumpstart reforestation, in 2011, the Aquino Administration created the National Greening Program to regain 1.5 million ha of forest lands by planting 1.5 billion trees within six years. To cover the rest of the forest lands, the National Greening Program was extended until 2028. Around PHP 47.22 billion was allocated to the DENR from 2011 to 2019 to implement the program. However, despite eight years of implementation, legislators are still skeptical as to its actual impact. As a result, the National Greening Program's budget has been cut in half from PHP 5.15 billion in 2018 to PHP 2.60 billion in CY 2019.

The Commission on Audit report aimed to determine: a) the extent the program made an impact on the environment; b) the extent the program made an impact on its beneficiaries; and c) the extent the DENR ensured that the program was administered following the established policies and procedures.

To answer the aforementioned objectives, the audit team conducted a document review and interviewed program officials. To validate the information, the audit team visited National Greening Program sites and conducted focus groups with the people's organizations implementing the program on the ground. The audit scope covered program implementation from 2011 to 2018.

Program implementers, including people's organizations, identified various problems in implementing the program, such as distance to the areas, calamities and insufficiency of the contract payments. However, the Commission on Audit found that the most crucial issue was DENR's strategy of fast-tracking the program. Fast-tracking led the DENR to a) impose targets on its field officials beyond their absorptive capacities; b) proceed with the program without conducting a survey, mapping and planning; c) include far untenured areas, which

will be abandoned after the term of the maintenance and protection contract; and d) cause the POs to miss financial opportunities, such as profits from seedling production. According to field officials, the targets were too ambitious. Instead of increasing forest cover, fast-tracking reforestation activities only increased incidences of wastage. Based on the latest Philippine forest statistics, forest cover increased marginally by 177,441 ha: from 6,836,711 ha in 2010 to 7,014,152 ha in 2015. This is only 11.8% of the 1.5 million ha target of the National Greening Program under EO No. 26. Even if the 85% standard of survival rate of 1,275,000 ha is used, the accomplishment will still be at a low rate of 13.9%. On a positive note, it was enough to reverse the previous downward trend.

The Commission on Audit found pieces of evidence showing that the National Greening Program contributed to the reduction of poverty, however, it could not conclude as to its scale owing to lack of data. Generally, beneficiaries narrated how the program payments helped augment their household budget. There were exceptional groups and communities, which were able to transform themselves into cooperatives, thereby gaining access to credit facilities and finance, equipment, and technical assistance from Government agencies. With additional capital, they were able to create additional sustainable income streams. The crucial factors in the success of these beneficiaries are a) the preparedness of the beneficiaries to implement the program; and b) the convergence of different agencies, including the private sector. However, community organizing is not the priority of the National Greening Program. This is the reason why dependent people's organizations are still prevalent. Convergence, on the other hand, is a requirement under EO No. 26, s. 2011. DENR was not able to implement this on a national scale. The pockets of success were caused by individual ingenuity at local level.

The key recommendations of the Commission on Audit Performance Audit Report were as follows.

1. Consult the Provincial and/or Community Environment and Natural Resources Offices, private sector and the beneficiaries in formulating the action plan and targets.

2. Ensure that the people's organizations benefit from seedling production by providing them sufficient time to produce the seedlings themselves.

3. Make community organizing as a pre-requisite before proceeding with the program.

4. Implement the convergence initiative at the national and local levels.

(CoA Performance Audit Report PAO-2019-01 2019)

Forest Investment Road Map (DAO 2019-22)

The Forest Investment Road Map was formally adopted by DENR as DAO 2019-22 on 2 December 2019 shortly before the Commission on Audit Performance Audit Report on the National Greening Program. The Forest Investment Road Map constitutes the country's blueprint to encourage private-sector investment in forestry and provides a general overview of the country's forest resources, tenure instruments and key investment opportunities that will hasten progress and socio-economic development through the optimization and wise use of forest lands under the purview of sustainable forest management.

The Forest Investment Road Map aims to revitalize forestry investments through local and direct foreign investments in an environmentally sound, economically viable and socially responsible manner towards inclusive growth and sustainable development. It will also prescribe guidelines on how industrial-level partnerships can be strengthened to transform the production forests into a significant contributor to the national economy (from 0.01 to 0.14% by 2028).

There are several goals of the Forest Investment Road Map.

- Providing an enabling environment for investments in forest and forest-based products and services to assure investors of stable policies, secure tenure, incentives and technical support.
- Generate additional and sustained forestry investments to meet the demands for forest and forest-based products and high-value-added commodities and services.
- Ensure the sustainable supply of raw materials to produce globally competitive forest-based products and services.
- Promote equity and social justice by uplifting the socio-economic status of women and men in forest-dependent communities.

There are several specific objectives of the Forest Investment Road Map.

- Identify and delineate potential investment areas based on regional comparative advantages. Potential investment areas include forest plantations for timber, NTFPs, fuelwood, biomass, and high-value crops (coffee, cocoa, and rubber) as well as cattle grazing, ecotourism outside National Integrated Protected Areas, and other ecosystem services (FIRM:14–38).
- Develop and maintain 1,438,298 ha of commercial forest plantations by 2028.
- Establish and maintain 297,234 ha of fuelwood and biomass energy plantations by 2020.
- Develop and maintain 500,000 ha of NTFP plantations and high-value crops by 2028 through community partnerships with private investors.
- Develop and maintain 111,000 ha of grazing land by 2028.
- Formulate or amend policies and guidelines related to forestry investments.
- Establish specific guidelines for implementing payment for ecosystem services.
- Provide appropriate tenure instruments for private investors or community partnerships with private investors.
- Increase 50% of average annual income of upland communities.

- Place 75% of open-access forest lands under appropriate management arrangements.
- Establish forest-based industries with sustainable sources of raw materials.

There are seven strategic components on how to achieve the goals and objectives of the Forest Investment Road Map.

1. Provision of stable enabling policy and investor-friendly environment.
2. Institutionalization of forestry-investment support mechanisms.
3. Identification, mapping and assessment of potential investment areas.
4. Provision of secure tenure and partnership agreements.
5. Development and management of potential areas for forestry investments.
6. Strengthening and sustaining partnerships with existing tenure holders.
7. Marketing strategies.

Policy development activities that will further support and strengthen FIRM implementation include the following.

- Advocacy for the passage of the Sustainable Forest Management bill which will replace PD 705.
- Review and amendment of guidelines on permitting, utilization and transportation of forest-based products.
- Harmonization of guidelines and process by DENR and other Government agencies and local government units on the issuance of necessary clearances for the approval of tenure and permits which are overseen by these agencies.
- Harmonization and streamlining of guidelines and processes by DENR and concerned other Government agencies on how private investors and upland communities can access incentives provided by the Board of Investments, Bureau of Customs, Bureau of Internal Revenue, Department of Energy, local government units, and Department of Budget and Management.

Likewise, improved forest governance is a continuing imperative of the Government in the allocation, protection and conservation of the country's forests and forest resources: "....The pillars of good governance include accountability, transparency, rule of law, responsiveness, equity and inclusiveness, effectiveness and efficiency, consensus-oriented and participation" (FIRM:45–47).

The projected additional contribution of several commodities to gross value added/gross domestic product in 2028 under the Forest Investment Road Map are presented in Table 12 below.

Table 12. Projected additional contribution of several commodities to GVA/GDP in 2028 under the Forest Investment Road Map

Commodities	GVA* (billion PHP)	% GVA to GVA of manufacturing	% GVA to GVA of AFF* sector	% GVA to GDP*	No. of full-time employees
Logs	39.582	-	1.66	0.14	156,679
Lumber	18.281	0.27	-	0.06	35,873
Plywood	19.918	0.29	-	0.07	39,084
Furniture/ WBMA	104.423	1.59	-	0.38	212,752
Bamboo	0.881	-	0.04	0.003	3,805
Coffee	0.438	-	0.02	0.002	1,892
Cacao	0.197	-	0.01	0.00	850
Rubber	0.299	-	0.01	0.001	1,291
Total	188.020	2.14	1.73	0.66	452,226

Sector	Baseline GVA and GDP (2017) (billion PHP)	Projected GVA and GDP in 2028 (billion PHP)
Agriculture, Fisheries and Forestry	1,453	2,387.5
Manufacturing	3,044	6,839.8
GDP	15,289	28,346.4

*AFF = Agriculture, Fisheries and Forestry; GVA = Gross Value Added; GDP = Gross Domestic Product

Source: FIRM:42

Incentives in the forest sector in the Philippines

Many equate incentives with subsidies, such as Gregersen (1984), who defined incentives as "public subsidies given in various forms to the private sector to encourage socially desirable actions by private entities". For this report, incentives include both direct incentives — such as the provision of tree seedlings, cost-sharing, subsidized credit, fiscal incentives, reduction of uncertainty through loan guarantees, insurance, forest protection agreements and security of land tenure (Gregersen and Houghtaling 1978) — and indirect incentives, such as changes in policy and institutional mandates to facilitate investments by the private sector, provision of market information, and targeted extension, education and research (Keipei 1997, de Jong et al 2016).

Direct and indirect incentives can be provided by governments as well as through projects and programs funded by development banks (both national and multilateral) and official development assistance organizations (Table 13). The underlying causes of deforestation and forest degradation in the Philippines include policy, institutional and governance issues, such

Table 13. Types of incentives

Direct incentive	Indirect incentives		
	Variable incentives		Enabling incentives
	Sectoral	Macro-economic	
Seedlings	Input and output prices	Exchange rates	Land tenure and resource security
Specific provision of local infrastructure to support plantations	Trade restrictions (for example, tariffs)	Interest rates policies	Socio-economic conditions
Grants		Fiscal and monetary measures (for example, income taxes)	Accessibility and availability of basic infrastructure (ports, roads, electricity etc)
Tax concessions			Producer support services
Differential fees			Market development
Subsidized loans			Credit facilities
Cost-sharing arrangements			Political and macro-economic stability
			National security
			Research and extension services
			Capacity of local government units
			Clarity and stability of sectoral policies

Source: Adapted from Enters et al 2003:12

as unstable, confusing and conflicting forest policies and mandates; logging bans as perverse incentives; open-access forest lands owing to lack of clear tenure; limited coordination with other sectors; poor monitoring and law enforcement; and the inability of institutions to adapt and carry out effective strategies (Guiang 2008, Pulhin et al 2008b, GIZ and DENR 2013).

After independence in 1946, when ownership of all forest lands was nationalized, the industry became more mechanized and large-scale logging expanded to meet strong postwar US and Japanese demand. Forest products, only 1.5% of total exports in 1949, grew to 11% by 1955. Driven by incentives, strength in the world log market and mechanized harvesting, the timber boom peaked in 1969. Annual harvests averaged 8.8 million m^3 and the forest area under logging concessions nearly doubled, from 5.5 million ha in 1960 to 10.6 million ha in 1971. Forest products became the leading export commodity, reaching 33% of gross export values by 1969.

The timber boom was driven by the vast profits that logging companies accumulated because the Government was unable to capture an appropriate share of resource rents through forest revenue systems. Government revenues in the Philippines averaged only 8.8% of the sector's export values between 1970 to 1982. The primary revenue source was a volume-based charge that ranged PHP 0.6 to 3.5 per m^3. The different fees were consolidated in 1980 to a charge of PHP 20 per m^3, and raised by 50% to USD 1.52 in 1984.

Concessions of from one-to-ten years granted in the 1970s provided concessionaires with few incentives to practise sustained-yield management. Concessions were later extended to 25 years, with potential for renewal for an additional 25 years, but these were still short relative to the 70-year growing cycles of many tropical species. The effects of excessive rents and short-term leases were compounded by the structure of forest charges, which failed to differentiate charges by timber grade, species and accessibility and rather based charges on the volume cut than on the volume of merchantable timber. Weak enforcement of regulations of harvesting methods, stand improvement, and forest protection also contributed to the problem owing to inadequate funding and personnel to supervise private loggers.

The Philippine Government's program to develop the wood-processing industry that was initiated in the 1960s aimed to increase foreign exchange, to create domestic value addition, to stimulate employment, and to use dwindling forest resources more effectively. Forest concessions were initially issued preferentially to companies that agreed to establish lumber and plywood mills. In 1967, a Government directive required all harvesters to build processing plants and progressively reduce log exports. Many companies complied by building small, inefficient and little-used mills while continuing to export logs. The Marcos Administration responded in 1975 with a ban on log exports. As a result, in 1977, sawmills and plywood-processing plants were only operating at 29% and 35% of capacity, respectively. Processed wood exports, mainly lumber and plywood, increased as a share of total sectoral exports from 14% in 1970 to 76% in 1983. The value of processed-wood exports peaked in 1979 at USD 317 million but had declined by 1983. The number of wood-processing plants also declined: from a peak in 1976, the number of sawmills fell from 325 to 190 in 1982; plywood mills from 209 to only 35; and veneer mills from 23 to 11. Reported log export volume declined to only 11% of total production by 1980. In 2017, 15 regular sawmills, 128 mini-sawmills, 46 veneer plants, 20 plywood plants, 2 blockboard plants, 1 fiberboard plant, and 19 integrated plants remained in the Philippines. Sixty-seven percent of log production in 2017 came from Region 13 (Caraga). Eight-seven percent of lumber was produced in Regions 10 and 13 in the same year.

The Government has poured billions of pesos into reforestation programs for over a century. The country has undertaken reforestation programs from 1916 through to the launch of the National Greening Program in 2011, extended in 2016. The Revised Master Plan for Forest Development adopted in 2003 estimated that the country only needed 460,000 ha of fully-established and well-managed forest plantations to meet the demand for plantation wood. Several federal programs, including reforestation, industrial timber plantations, and social forestry were adopted to regenerate forest resources during the period before 1980 through to 2001. An estimated 1.4 million ha of plantations were established up to 2001, of which only 150,190 ha were planted by the private sector (10.6%). Only 78,440 ha of industrial timber plantations (5.5% of the total) were established during the same period, suggesting that the range of incentives provided was ineffective. The major constraint was probably limited financial resources for extensive planting as no substantial credit support was provided by either Government or financial institutions. Hence, the only alternative was to generate revenues from exploiting natural forests to finance plantation development.

The complexity of forest management in the Philippines from licensing through management to harvest, sale and renewal has involved multiple sets of policies and guidelines as well as changes and reversals of the same, some of which can be considered as perverse as they contributed more to deforestation and forest degradation than to conservation of forests.

The recurrent costs of reforestation and afforestation programs could be effectively reduced in the Philippines if the Government were to adopt a more supportive enabling environment to promote the emergence of, for example, community-based tree enterprises. The standing volume of second-growth production forests in the Philippines is estimated at more than 217 million m^3, representing a natural resource asset worth more than USD 13 billion (at USD 60/m^3) that could generate 60,000 full-time jobs by selling 500,000 m^3 of timber per year. DENR FMB needs to simplify the regulations for smallholders to trade timber to help in reducing the transaction costs associated with timber marketing and processing at central, regional and local levels (Pulhin and Ramirez 2016).

A summarized overview of DENR FMB policy support for commercial forestry investment sub-projects implemented per DENR Technical Bulletins #2 and #4 of 2015 and #10 of 2017 is presented in Table 12. The table highlights key features, tenure instruments and gaps.

The Forest Investment Road Map (DAO 2019-22) refers to incentives concerning only one of the potential investment areas (FIRM:14–38), namely, the planting, development and processing of biomass resources (FIRM:24–25), specified as:

> "Fiscal and non-fiscal incentives include Income Tax Holiday (ITH), Exemption from Duties on Renewable Energy machinery, equipment and materials; tax exemption of carbon credits; financial assistance program, etc while incentives for farmers engaged in the plantation of biomass resources shall be entitled to duty-free importation and exemption from payment of value-added tax (VAT) on all types of agricultural inputs, equipment and machinery within ten (10)-years from the effectivity of the Act, subject to verification by the Department of Energy (DOE)."
>
> (FIRM:25)

Additional details are presented in the complementary report, *Review of incentives and disincentives in the forest sector in the Philippines*, which puts forward proposals to help restore investor confidence and the emergence of stronger and better-organized smallholders and SMEs producing both timber and NTFPs.

Successful examples of decentralized sustainable forest management in the Philippines

The Philippines has been a net importer of logs, lumber, veneer and plywood to meet domestic demand since 1989. The Philippine Master Plan for Forest Development (MPFD 1990), the Revised Master Plan for Forest Development in the Philippines (DENR 2003), and the Philippine Forestry Outlook (FMB 2010) all provided wood supply and demand projections, with an anticipated increase in the production of plantation logs after 2010. The Philippines continues to import timber to meet its supply–demand deficit. Seventy percent of locally produced timber currently comes from the so-called "timber corridor" in Caraga Region.

This section highlights some of the successful examples of decentralized forest management in the Philippines from Caraga Region, CAR and Palawan. Each case explores the underlying reasons for the success and the enabling conditions that were met to facilitate replication in other provinces and regions.

Smallholder tree planting in the Philippine "timber corridor": Caraga Region

A series of policy restrictions on commercial operations in natural forests and the nationwide logging moratorium introduced in 2011 triggered a shift in accessing timber from natural forests to plantation forests. Sixteen out of 29 wood-processing plants in Talacogan stopped operations. Owing to the difficulties in accessing forest lands to establish tree plantations, many farmers in Mindanao shifted to planting trees on private land. This had several advantages, including the price of plantation wood remaining stable given the lack of wood supply from natural forests, a good road network existing for easy transport and marketing and the remaining wood-processing plants in Butuan City (six veneer and seven plywood plants) served as a ready market for plantation wood for the smallholdiing tree farmers holding Private Tree Plantation Ownership Certificates. Many downstream industries, such as trading, trucking and final processing of products were also created.

Tree plantations of fast-growing species, such as 'falcata' (*Paraserianthes falcataria*) on private lands in Talacogon, Agusan del Sur, Caraga Region represent a thriving business. Tree farmers' gross income per hectare ranges USD 2222–13,333 per rotation of 8–10 years. With an estimated plantation establishment cost of USD 93 per ha and a harvest and roadside transport cost of USD 17 per m^3, a smallholdiing tree farmer could generate a net income of USD 4444–5555 from an average yield of 220 m^3 per ha (Carandang et al 2015).

Forest plantations for timber production were further encouraged through deregulation and providing incentives for tree plantations on private land. The success in Caraga Region was

due, in part, to the Regional DENR lifting restrictions on the harvesting, transporting and sale of firewood, pulpwood or timber planted on private lands through DAO No. 4, 1987. Private tree plantations still need to be registered as per DMC No. 97-09 (DENR 1997) to ensure recognition and proof that those timber products come from private lands. A cutting permit was no longer required and Private Tree Plantation Ownership Certificates for tree plantations within private/titled land or tax-declared alienable and disposable land were issued per DENR MO 99-20 (DENR, 1999). Plantation logs were also exempted from payment of forest charges.

The Philippines operates a complex system of registration for smallholders' tree farms that is designed primarily to prevent illegal timber logging and transport (Calub 2005). The Community Environment and Natural Resources Offices are responsible for tree-farm registration and maintenance of an inventory of registered tree farms. Electronic processing and management of this data are limited. Most tree farmers only register when they wish to harvest trees for sale.[18]

Some provinces introduced "environmental protection fees". In Talacogan, tree farmers were affected by such a regulation as the local government collected USD 0.78 per m^3. Other tree crops being planted by smallholders in the province and other parts of the Philippines include rubber (*Hevea brasiliensis*), *Gmelina arborea, Acacia mangium* and *Swietenia macrophylla*.

Establishing falcata plantations is a viable business in terms of an internal rate of return and annuity value of about 48% and USD 668, respectively. As a short-rotation tree-crop aged 12 years, falcata has a net present value of USD 4140 at 12% (Carandang and Carandang 2009, Carandang et al 2013). Additional incentives — such as tax breaks on revenues, provision of low-interest and long-maturing loans, less stringent requirements for wood processors, improving access to price information, improved maintenance of farm-to-markets roads, and opportunities to export plantation logs — may enable other provinces to replicate the success of Caraga Region.

Muyong Resource Permits, Ifugao Province, Cordillera Administrative Region[19]

The National Commission on Indigenous Peoples recognizes 95 distinct tribes, including Islamic groups, in 14 regions, with an estimated population of 12–15 million (Molintas 2004). These groups continued to live in relatively isolated, self-sufficient communities at the time when most lowland communities had already been integrated into a single colony under Spain. They have been able to preserve their culture and traditions as reflected in their communal ownership of some lands, their cooperative work exchanges, and their communal rituals, songs, dances and folklore. Each community has its council of elders who customarily settle conflicts and land disputes.

18 The DENR in Caraga Region issued a Memorandum to all Provincial and Community Environment and Natural Resource Offices on the 'Registration of Tree Plantations within unintended/open public forest land areas by forest occupants' on 22 April 2014. This was subsequently revoked by DENR on 11 April 2018.

19 EO No. 220 was issued creating the Cordillera Administrative Region on 15 July 1987. It is composed of provinces that used to be part of the Old Mountain Province. Republic Act No. 6766 was passed on 23 October 1989. It provided for an Organic Act for the CAR.

The Ifugaos community in Ifugao Province, CAR have developed their traditional ecological knowledge to sustain forest lands, known as the "muyong system" (Butic and Ngidlo 2003, Camacho et al 2015). The system can be viewed as a forest conservation strategy, a watershed rehabilitation technique, a farming system or an approach to assist natural regeneration. Recent interest has been expressed in community-based muyong forest management in REDD+ implementation (Avtar et al 2019).

The standard muyong forest varies in size from 0.5 to 2.4 ha (Dacawi 1982, Klock and Tindungan 1995). The muyong contain up to 264 species (234 are considered useful), mainly indigenous, belonging to 71 plant families (Rondolo 2001).

The Ifugao landscape is characterized by five agro-ecological zones: micro-forest (muyong or "pinugo"), swidden fields ("habal"), terraced rice fields ("payo"), settlement districts ("boble") and braided riverbeds ("wangwang"). Near the tops of hillsides, muyong and swidden are scattered in a mosaic-like pattern. Richly bio-diverse, this environment is dependent on the interactions of humans and nature. Ifugao culture and laws revolve around their physical environment, expressed through customs and taboos prescribing the treatment and use of natural resources. Muyong is traditionally an inherited property and privately owned, although owners do not possess title deeds. Ownership is simply defined by inheritance and this mode of ownership transfer is recognized by everyone within the community. The muyong plays an important role within the tribal economy. It is the primary source of fuelwood, construction material, food and medicines. Approval is required from the muyong owner whenever logging is undertaken for building or woodcarving material, but it is not necessary for minor uses, such as the collection of firewood and fruits. The muyong forest spread across the rice terrace slopes and the tops of the hilly terrain is the primary recharge zone for the production of rice in terraced fields and serves to reduce surface water runoff, restrict erosion and limit the accumulation of soil in the rice fields below.

The DENR in CAR has long recognized the significant role that indigenous people and indigenous cultural communities are playing in preserving their muyong to sustain their livelihoods, biodiversity and forest conservation and to protect watersheds. In line with the Government's social reform agenda and the Commnity-Based Forest Management Strategy adopted in 1995, DENR in CAR issued interim guidelines governing the issuance of Muyong Resource Permits in the Province of Ifugao (DMC No. 96-02, 9 February 1996). Supplementary guidelines (DMC No. 96-10) were issued on 9 December 1996 on the "Disposition of wood products derived from timber cut and gathered from muyong areas in the Province of Ifugao".

A Muyong Resource Permit applicant is required to submit several pieces of information.

1. Location and size of the muyong and the number and type of plant and tree species within the area.

2. Certification from the Barangay captain that the applicant is a resident of the area and has practised muyong conservation techniques for the past 20 years.

3. The raw material requirement for wood carving and other handicrafts and/or subsistence use in volume/number.

Clear cutting of tree species within the muyong is prohibited and pine trees (Pinus kesiya), whether planted or naturally grown, are to be preserved. The Provincial Environment and Natural Resources Office, upon the recommendation of the concerned Community Environment and Natural Resources Office, has the authority to issue a Muyong Resource Permit. An estimated five Muyong Resource Permits are issued each month. The original Certificate of Verification issued by the Community Environment and Natural Resources Office accompanies finished and semi-finished wood products transported to all market outlets free of forest charges, as well as the shipping/transport documents required under DAO No. 94-07. Muyong Resource Permit holders are expected to undertake immediate restoration activities to maintain the original status of the muyong.

The customary conservation of muyong forests has assisted DENR in protecting the critical watersheds in CAR covered by Benguet pine forests at high altitudes (Ganzon 2003). By recognizing and formalizing customary practices, DENR has benefited from a decentralized and cost-effective approach to sustainable forest management. Simplifying rules and providing simple incentives whilst assisting muyong communities have benefited all parties. Other customary land uses and forest conservation systems exist in CAR and other regions inhabited by indigenous people and indigenous cultural communities. These could all provide opportunities for DENR to harness traditional ecological knowledge and develop "light-touch" decentralized regulations whilst providing incentives to local communities to promote sustainable forest management in other parts of the Philippines. These include the following.

1. The "ala-a" system, communal forest areas that are not systematically maintained as with the muyong forests but are intended for collecting fuelwood, construction material, food, medicine and other products for subsistence use (See and Sarfati 2001). With the growing commercialization of woodcarving, there are increased pressures to harvest trees within communal areas to generate cash incomes (Elazegul and Cambalicer 2004).

2. The "lapat" system is a type of forest protection strategy implemented by the Isneg and Tinnguian upland tribes of Abra Province in CAR. The practice of lapat is based on imposing restrictions to exploit natural resources in a designated area to enable trees and plants to regenerate and wildlife to reproduce (Paredes 2005, Prill-Brett 1997). Permits to cut trees are issued by the "lapat pangakalayen" for community members who need timber for house construction or furniture.

3. Multiple traditional agroforestry farming and forest management techniques practiced by the Ikalahans or Kalanguyas in the Caraballo Mountains in Nueva Vizcaya Province. These communities are distinct because of their sense of entrepreneurship (Dolom and Serrano 2005). They delineate forests into different functions, such as conservation, income-generating, and environmental service provision. The Ikalahans also preserve the productivity of their agricultural lands and include "inum-an" (swidden farming), "gen-gen" (soil and water conservation through terracing and composting), "day-og" (composting), "balkah" (vegetative strip terracing with tiger grass for making brooms), "kinebbah" (fallowing), and "pamettey" or "pangkal ni bigih" (natural pesticides) (Camacho et al 2012).

Additional incentives — such as improved access to tree seedlings of indigenous species, tax breaks on revenues, less stringent requirements for transporting wood products,

improving access to price information, improved maintenance of farm-to-markets roads, and opportunities to access new markets for wood carvings — may enable other communities within, and beyond, CAR to replicate the success of the Muyong Resource Permits in Ifugao Province. In 2018, the DENR in CAR proposed two DAOs on Sustainable Benguet Pine management and Sustainable Forest Management Systems, which have still not yet been approved by DENR Head Office.

Strategic Environmental Plan, Controlled Use Zones and a province-wide commercial logging ban, Palawan

RA 7611, otherwise known as the Sustainable Environmental Plan for Palawan Act, was signed into force by then-President Corazon C. Aquino on 19 June 1992. It is a national law but only covers one province. This followed an earlier Palawan Integrated Area Development Project from the late 1970s; Proclamation No. 2152, S. 1981 declaring the entire province of Palawan and certain parcels of the public domain and/or parts of the country as mangrove swamp forest reserves (an aggregate area of 74,267 ha) and a final draft Sustainable Environmental Plan was developed by December 1987 following intensive consultations both at local and national levels during the period 1985–1988.

The RA 7611 established the Environmentally Critical Areas Network for terrestrial and coastal and marine areas as well as tribal ancestral lands and converted the former Palawan Integrated Area Development Project Office into the Palawan Council for Sustainable Development. Amended rules and regulations implementing the Sustainable Environmental Plan for Palawan were adopted on 25 May 1993. Palawan Council for Sustainable Development Resolution No. 94-44 adopted the specific guidelines for implementing the Environmentally Critical Areas Network in February 1994. The Palawan Council for Sustainable Development is a multi-sectoral and inter-disciplinary body, which under the law is charged with the governance, implementation, and policy direction of the Sustainable Environmental Plan. It is directly under the Office of the President of the Republic of the Philippines and is funded each year as part of the General Appropriations Act (RA 7611 Sec. 21). The Palawan Council for Sustainable Development staff operate under the Office of the Executive Director with two departments: Planning and Technical Services Department; and the Project Operations and Implementation Department.

In 2004, the Philippine Government adjusted its development strategy further toward neoliberalism. A centerpiece was tariff liberalization. EO No. 264 committed the Philippines to bring down tariffs on all but a few sensitive products to 1–5% by 2004 (Rovillos et al 2003, Bello 2009). This led to a large increase in mining applications from foreign firms. On Palawan, particularly in the south, this resulted in 350 approved mining applications and more than 400 pending applications (Buscher and Davidov 2019:241). Mining applications are reviewed per the Mining Act 1995, the Indigenous People's Rights Act Law of 1997, and require a Palawan Council for Sustainable Development "Sustainable Environmental Plan clearance". They should not overlap with Environmentally Critical Areas Network zones and should be accepted by barangays, municipalities and indigenous peoples.

Palawan Province has one of the most effective decentralized forest conservation policies in the Philippines (Domingo and Manejar 2019:49). In many respects, it mimics the goals of the proposed Sustainable Forest Management Act. It is managed and implemented as a series of local initiatives, such as the controlled use zoning tool and the province-wide commercial

logging ban (DAO No. 45 of 22 October 1992). The Province has successfully demonstrated a balanced policy between the sustainability of forest resources and economic needs considering that ecotourism is the largest contributor to the local economy. Zoning tools such as the Environmentally Critical Areas Network and controlled use zones (based on statutory regulations or customary practises) along with stronger integration with indigenous people and indigenous cultural communities, rural communities, local government units, and other agencies to improve the inclusivity of DENR policies. A strengthened interface and land-use planning with local governments and sub-national structures are also necessary.

Successful examples of private-sector investments in sustainable forest management in the Philippines

This section highlights some of the successful examples of private-sector investments in sustainable forest management in the Philippines. Each case explores the underlying reasons for the success and the enabling conditions that were met to facilitate replication in other provinces and regions.

A vertically-integrated plantation and processing company: Industries Development Corporation

The Industries Development Corporation was established in 1961 and currently manages more than 114,000 ha of forest lands in Aurora Province and Caraga Region. This large-scale, vertically integrated forest investment includes 77,548 ha under an Integrated Forest Management Agreement in Aurora Province, 8133 ha of which is classified as open forest and shrubs for biomass production. Moreover, 36,569 ha are under Integrated Forest Management Agreement tenure in Caraga Region. Industries Development Corporation is engaged in sustainable forest management, plantation development, primary wood-processing, and furniture and door manufacturing. The company has actively promoted third-party certification through the Verified Legal Origin certificate program of Rainforest Alliance.[20] Industries Development Corporation collaborated with the National Greening Program through the Comprehensive Site Development program to plant 5600 ha of plantations in Aurora Province and Ilocos Norte. Industries Development Corporation also developed a livelihood rattan project in collaboration with the Indigenous Peoples of Aurora Province.

The proposed forest investment assumes that migration into the forested uplands of the Philippines will increase pressures on natural forests and hence create opportunities to establish new plantations as an alternative resource, conditional on stable and clear Government policies that respect the security of land tenure and encourage the utilization of planted timber resources. The promulgation of EO 23 s. 2011 effectively did this. The socio-economic status of smallholding farmers and local market demand will dictate which species are to be planted and the cutting cycle of the investment. A balance needs to be achieved between ensuring uniformity of product to create volumes to attract buyers whilst avoiding the risks associated with monocultures. Industries Development Corporation's forest plantation investment aims to develop 1020 ha of degraded forest lands by combining

20 https://www.rainforest-alliance.org/business/certification/

different tree species based on site condition and local market demand, encompassing fast-growing fuelwood species (madre de cacao on a 4-year cutting cycle to create cash flow, intercropped with high-value timber species (*Swietenia mahagoni*) on an 8-12 year cutting cycle (Table 14). Infrastructural support ensures that road networks, planting methodology and tools, forest harvesting and handling technologies, and downstream manufacturing technologies are assessed before attracting private-equity investment to ensure the sustainability of the project.

Table 14. Industries Development Corporation's choice of fast-growing and high-value tree species

Fast-growing species (36.8 tons/ha/year)	High-value species (92 m^3/ha)
Target product: Fuelwood	Veneer logs, sawlogs
Characteristics	
Short rotation	Workability of timber
Coppicing species	Characteristics of wood grain
High specific gravity	Strength and density
Nitrogen fixing	
Target markets	
Pulp and paper	Tree species used as raw material for furniture, plywood etc
Pellet plants	
Industrial drying requirements	Joint venture with downstream wood-based manufacturing plants or power generation
Biomass power plants	

Source: Ong 2020:5

The high-value timber products will comprise doors, furniture, moldings, plywood and veneer with an anticipated log volume of 1553 m^3 per year. This will generate up to 107 jobs as plant employees, generate sales of about PHP 80 million per year, and generate investments of PHP 50 million for infrastructure and woodworking equipment. The estimated total project revenues and community benefits from the investment are presented in Tables 15 and 16 respectively.

Table 15. Total project revenues

Sales	Total sales (million PHP)	Yearly sales (million PHP)	Percentage
Lumber (solid m^3)	276,560	12,571	24
Charcoal	863,723	39,260	76
Totals	1,140,283	51,831	
% net margin	48.95		
Equity IRR*	12.67		
Project IRR*	14.72		

* Internal rate of return

Source: Ong 2020:16

Table 16. Community benefits

Woodlot farmer	Yearly income (PHP)	Yearly ha average (PHP)
Average profit-share fuelwood, people's organization	492,2456	1,468
Average road construction labor component	902,549	
Average plantation labor component	3,016,375	5,205
Average harvesting component	1,070,833	1,468
Average yearly benefit to farmer	5,482,013	
Maximum laborers	78	

Source: Ong 2020:17

The success of the proposed Industries Development Corporation plantation highlights the critical need for clarity and stability in the forest policy and regulatory framework; security of land tenure; the ability to generate sustainable livelihoods for upland farmers, that is, a bottom–up approach with farmers' incomes in mind; lower cost of material and cheaper handling costs; certified high-value timber; and creating a broad base of raw materials to facilitate downstream investments to create livelihood opportunities in the lowlands, thereby limiting further migration to the uplands.

A small-scale family-run business: the MARSSE Tropical Timber story

MARSSE Tropical Timber Plantations Inc is a DENR-registered private tree farm located in Umingan, Pangasinan, Region 1, owned and operated by the Sebastian family. MARSSE is n abbreviation of Mario S. Sebastian Sr, founder and main proponent of the tree farm. It is administered by his three children, who manage different aspects of the business according to their field of expertise and experience.

MARSSE Tropical Timber Plantations Inc is a 60-hectare timber production farm comprised predominantly of Honduras mahogany (*Swietenia macrophylla*) and teak (*Tectona grandis*) hardwood trees with a mixture of native fruit and timber species like mango, "narra" (*Pterocarpus indicus*), "duhat" (*Syszygium jambolanum*), "kamagong" (*Diospyros discolor*) for ecological balance and biodiversity. Established in 1992, it has an average standing inventory of 120,000 assorted hardwood species with some specimens up to 27 years-old.

The first timber harvest began in 2012, supplying raw material in the form of green Honduras mahogany round primary logs to a regional wood manufacturing and production facility. The logs were picked-up ex-plantation and brought to the facility in La Union.

MARSSE Tropical Timber started timber processing with an initial investment of basic wood-cutting tools like band saws and rotary saws to supply custom floor planks. Kiln drying, secondary processing, and finishing of the wood planks were outsourced to a third-party wood processor who was equipped with the right equipment. The company applied for the Department of Science and Technology Region 1 Small Enterprise Technology Upgrade Program and received an equipment loan that helped them to obtain a dehumidifying kiln

dryer and procure additional woodworking equipment, including a sawmill, jointers, spindle molders, and belt sanders to improve their production facilities and secondary timber processing. During the Small Enterprise Technology Upgrade Program phase 2, MARSSE Tropical Timber acquired a bigger Woodmizer sawmill and a CNC laser machine to further develop and design more products, now sold using the brand name "Sustainably Made".

The success of MARSSE Tropical Timber can be attributed to several factors, including security of tenure because the plantations were registered with DENR as a private tree farm; an early vision to invest in planting high-value timber species; starting and remaining as a small family business by progressively adding value through upgrades in equipment; benefiting from the Small Enterprise Technology Upgrade Program; providing livelihood and equal opportunities to the communities living around the plantation areas; adhering to a zero wood waste policy by ensuring all parts of the harvested tree are converted into a marketable products; and offering sustainable tree farming seminars to anyone interested to learn more about sustainable plantation development and management.

Balungagan Farmers' Association (people's organization): Community-based agroforestry and tree farms in Caraga Region

Balungagan Farmers' Association is a people's organization located in Barangay Balungagan, Las Nieves, Agusan del Norte, Caraga Region. It was registered with the Securities and Exchange Commission in 2016 and comprises 86 members (52 male and 34 female). The Association has a Community-Based Forest Management Agreement with DENR for a total area of 399 ha. The local communities depend on farming — including coconut, rubber, falcata timber and fruit, livestock raising, and small-scale businesses — to sustain their livelihoods. The community has benefited from a series of projects that aimed to plant trees, including the Comprehensive Agrarian Reform Program (2013), when 50 ha of rubber and cocoa were planted, and the National Greening Program (2015 and 2018), which resulted in 80 ha of falcata, rubber and agroforestry plantations.

Balungagan Farmers' Association acts as a consolidator and business manager of the production and marketing of falcata timber grown by people's organization members and non-members. The falcata logs are transported and sold to processing plants in Butuan City at PHP 700 per truck. The total estimated volume per tree at 7–8 years-old falcata plantation is 0.89 m3, comprising 0.18 m^3 at 30 cm, 0.24 m^3 at 34 cm and 0.27 m^3 at 36 cm of export/peelable logs and 0.10 m^3 at 18–22 cm of pulp logs. Assuming a planting density of 833 trees per ha and a 40% survival rate, this represents a total potential production of 296 m^3 per ha, of which 229 m^3 per ha are export/peelable logs (equivalent of six truckloads) and 66 m^3 per ha of pulpwood (equivalent of two truckloads). The Association is able to sell a truck of export/peelable logs at PHP 150,000 and pulpwood at Php 90,000. Assuming area development, maintenance, protection and harvesting costs of PHP 370,000 per ha, this represents a total net revenue of PHP 710,000 per ha (USD 14,500 per ha), which is a higher estimate than both production and net incomes reported in Talacogon, Agusan del Sur, Caraga Region (Carandang et al 2015).

The falcata plantations of the members of the Association's agroforestry and tree farms represent a viable business and their success is due to, among others, security of tenure through the Community-Based Forest Management Agreement registered with DENR; the

Association benefited from direct incentives provided by different tree-planting projects and programs; the majority of the members of the people's organization own 3 ha agroforestry farms; the Association acts as a consolidator of falcata log sales for both members and non-members of the people's organization, thereby achieving economies of scale; the members practise multi-cropping/inter-cropping of maize, banana, coffee, rubber, fruit trees, and vegetables to diversify their sources of income and reduce risks; and the members maintain good relationships with local government units and other Government agencies, including DENR FMB.

Almaciga resin production: an NTFP value chain for domestic and export markets, Palawan Province

NTFPs represent a critically important source of income and material for subsistence use in the Philippines. The only official data available is for annual production and revenues from export sales of NTFPs, which in 1998 earned USD 1.2 million (Lacuna-Richman 2004:476). Only a limited number of commercial species are included in the export data. These include various types of rattan (*Calamus* sp), bamboos (*Bambusa* sp and *Schizostachyum* sp), buri raffia (*Corypha elata)*, the bark of the salago gum (*Wilkstroemia* sp), nipa (*Nypa fruticans*) shingles[21], and "haw" (*Livistona rotundifolia*) leaves and almaciga (*Agathis philippinensis*) resin (Razal and Palijon 2009, Philippine Forests at a Glance 2018:16).

Almaciga is a coniferous tree that is dominant in the upland forests of Palawan Province. Almaciga is valued for its timber and resin. The resin has been marketed as "Manila copal" for centuries and is used in the manufacture of paints, varnish, linoleum and printing inks (Conelly 1985). Palawan is the largest producer of almaciga (Razal 2013). Resin is used locally as incense in religious ceremonies, torches and for caulking boats. Almaciga ("kauri") timber is glossy and fine-textured and is one of the most expensive woods in the Philippines, used in making panel and piano boards, guitar bodies, and engineering instruments. Logging of almaciga is currently banned by the Philippine Government but illegal logging still occurs (Jose 2018:70). An estimated 20% of the total officially known volume of almaciga resin production is exported. Almaciga resin has consistently been one of the most important NTFP exports (Philippine Forestry Statistics 2018).

The species is categorized as "vulnerable" by IUCN due to illegal logging, overharvesting, unsustainable methods of resin tapping, theft and land-use change. Upland forests are under threat as indicated by the declining number of *A. philippinensis* trees in the Cleopatra's Needle Critical Habitat in Palawan (Ella and Domingo 2012). Mortality rates of 65% in natural almaciga forests have been reported due to non-compliance with the guidelines set by DENR for license renewal (Callo 1996).

Indigenous peoples are often considered guardians of the forest, harvesting only what is needed for subsistence, with few market links (La Vina 1995). Indigenous peoples have, however, witnessed rapid changes in their way of life in Palawan due to in-migration from Luzon and the Visayas, the development of eco-tourism and mining, and high rates of population growth. Such changes have also influenced the almaciga trade due to the entry of migrants and as pressure to harvest more almaciga trees threatens the sustainability of resin gathering by indigenous peoples. This has been compounded by delays in issuing

21 http://www.agribusinessweek.com/surigao-women-produce-nipa-shingles-to-augment-income/

claims and titles to the indigenous people's ancestral domains by, initially, DENR and, after by the National Commission on Indigenous Peoples (Lacuna-Richman 2004:481). Tapping and collection of almaciga resin continue to provide incomes for indigenous people, such as the Pala'wan tribe in the Mt Mantalingahan Protected Landscape and the Batak people who depend on the rich endemic biodiversity of the Cleopatra's Needle Critical Habitat. The Habitat contains 85% of Palawan's endemic and endangered plant and animal species (Vermeer et al 2017:2). The Tagbanua and Cuyunon tribes also inhabit areas close to Cleopatra's Needle Critical Habitat and collect almaciga resin.

The copal trade in Palawan benefits three main groups: more than 1000 tappers and collectors of the resin, traders called "kapatas" and the holders of licenses to operate resin concessions. The kapatas are often the leaders of copal-collecting teams comprising 10–30 individual tappers. DENR FMB regulations on resource extraction require an "ordinary minor forest products" license that is issued annually and for which numerous documents have to be submitted by the applicant. In many cases, indigenous people's groups allow almaciga concessionaires to pre-finance the permit application process. The concessionaires may also advance money to tappers for their resin-collection trips. Tappers are left with no choice but to sell the resin to the concessionaires or their agents at low prices. Forest charges of PHP 1.5 per kg of resin apply to transport the resin to Puerto Princesa City, Palawan's provincial capital and main port, from where it is shipped to Manila and Cebu. Moreover, unofficial fees have to be paid at checkpoints during transport, raising the cost of the resin and lowering the margins of stakeholders along the almaciga value chain.

The Non-Timber Forest Product Exchange Programme (NTFP-EP) supported the provincial federation, NATRIPAL (United Tribes of Palawan), to help almaciga tappers, represented by a local indigenous association known as Samahan ng Mga Palawano ng Amas Brooke's Point, to document their indigenous tapping practices and prepare their resource-management plans to secure sustainable harvests in the resin-gathering areas (Table 17). Samahan ng Mga Palawano ng Amas Brooke's Point has a membership of 43 tappers and resource rights within its ancestral domain covering 750 ha and is seeking to extend this to include other villages and a total area of 14,000 ha. Samahan ng Mga Palawano ng Amas Brooke's Point imposes penalties on almaciga gatherers who do not follow their guidelines.

Resin harvests now amount to 50 tons annually, each almaciga tree yielding 5–10 kilos per harvest. Tapping is conducted twice per month by Samahan ng Mga Palawano ng Amas Brooke's Point's 43 tappers, each of whom own 25–50 almaciga trees producing up to 21,500 kg of resin per month. At a price of PHP 19–30 per kg, depending on the quality of the resin, almaciga tapping now provides between 20–30% of a tapper's monthly income. Samahan ng Mga Palawano ng Amas Brooke's Point is engaged directly with a Cebu-based market and has succeeded in doing away with multi-level marketing involving the katapas and concessionaires (Canlas 2020:13).

Samahan ng Mga Palawano ng Amas Brooke's Point has also reforested 100 ha of land with hardwoods and local fruit trees through its participation in the National Greening Program. Forest guards ("Bantay Kalikasan") have been established with local village officials and Samahan ng Mga Palawano ng Amas Brooke's Point leaders have started to identify and map bird sanctuary areas. The case study of the almaciga resin trade highlights certain key factors that were essential in ensuring the sustainable management and harvesting of an NTFP in the Philippines. These include the following.

Table 17. Guidelines for tapping almaciga resin in Brooke's Point, Palawan

No.	Guideline
1	Only the tree owner can harvest resin from an almaciga tree. Trees are inherited from one generation to the next. The list of tree owners is an important record.
2	The owner of the tree has the responsibility to take care of the almaciga trees by doing the following. **a.** Cleaning the area around the tree, especially around wildlings **b.** Cleaning the "tarasan", the place on the tree where the resin will flow **c.** Removing the bark or remaining resin on the tree where termites are likely to build their nests
3	An almaciga tree can be tapped if its diameter is big enough for a person to wrap their arms around the tree
4	The tapping incision should not be more than 7.5 cm in length along the tree's circumference
5	One should wait 3–4 months before making an incision again on a previous tapping
6	Before taking the resin off the tree, the resin should be dry and resin flow should have stopped
7	No farming is undertaken around the almaciga trees
8	Tappers must establish a nursery and plant almaciga trees

Source: NTFP-EP Philippines, revised 2015

a. Securing tenure rights to the almaciga trees by obtaining ancestral domain/land rights.

b. Organization of the tappers in an association to improve the collective organization of the tapping, consolidation, sorting, classifying and marketing of the almaciga resin (Figure 1).

c. Conducting a value-chain study using the expertise available in the Philippines.

d. Negotiating and securing fair prices for the resin by selling directly to a Cebu-based market, thereby eliminating multi-level marketing involving the katapas.

e. Learning and sharing within Samahan ng Mga Palawano ng Amas Brooke's Point: "We hold our meetings to discuss our traditional governance and organization. Our cooperative has a bookkeeper, treasurer, purchaser, classifier; secretary and manager" (Canlas 2020:14).

f. Working with allies and supporters, including the Palawan Council for Sustainable Development, DENR, NCIP, NTFP-EP, non-governmental organizations and research organizations.

g. Replanting the resource as a condition for all tappers of almaciga.

There are additional challenges associated with the almaciga resign value chain that still need to be resolved. These include the following.

a. Slow processing of almaciga permits by DENR.

b. DENR has a draft policy on almaciga resin although there is still concern about the 100% inventory requirement.

c. National Commission on Indigenous Peoples' implementation of the revised free, prior and informed consent process for projects on ancestral domains/lands.

d. Continued over-tapping of the resource and prevailing cash advance practices by concessionaires.

e. Lack of capital amongst indigenous peoples and their associations.

f. Unexplored technologies for product development (Canlas 2020:19).

g. Changing the policy environment to curb illegal activities (Razal 2013:9)

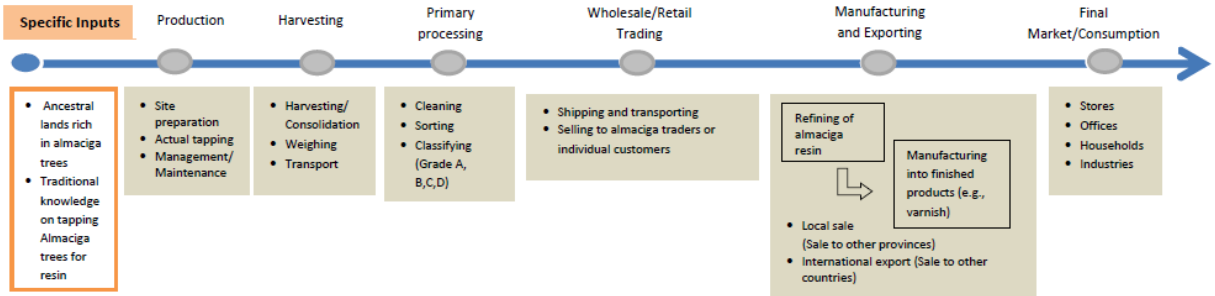

Figure 1. Major functions of the almaciga value chain

Conclusions and recommendations

The following sections highlight six clusters of activities to address key policy and legal gaps in the forestry sector in the Philippines, drawing on earlier sections of this report, the *Incentives and Disincentives Review Report*, and lessons learned by INREMP and the National Greening Program. These will assist in tackling key operational challenges to sustain the achievements of INREMP and the National Greening Program beyond 2020.

Clarity and stability in the overarching forestry policy framework

Despite its obsolete provisions, particularly on forest land allocation and land tenure (FIRM 2019:47), the Revised Forestry Code of PD 705 remains the only overarching policy framework that DENR uses in the utilization, management and protection of the country's forest resources. Under this, there are currently about 97 laws, Executive Orders and Administrative Orders governing land and forest administration in the Philippines (Domingo and Manejar 2019:17).

A draft Sustainable Forest Management Act has been sitting in the country's legislature for more than three decades. The enactment of the Sustainable Forest Management Bill seems difficult to achieve with the lack of widespread support from members of both Houses in Congress and Senate. It is, furthermore, not among the President's priority bills in contrast to the National Land Use Act.[22]

In the absence of a new Sustainable Forest Management Act, a multi-sectoral technical working group led by the Forest Development Centre, College of Forestry and Natural Resources, University of the Philippines Los Baños drafted a DAO entitled, "Implementing Rules and Regulations of EO No. 318 of 2004". This was submitted to the DENR Secretary in mid-2019. This is the second time a draft set of implementing rules and regulations has been prepared.

Recommendation: DENR FMB formally recognizes and adopts the proposed "Implementing Rules and Regulations of EO No. 318 of 2004", as the new overarching policy framework to govern the use, management and protection of forest resources in the Philippines.

An earlier national forum held in Quezon City in March 2018 — Harnessing the Potential of Trees on Farms to Contribute to a Green Economy in the Philippines – concluded that the Philippines (also) needs a National Agroforestry Policy to meet the Sustainable Development Goals and accelerate the restoration of degraded State forest lands.[23] Such a policy could build on the lessons learned during the implementation of the "Guidelines in the Implementation of Upland Agroforestry Program" (DENR DAO 2005-25). An agroforestry policy

22 See, "Duterte urges legislators to pass National Land Use Act", 24 July 2017, *GMA News Online*

23 http://blog.worldagroforestry.org/index.php/2018/04/05/the-philippines-needs-a-national-agroforestry-policy-to-meet-the-sustainable-development-goals/

would serve as a bridge between sectors to help diversify farming communities' livelihoods, enhance their resilience to climate change, and would benefit from reference to the *ASEAN Guidelines for Agroforestry Development* adopted by the 40th Meeting of the ASEAN Ministers on Agriculture and Forestry, 11 October 2018.[24]

Recommendation: DENR FMB also develops and adopts a National Agroforestry Policy to harness the full range of benefits of trees on farms to support the nation's ambitions to grow a "green", sustainable economy, increase jobs and improve the livelihoods of the rural poor, enhance ecosystem services, restore degraded land and help meet commitments to several international agreements, including the United Nations Framework Convention on Climate Change, Convention on Biological Diversity, Convention to Combat Desertification, and the Sustainable Development Goals.

Private investment needs stable and consistent policies as well as clarity on the boundaries between public forest lands and alienable and disposable lands. Section 4, Article XII of the 1987 Philippine Constitution mandated Congress to determine by law the specific limits of forest lands and national parks and marking their boundaries on the ground. DENR issued AO No. 2008-24 in 2008, which provided for the comprehensive and clear guidelines in delineating the boundaries between forest lands, national parks and agricultural lands. DENR subsequently implemented the Forest Land Boundary Delineation project, which was completed in 2017.[25] It covered 80 provinces nationwide and a total of 89,092 kilometers (km) of forest land boundary lines were delineated. As a result, about 345,286 ha currently regarded as forest lands are proposed to be reclassified or converted to alienable and disposable lands. If approved, this will effectively reduce forest lands by 2.29%. Region 7 will have the largest increase in forest land area of about 74,942 ha. The most recent initiative to delineate the Philippines' specific forest limits culminated in three bills (Senate Bill Nos. 35, 741, and 861), which were still pending in the Senate Committee on Environment and Natural Resources in 2018.

Recommendation: DENR FMB advocates for the enactment of the Forest Land Boundary Delineation Bill to formally recognize and approve the results of the process.

Development of a simplified, harmonized, and streamlined land-tenure system for the Philippines

Convergence initiatives among national government agencies have not yet been able to process or manage tenurial conflicts and overlaps (see, for example, De Vera 2017). Furthermore, existing tenurial instruments have not secured livelihoods or promoted economic development and sustainable land and forest use, due to their narrow focus, insecurity, and conflicts with other titles and instruments (see, among others, Pulhin et al 2008, GIZ and DENR 2015, Esplana and Quizon 2017). In the upland areas, "millions of people live illegally on public forest lands without clear tenure rights or in situations where the same piece of land is claimed by different parties" (GIZ and DENR 2015:10).[26] This lack of clarity and

24 http://blog.worldagroforestry.org/index.php/2019/01/16/asean-guidelines-for-agroforestry-development-set-to-revolutionize-land-use-in-southeast-asia/

25 A DENR press release of 23 August 2012 indicated that the Forest Land Boundary Delineation project had been completed with a total of 79,245 km of forest land boundary lines delineated

26 Estimates consider 17–22 million Philippine citizens are living as "informal settlers" on public lands (Fortenbacher and Alave 2014, GIZ and DENR 2015:31)

consistency has led to a *de jure* and *de facto* absence of effective land governance. Clear tenure arrangements are necessary on forest lands and alienable and disposable lands to maintain forest cover, biodiversity, the provision of environmental services, and to attract investors.

Tenure is a major factor both in reducing deforestation and forest degradation and in defining which individuals and groups may gain from investments, including through climate financing. This challenge is particularly acute in the context of multiple tenurial instruments where only 38% of production forests are under some form of tenurial agreement (FIRM 2019:13).

Moreover, multiple laws, Executive Orders and Departmental Administrative Orders etc, multiple planning frameworks,[27] and proposals for financing mechanisms in the framework of REDD+ render this context more complex. DENR FMB is currently exploring the potential adoption of new Sustainable Forest Management Agreements, which, if considered as part of the Forest Investment Road Map proposal — "Identification/validation, mapping, and assessment of potential investment areas (FIRM:48–49) — represents a promising new initiative to simplify, harmonize and streamline land tenure to stimulate new domestic and foreign direct investment in the forest sector.

A National Land Use Act was identified as part of a priority legislative agenda in the Philippine Development Plan 2017–2022 to support strategies ensuring ecological integrity, a clean and healthy environment as well as in building safe and secure communities. The bill also aims to harmonize sector-specific land-use policies and institutionalize land-use planning. The following National Land Use Act bills were filed at the 18th Congress in 2019: House Bill (HB) 105, HB 158, HB 564, HB 706, and Senate Bill 38. Similarly, a Land Administration Reform Act has not yet been adopted in the Philippines. The promulgation of the proposed National Land Use Act would provide additional clarity as an overarching legal framework on land-related issues.

Recommendation: DENR FMB advocates for the enactment of the National Land Use Act bill.

Recommendation: DENR FMB develops with other relevant national government agencies a simplified, harmonized and streamlined land-tenure system for the Philippines based on the six tenure instruments specified in the Forest Investment Road Map (FIRM 2019:7–14), which will require for each land use three elements.

a. Approval with a detailed management plan and, if for production purposes, would require a feasibility study.

b. Alignment with existing Forest Land Use Plan/Comprehensive Land Use Plan, Ancestral Domain Sustainable Development and Protection Plan, and Protected Area Management Plans.

c. Free, prior and informed consent for lands overlapping with ancestral domains.

27 mong others, regional development plans, Integrated Watershed Management Plans, local government unit-based Comprehensive Land Use Plans and Forest Land Use Plans, and the Indigenous People Groups' Ancestral Domains Sustainable Development and Protection Plans

Strengthening capacity of local government units and other third-party forest managers

Over the past century, the forest policy of the Philippines has evolved from a corporate Timber License Agreements approach to forest management towards a Community-Based Forest Management system. After four decades since the inception of the Integrated Social Forestry Program, forest policy now recognizes local communities and indigenous peoples as joint forest managers, if not the custodians of the land and forest resources. Three milestone policy instruments adopted in the 1990s underscored the role of public and community involvement in land and forest resource management. These were the Local Government Code (RA 7160) in 1991, the National Integrated Protected Areas Act (RA 7586) in 1992 (as amended by RA 11038, the Expanded National Integrated Protected Areas Act of 2018), and the Indigenous People's Rights Act (RA 8371) in 1997.

The promulgation of the Local Government Code in 1991 has not been followed up by adequate decentralization of human and financial resources to govern natural resources at the local (provincial, municipality and barangay) level. This is manifested in terms of shortages of staff and limited budgets in local government units. This has been compounded by the continued (over-) regulatory and tree-planting foci of DENR FMB, changing tenurial arrangements (for example, following the promulgation of the Indigenous People's Rights Act in 1997 and the expiry/non-renewal of 50% of the former Certificate of Stewardship Contracts issued by DENR during the Integrated Social Forestry Program, which started in 1982), and restricted capacity development of, and coordination with, local government units and other third-party forest managers (for example, non-governmental and civil-society organizations, academe, the private sector). It is not known how many Co-Management Agreements and/or sub-management agreements have been reached between DENR and local government units to co-manage public forest lands.[28] These factors have all contributed to restricting DENR's abilities to either significantly improve the management of open-access forests or restore degraded forest lands by mobilizing private-sector investments. Major investments are needed to develop the capacities of local government units and other third-party forest managers combined with focused information and education campaigns. One recent report notes: "The joint management of forest lands by local government units and DENR can be potentially successful. However, tenure issues, capacity, and lack of technological lack, as well as conflicts of interests between local and national authorities hinder successful implementation." (GIZ 2015:28).

DENR and INREMP both have examples of successful collaboration with local government units, for example, in Bohol and CAR and can draw additional lessons from other examples of successful decentralized sustainable forest management in the Philippines (Section VIII).

Facilitating change in the DENR FMB organizational culture

Although significant progress has been made to introduce Community-Based Forest Management Agreements, DENR's continued focus on regulation and extractive timber-driven systems drawing on past Timber License Agreements experience[29] underlines the

28 No clear national guidelines for the implementation of Co-Management Agreements exist and thus interpretation of the Co-Management Agreements approach varies between regions (Belino 2014:32)

29 For example, the total area under the former Integrated Social Forestry Program in 1986 was only 446,156 ha while 159 Timber License Agreements covered a total area of 5.85 million ha (Pulhin et al 2008).

failure to fully adjust policies and strategies that respond to devolved, holistic, interconnected and community-managed ecosystems coordinated by local government units.

This will necessitate a further redefinition of roles among stakeholders at the national, regional, provincial and local government unit levels. DENR will need to further decentralize functions and to delegate greater responsibility to regional DENR offices as well as Provincial and Community Environment and Natural Resources Offices. DENR regional and local offices will need to be more facilitative and less regulatory in promoting sustainable forest management with third-party forest managers. DENR FMB at the national level will continue to define key policy, strategic and regulatory frameworks of the forest sector whilst facilitating devolved implementation by other actors.

The recent adoption of the Forest Investment Road Map (DAO 2019-22) in December 2019 is a welcome initiative by DENR's Forest Investment Development Division to attract new domestic and foreign direct investment in the forest sector. The Vision, Goals, and Objectives of the Forest Investment Road Map include a seven-point strategic framework (FIRM:45–81), which will collectively assist in facilitating a change in the organizational culture of DENR FMB, whilst contributing to the requirements of RA 11032 s. 2018 on the "Ease of Doing Business and Efficient Government Service Delivery".

Two policy areas merit particular attention.

Simplifying and harmonizing the continuous implementation of Community-Based Forest Management Agreements to improve development outcomes

The dominant tenure instrument in the Philippines is now the Community-Based Forest Management Agreement (1884 agreements with people's organizations covering more than 1.6 million ha).[30] Several studies highlight that community-based forest management has not met its socio-economic targets (see, among others, Tesoro 1999, Guiang et al 2001, Harrison et al 2004, Rebugio et al 2010). Current forest management planning, regulation, monitoring, and policy-making remain influenced by the timber-oriented rules and regulations of the Timber License Agreements era. The strict requirements for obtaining approvals to cut and transport timber products are preventive measures to eradicate the proliferation of illegal logging but are, in essence, the same for community organizations and private-sector tenure holders. The high degree of regulation is similar to that formerly applied to holders of Timber License Agreements and Integrated Forest Management Agreements.

It will be important for DENR and INREMP to harness the lessons learned by the JICA-financed Forestland Management Project, notably in terms of securing land-tenure rights and enterprise development for food security and income (DENR FASPS n.d.).

Four critical processes could be developed by DENR to ensure the continuity of Community-Based Forest Management Agreements to improve development outcomes in terms of livelihood benefits to local communities and indigenous peoples.

a. Preparation and approvals of both Community Resource Management Frameworks (DAO 96-29) and Community-Based Forest Management Five Year Work Plans (DAO

30 The original DENR strategic action plan for community-based forest management had targeted 9 million ha of forest lands to be placed under community management

2000-29 and DAO 2004-9). Approval of plans usually takes 8–18 months before the people's organization can proceed with harvesting and forest development activities. A seven-step Five Year Work Plan process costs an estimated USD 2400 (Pulhin et al 2016).

Recommendation: DENR simplify the Five Year Work Plan process for smallholders and reduce the associated costs through more inclusive policies with, and capacity-building of, local government units.

b. Securing a Certificate of Tree Plantation Ownership: planted trees intended for commercial harvest in the future have to be registered (DMC 99-20 and DMC 97-07) and a boundary survey of the property undertaken. A seven-step process involves hiring a surveyor and DENR personnel to inspect and validate the survey before the Community Environment and Natural Resources Office issues a Certificate of Tree Plantation Ownership, costing USD 54–56, and taking three days to one week (Pulhin et al 2016).

Recommendation: DENR simplify the Certificate of Tree Plantation Ownership registration process and reduce the associated costs through more inclusive policies with, and capacity-building of, local government units.

c. Renewal of about-to-expire Community Resource Management Frameworks and Community-Based Forest Management Agreements in the context of the planned introduction of Sustainable Forest Management Agreements. This will require, in some cases, compliance with the National Commission on Indigenous Peoples' Certificate of Pre-Condition requirement to undertake a free, prior and informed consent process in ancestral domain lands.

Recommendation: DENR issue Guidelines for Sustainable Forest Management Agreements with simplified procedures and reduced costs for smallholders.

d. Improving Community-Based Forest Management Agreements and smallholder access to credit and micro-financing for forestry and agroforestry value chains.

Recommendation: DENR explore options drawing on a) Department of Trade and Industry experience with the bamboo and abaca value chains, the GIZ-supported, Expansion and Diversification of the Abaca Sustainability Initiative, and the Agricultural Credit Policy Council; and b) the recent signing of a memorandum of agreement between DENR and the Development Bank of the Philippines.

Strengthening the emergence of community-based timber enterprises by simplifying and harmonizing harvesting, transportation and processing regulations for smallholders and small-to-medium-sized enterprises

The Philippines is still in an initial phase of providing direct incentives, such as tree seedlings, but has the potential to expand and accelerate restoration of degraded areas and on-farm tree planting through revisions to the enabling policy and institutional environment. Forest-sector SMEs, like SMEs more generally, suffer in the country from limited access to business and financial services, lack of support to enhance their competitiveness, regulatory measures

that constrain their ability to operate in a "legal" space or that create perverse incentives, and limited access to markets. These and other challenges and constraints for SMEs have been widely identified, but recommendations and efforts to address them have often been fragmented and sector-bounded, limiting the effectiveness of the intervention.

The adoption of the Forest Investment Road Map (DAO 2019-22) provides new opportunities for DENR to build, strengthen and sustain alliances with partners and existing tenure holders, explore new partnership mechanisms between the Government and the private sector and develop six new approaches to marketing strategies (FIRM:75–81). The latter may include the marketing of products from commercial forestry investment sub-projects (conservation farming, agroforestry, and commercial tree plantations) drawing on lessons learned by successful private-sector initiatives (Section IX).

Five processes could be streamlined by DENR to facilitate the emergence of SMEs in the Philippines.

a. Securing a Resource Use Permit (DAO 2000-29): The DENR Secretary has the sole authority to approve Resource Use Permits, which is then still subject to a Community Environment and Natural Resource Office Notice to Proceed.

Recommendation: DENR delegate authority for approvals of Resource Use Permits to regional directors of DENR.

b. Transporting timber (EO 277 which replaced PD 705) by securing a Certificate of Timber Origin (DAO 94-07, issued by the Community Environment and Natural Resource Office). An additional Certificate of Transport Agreement and a Certificate of Trans-shipment for all logs transported outside the province are also required.

Recommendation: DENR simplify the process and eliminate or reduce transport charges whenever feasible as an incentive to smallholders.

c. processing timber (DENR MO 96-09) by securing a permit to establish and operate mini-sawmills. However, DMC 2003-14 declares a moratorium on the establishment of new wood-processing plants. The estimated cost of securing a wood-processing permit from the regional office of the DENR is USD 1400 (Pulhin et al 2016).

Recommendation: DENR simplify the process of obtaining a wood-processing permit and reduce the transaction costs for smallholders to promote community-based tree enterprises.

d. Addressing the complex issue of "standard operating procedures" or informal payments often associated with checkpoints manned by the DENR, military and Philippine National Police personnel. Standard operating procedures can amount to an estimated USD 200–260 per truckload of logs (Pulhin et al 2016). The costs of standard operating procedures associated with spot-checks of wood-processing plants is not known.

Recommendation: DENR introduce a zero-tolerance policy for all transport and

wood-processing permit standard operating procedures with appropriate sanctions and conduct a focused information and education program for the same.

e. Facilitating the participation of DENR FMB staff and leaders of successful community-based tree enterprises, for example, through the Program on Forests on-line course on Small and Medium Enterprises and by facilitating access to other training material and courses developed by RECOFTC The Center for People and Forests, Forest Stewardship Council etc.

The adoption of the Forest Investment Road map (DAO 2019-22) provides new opportunities for DENR to build, strengthen and sustain allies with partners and existing tenure holders, explore new partnership mechanisms between the government and the private sector and develop six new approaches to marketing strategies (FIRM 2019:75–81). The latter may include the marketing of products from commercial forestry investment sub-projects (conservation farming, agroforestry, and commercial tree plantations), drawing on lessons learned by successful private-sector initiatives (Section IX).

Mainstreaming lessons learned by INREMP and the National Greening Program

Three processes will enable DENR to capitalize on the experiences of INREMP and the National Greening Program by sustaining and harnessing the human capital of third-party forest managers to improve the management of open-access forests and/or restore degraded forest lands through the more widespread adoption of commercial forestry investment sub-projects (conservation farming, agroforestry, and commercial tree plantations) throughout the Philippines.

Accreditation of peoples' organizations

The complex accreditation assessment process for people's organizations introduced by INREMP in 2018 was based on the 10 principles of the Forest Stewardship Council's certification system (INREMP 2018). It has been confronted with several implementation challenges. The DENR national and regional (Mindanao) workshops provided opportunities to explore ways of simplifying the process (also see *Enhanced Theory of Change Workshop Report*). It was first introduced as a way to improve the disbursement and monitoring of natural resource management and livelihood enhancement support Type 1 grants to rural communities in the four INREMP regions. The process was inspired by the Forest Stewardship Council's ten principles, 35 criteria, and 70 indicators, and the introduction of Corrective Action Requests and annual audits during the process.[31]

Initial training in people's organizations' organizational assessments, sub-project documentation, and action planning for regional staff as well as training on indigenous people and indigenous people's organizations scoping and assessment was conducted in mid-October 2018. Details were presented in an initial Technical Bulletin 2018-03 Section 6 (note well, points 1, 2 and 3.2–3.5 inclusive) in late October 2018. Scoping activities and report preparation continued from November 2018 to January 2019. A final Technical Bulletin, *Guide for Implementation of the PO/IPO Accreditation Assessment*, was published in late October 2019.

During the early implementation of the process, significant delays occurred in writing, submitting, reviewing and revising (sometimes up to three times) the accreditation reports as the newly-formed accreditation teams started to familiarize themselves with the new process, and attendant reporting and approval requirements. In Bukidnon, where 5 accreditation teams conducted people's organizations' document reviews, interviews and consultations with representatives and members and checks of financial records, only three accreditation

31 The former "progress billing" payment system was based on a Contract of Agreement with people's organizations and payment of an initial 15% mobilization fee and up to 12 payments (in force since 2016 and still used by the National Greening Program). This was replaced with a simpler three tranche "milestone trigger" (50%:25%:25%) system.

certificates (out of 91 people's organizations) had been issued by November 2019 (3% of the total number of people's organizations). The natural resource management targets set in 2017 and 2018 have still not been met. DENR has already completed the accreditation of 90 people's organizations in the Bukidnon region.

The full transaction costs of the accreditation process have not yet been assessed. Large differences exist between people's and indigenous people's organizations in terms of their histories, technical and financial capacities, leadership, and engagement in earlier and on-going tree planting projects (for example, Forestry Sector Project I and II, National Greening Program). Similarly, the capabilities of Site Management Officers reporting to Community Environment and Natural Resources Offices and other DENR/INREMP project staff are extremely variable. Facilitation skills are, in general, weak.

A joint DENR and ICRAF workshop was conducted in Cagayan de Oro, Region X during the period 1–2 October 2019 to discuss and identify potential opportunities to simplify the accreditation process. Table 18 below presents a summarized overview of the outcomes of these deliberations distinguishing between the original times targeted to complete each task, the actual time spent during 2019, and the recommended time to undertake the enhanced process in 2020–2021.

Recommendation: DENR FMB adopt the enhanced accreditation assessment process.

Additional difficulties were encountered in terms of differences in the mechanisms to be followed during the accreditation process for people's and indigenous people's organizations, all linked to different tenurial arrangements for land. To compound matters, the Department of Trade and Industry introduced a simplified set of four criteria for the selection of people's organizations working in four prioritized agricultural value chains — coffee, cocoa, abaca and bamboo — supported through livelihood enhancement support Type 2 grants, and improved access to credit through, for example, the Agricultural Credit Policy Council. These differences are highlighted in Table 19.

Table 18. Summarized overview of the original times targeted to complete each task, the actual time spent during 2019, and the recommended time to undertake the enhanced accreditation process in 2020

Task	Responsibility	Original time planned	Actual time spent 2019	Recommended time 2020	Notes
People's organization scoping	Watershed Management Protection Coordinating Office	2	1	2	Accreditation assessment teams created and trained late, comprising Provincial and Community Environment and Natural Resources Offices and Site Management Officers
Enhancement of scoping report	Watershed Management Protection Coordinating Office	2	7	1	
People's organization accreditation assessment process	Accreditation assessment team/ Provincial Project Management Office	7	14	1	

Task	Responsibility	Original time planned	Actual time spent 2019	Recommended time 2020	Notes
People's organization accreditation assessment report preparation	Site Management Officers/Watershed Management Protection Coordinating Office	15	45	15	Limited manpower. Changing guidelines. Shorten to 7–10 days as more experience gained by accreditation assessment teams
Corrective action(s): Minor	People's organization	7	30	7	Travel times. Multiple revisions. Late compliance by people's and indigenous people's organizations
Corrective action(s): Major	Watershed Management Protection Coordinating Office/People's Organization	14	90	30	
Endorsement by Regional Project Coordination Office	POAU	1	14	1	Submit clusters of people's organizations accreditation assessment reports
Regional Project Coordination Office review	Regional Project Coordination Office	1	7	1	Non-availability of signatories at the regional level
Finalization of reviewed/ revised report	Watershed Management Protection Coordinating Office	2	2	2	
Issuance of people's organization certificate	Provincial Environment and Natural Resources Office	2	2	2	Only 3% of people's organizations issued with certificates in Bukidnon
Annual audits		n/a	n/a	2	To be started in 2020
Total no. of days		39–53	140–200	34–55	

Source: DENR and ICRAF Workshop Report, Cagayan de Oro, Region X, 1–2 October 2019

Table 19. Key differences between people's organizations and indigenous people's organizations' approaches to accreditation assessment and Department of Trade and Industry criteria to select people's organizations

Community-Based Forest Management Agreements/ Sustainable Forest Management (DENR)	Indigenous People's Rights Act/ Free, Prior and Informed Consent Certificate of Pre-Condition (National Commission on Indigenous Peoples)	Department of Trade and Industry criteria to select people's organizations
Community-based organization. Beneficiaries can be both people's organizations and indigenous people's organizations. Free, Prior and Informed Consent Certificate of Pre-Condition required for renewal of Community-Based Forest Management Agreements	Recognize the rights of indigenous people and indigenous cultural communities to claim ancestral domain lands. Risks of land claims being sold to migrants	Four prioritized agricultural value chains: coffee, cocoa, abaca, and bamboo
Tenurial instrument, EO 263. Privilege to occupy and develop the area may lead to an increase in forest cover. Risks of selling rights to migrants and external businesses	Issuance of tenurial rights (Certificate of Ancestral Domain Title) but no funding for ancestral domain lands	Harvest-ready crops/NTFPs
Access to natural resources in public lands. Lack of clear policy on timber harvesting	Free, Prior and Informed Consent/ Certificate of Pre-Condition for any intervention and renewal of Community-Based Forest Management Agreements. Complex and cumbersome Free, Prior and Informed Consent process	Legally recognized and active people's organization
People's organizations considered as forest managers	No expiry of Certificate of Ancestral Domain Title (compare with 25 years for Community-Based Forest Management Agreements)	Located within a prioritized INREMP watershed area
Access to livelihoods' activities, including partnerships with private entities. Encourages investors to engage in contract development	Access to natural resources as traditional use. Risks if conflicts of interest between tribal leaders and/or the emergence of unrecognized tribal leaders.	To date, the Department of Trade and Industry has validated 52 people's organizations, of which 10 (19%) are working with bamboo (for example, Balubal Integrated Social Forestry Farmers Association), focusing on institutional and enterprise strengthening, production development, incuding value-added processing, packaging and labeling and improving market links
Access to state-backed projects	Provision of prior rights. Risks of abuse of rights/powers over a particular project.	
Assistance in the preparation of Community-Based Forest Management Agreement, Resource Use Permits, and Annual Work Plans	Assistance in the preparation of Ancestral Domain Sustainable Development and Protection Plan.	

Securing Certificates of Pre-Condition to renew Community-Based Forest Management Agreements per the Indigenous People's Rights Act Law 1997, National Commission on Indigenous People's AO No. 3, s. 2012 (Revised FPIC Guidelines) and JAO No. 1, s. 2012

A large number of existing Community-Based Forest Management Agreements are coming to the end of their first 25-year mandate and will be subject to renewal. As a result of the new Free, Prior and Informed Consent requirement of the National Commission on Indigenous Peoples, a complex seven-step process of consultation is required to obtain a Certificate of Pre-Condition from indigenous peoples and indigenous cultural communities given the (now) primacy of customary laws, traditions, and practices per the Indigenous People's Rights Act. Additional details are presented in the Tenure arrangements in the Philippines report.

Recommendation: DENR FMB mobilize additional resources to expedite free, prior and informed consent processes to secure Certificates of Pre-Condition and facilitate the renewal of Community-Based Forest Management Agreements in ancestral domain lands, particularly in the Philippine uplands. Additional efforts will be needed to support the implementation of JAO 2012-01 to manage tenurial conflicts and to resolve jurisdictional issues among the different agencies (De Vera 2017).

Sustaining and maintaining agroforestry and commercial tree plantations and the establishment of conservation farming demonstration sites

With the extension of the National Greening Program until 2028, DENR has an opportunity to sustain and maintain existing conservation farming, agroforestry and commercial tree plantation demonstration sites established by INREMP by transferring these to the Program, where appropriate. This would require that DENR learns from the findings and follows the recommendations of the Commission on Audit Performance Assessment Report 2019 on the National Greening Program. The Commission on Audit found that the most crucial issue was DENR's strategy of fast-tracking the program which led DENR to a) impose targets on its field officials beyond their absorptive capacities; b) proceed with the program without conducting a survey, mapping and planning; c) include far untenured areas, which will be abandoned after the term of the maintenance and protection contract (3 years); and d) cause the people's organizations to miss financial opportunities, such as profits from producing their seedlings.

The National Greening Program's targets were too ambitious. Instead of increasing forest cover, fast-tracking reforestation activities only increased the incidence of wastage. Based on the latest Philippine forest statistics, forest cover increased marginally by 177,441 hectares: from 6,836,711 ha in 2010 to 7,014,152 ha in 2015. This is only 11.8% of the 1.5 million ha target of the National Greening Program under EO No. 26.

The key recommendations of the Commission on Audit Performance Audit report were as follows.

1. Consult the Provincial Environment and Natural Resources Offices and/or Community Environment and Natural Resources Offices, private sector, and the beneficiaries in formulating the action plan and targets.

2. Ensure that the people's organizations benefit from seedling production by providing them sufficient time to produce the seedlings themselves.

3. Make community organizing a pre-requisite before proceeding with the program.

4. Implement the convergence initiative at the national and local levels.

(CoA Performance Audit Report PAO-2019-01 2019)

Recommendation: DENR transfers the establishment and maintenance of conservation farming demonstration sites to the National Greening Program. To this effect, DENR to convert INREMP Technical Bulletin #10 Series 2017 (17 May 2017) into a DENR DAO.

Recommendation: The future establishment of agroforestry and commercial tree plantations should follow the Forest Investment Road Map and recommendations of CoA PAO-2019-01 and not be based on project-based financing.

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Additional measures to create an improved enabling environment in the Philippines

The additional measures may encompass, among others, a) pro-active investment promotion with targeted incentive schemes and development of new financial instruments favoring long-term investments; b) reducing investment risks through guarantees, public–private partnerships, and innovative financing schemes as well as through access to, and provision of, reliable information on forest lands; c) collecting, collating and improving access to information concerning the availability of suitable land for investments, growth, and yield, growing conditions, risks etc; d) improving forest-sector governance and transparency; e) additional support for forestry and agroforestry research and development to increase productivity; and e) helping to organize smallholders and communities so that they can enjoy economies of scale, become eligible for accessing finance, and gain negotiating power.

Several of the proposed measures have been (or are being) initiated by DENR as part of the short-term (2018-2020) activities in the Forest Investment Road Map (FIRM 82–89). These include the signing of a new memorandum of agreement between DENR and the Development Bank of the Philippines and the establishment of eight regional investment registers to guide and support investors.

Additional measures to be considered by DENR-FMB may include the following.

Field-testing the Regional Forest Stewardship Standard for Smallholders in the Philippines

Out of a total Forest Stewardship Council certified area of close to 200 million ha, only 7.6 million ha are managed by smallholders or communities. Their share in tropical and subtropical countries is less than 3 million ha.

The Center for International Forestry Research is engaged with the Forest Stewardship Council in its New Approaches project launched in 2016, which aims to develop alternative and additional ways to support smallholders and communities to achieve certification, including the following.

- Improving Forest Management Standards. The project is working closely with Forest Stewardship Council China to evaluate alternative approaches for smallholders and communities within the Chinese National Forest Stewardship Standard.

- Improving international standards to be more accessible: the group certification standard revision process.

- Testing new concepts, including a simplified regional standard in the Asia-Pacific region. This is currently being tested in India, Indonesia, Thailand, Viet Vam after an FSC GA decision in 2017.

- There are several barriers to financing private investments in sustainable forest management in the Philippines.

- Higher real and perceived risks than in Latin American and industrialized countries. These include political risks, unsecured land tenure, currency risks, social and environmental risks, as well as reputational risks.

- Limited availability of, and access to, both domestic and foreign equity and loan financing. International equity financing is especially difficult to secure for projects under USD 20–25 million.

- Forestry businesses face unfavorable terms for financing. Even if domestic debt financing is available, interest rates can be excessively high (in local currency) and loan payback periods very short (from six months to three years).

- Higher up-front costs of preparing investment projects in the forestry sector owing to, among others, a lack of reliable information on forests and higher transaction costs throughout the investment cycle for small-to-medium-sized projects.

- The need for tax reforms. In 2017, PHP 441 billion of foregone revenues (representing 2.8% of GDP) was provided as tax incentives to 3150 companies, including the elite top 1000. This excluded all SMEs that paid the regular 30% Corporate Income Tax. A comprehensive tax reform package aims to lower corporate income tax from 30% to 20% and to reorient fiscal incentives to strategic growth industries and make incentives available to investors who make "net positive contributions to society" (Department of Finance 2020).

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Annexes

Annex 1: Laws, Letters of Instructions, Proclamations, Administrative Orders etc

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House of Representatives Bill No. 4891 (2019) An act providing for the Sustainable Management of Forests and forest lands and for other purposes. 30 September 2019. House of Representatives, Quezon City. http://congress.gov.ph/legisdocs/basic_18/HB04891.pdf

Annex 2: Sources of information

A preliminary scoping mission to the Philippines during the period 20 September–5 October 2019.

The mission comprised several elements.

- Preliminary literature search, including review of a Report on the Assessments of Training and Capacity Building Needs of INREMP Staff, DENR, NCIP, Local government units, and LRMUs for Planning and Implementing IDPs, WMPs, ADSDPPs, Tenure Plans, CLUPs/CDPs, and Infra Development in Support of IWRM with Appropriate Social and Environmental Safeguard Mechanisms (CESAM September 2017)
- DENR FMB National INREMP Workshop, Manila 24–25 September 2019 (Workshop agenda)
- Meetings with ICRAF staff and consultants, 20–22 and 28–29 September and 4 October 2019
- Meetings with key DENR and FMB personnel, 23 September 2019
- Meetings with key resource persons, UPLB, Los Baños, 26 September 2019
- Meetings with Forest Foundation Philippines, Ateneo School of Governance and Dr Manny Bonito re PO accreditation assessment, 27–29 September 2019
- Travel to Buknidon Region X, 30 September 2019
- DENR/DTI Regional Workshop, Cagayan De Oro, 1–2 October 2019
- Field visits to four peoples' organisations, Region X, Bukidnon and two 'falcata' (Paraserianthes falcataria) saw mills, Tagoloan, 3–4 October 2019
- CIFOR trip report
- Review of literature to develop scoping report

The scoping report presents a summarized overview of the evolution of forest policy in the Philippines from the pre-colonial period to the present day, and key findings in relation to critical decision-making nodes and constraints within DENR/INREMP. The report focuses on two key planning processes.

- The Peoples' Organization Accreditation Assessment process introduced in 2018
- The Certificate of Pre-Condition required by the National Commission on Indigenous Peoples based on the NCIP Revised Guidelines on FPIC and Related Processes of 2012

The second mission to the Philippines was conducted during the period 1–14 March 2020 and comprised several elements.

- Meetings with ICRAF staff and consultants, IRRI, Los Banos to finalize contract/ revised TOR (Annex 1) and programme for second mission (Annex 2)
- Meetings with key DENR FMB and NCIP at national level
- Travel to Baguio City, Cordillero Administrative Region (CAR)
- Meeting with regional RCPO, INREMP, CAR and Benguet State University
- Meeting with LGU of Bauko and field visits to POs and demonstration farm in Mountain Province
- Meeting with PO outside Bontoc City and travel through Ifugao back to Los Baños
- Review of documentation and finalization of programme for stakeholder forum
- Travel to Butuan City, Caraga Region (the Philippines "timber corridor") and meetings with regional representatives of DENR (Forest Utilization Section), DTI and NCIP
- Stakeholder Forum and field visits to Peoples' Organisations, sawmills and plywood plants, Butuan City, Caraga Region (11–12 March 2020)
- Travel Butuan City to Manila, 13 March 2020
- Emergency travel to avoid Covid-19 lockdown, Manila to Dubai, Dubai to Paris CDG and Paris CDG to Montpellier St Roch (by train) (13–14 March 2020)
- More detailed review of literature to develop policy and institutional review and incentives reports, one policy brief and contributions to two other policy briefs

Annex 3: Senate Economic Planning Office Policy Brief No. 18-01

(Showing page 1, the whole policy brief can be accessed through this link.)

Policy Brief

SENATE ECONOMIC PLANNING OFFICE

June 2018 PB-18-01

Forests are among the valuable natural resources of the Philippines due to their environmental, social, cultural and economic significance. Sadly, these fundamental assets are gradually disappearing because of continued deforestation. Delineating the country's specific forest limits by law is necessary to sustainably manage, conserve and protect the country's remaining forests from further depletion.

The SEPO Policy Brief, a publication of the Senate Economic Planning Office, provides analysis and discussion on important socio-economic issues as inputs to the work of Senators and Senate Officials. The SEPO Policy Brief is also available at www.senate.gov.ph.

Delineating the Philippines' Specific Forest Limits

I. Introduction

Land use conflicts are nothing new given the finite nature of land as a resource alongside an ever growing population and increased economic activities. Conflicting interests of various sectors and competition for land make forestlands particularly vulnerable to such conflicts. This is one of the reasons why the framers of the 1987 Constitution included a provision mandating Congress to pass a law defining the boundaries of Philippine forests.

However, despite it being included in the Legislative-Executive Development Advisory Council (LEDAC) and Common Legislative Agenda (CLA) of the Senate and the House of Representatives of the 17th Congress as well as in the priority legislation of the Philippine Development Plan (PDP) 2017-2022, a measure delineating forest limits, either on its own or through a National Land Use Act (NALUA), is yet to be passed. In fact, the NALUA bill has been languishing in the country's legislative mill for decades despite the clear importance of such measure. The absence of an enabling law which would clearly delineate the country's forest limits has resulted in confusion as to the actual boundaries of forest lands[1] and in turn, has led to incorrect land use and management. Forest lands have been subjected to boundary conflicts and encroachment such as squatting, illegal occupancy, illegal titling, and timber poaching.

This Policy Brief seeks to: (1) describe the state of the country's forests; (2) highlight the importance of enacting a forest delineation bill; (c) discuss the processes in delineating the specific forest limits; and (3) discuss legislative proposals on forest delineation.

[1] Forest lands are lands of the public domain classified as needed for forest purposes. They include all forest reserves, forest reservations and all remaining unclassified lands of the public domain.

1