

Stakeholders' Forum for INREMP: Transforming People's Organizations into Viable Tree-Based Businesses

WORKSHOP REPORT

11-12 March 2020 Butuan City, Agusan del Norte

Prepared by World Agroforestry

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Foreword

he forestry sector can be revitalized by building the entrepreneurial skills of people's organizations that can venture into environmentally friendly, economically viable, and socially responsible tree-based enterprises. This was a vision of the Department of Environment and Natural Resources when it launched the Integrated Natural Resources and Environmental Management Project (INREMP). Funded by the Asian Development Bank, this project focuses on communities in upland watersheds and how they can become major contributors in their respective rural economies.

A novel project with ambitious goals, INREMP has been establishing sustainable land-use models that generate income, provide food, and offer integral ecosystem services such as water, wood, and medicine for forest-based communities. INREMP is founded on a paradigm shift—one that views communities not as passive beneficiaries of project benefits but as active partners in public-private partnerships. It envisions community members organizing themselves into sustainable tree-based businesses—those that possess a sense of responsibility to the forests and not driven solely by profit.

Turning this vision into reality was discussed during the 'Stakeholders' Forum for INREMP: Transforming people's organizations into viable tree-based businesses' in Butuan City, Agusan del Norte on 11-12 March 2020.

During the Forum, we were able to exchange knowledge, experiences, and success stories, as well as the challenges and issues that we need to address. We were also impressed by the business models and case stories presented. We agreed that tree-based enterprises could be an end-goal of forest-based organizations and communities, but this requires the support and commitment of the government and like-minded partners. The government, for instance, must revisit the policies that protect the forests but inadvertently limits communities and private investors to invest in tree-based businesses. Non-government partners can assist in improving the marketability of forest products and in highlighting the presence of communities in value chains. They can also be tapped to improve the implementation and monitoring and evaluation of the project.

What was highlighted the most during the Forum was the crucial role of upland watershed communities in accomplishing these goals. Guided by a new paradigm and with novel approaches to implement, INREMP implementers must listen to these communities and immerse themselves to the real situation on the ground.

Only then can they fully harness the benefits of forests and transform into sustainable tree-based enterprises.

Robert Sudlayan Bukidnon Upper River Basin

Irene Custodio National Project Coordinating Office

Diana Vinarao Department of Environment and Natural Resources Marilyn Malecdan Chico Upper River Basin

Herzon Gallego Department of Environment and Natural Resources Caraga



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Acronyms and Abbreviations

ADB	Asian Development Bank
AF	agroforestry
ANR	assisted natural regeneration
BAFA	Balungagan Farmers' Association, Inc.
CF	conservation farming
CFISP	commercial forestry investment sub-projects
CSDC	Casilayan Softwood Development Corporation
СТР	commercial tree plantation
DENR	Department of Environment and Natural Resources
FMB	Forest Management Bureau
ICRAF	World Agroforestry
IFMA	Integrated forest management agreement
INREMP	Integrated Natural Resources and Environmental Management Project
LGU	Local government unit
LES	livelihood enhancement support
NPCO	National Project Coordinating Office
NRM	natural resource management
NTFP	non-timber forest product
PNT	Philippine native tree
РО	people's organization
SLP	Sustainable Livelihood Project
SPABP	Samahan ng mga Pala'wano sa Amas, Brooke's Point Multi-Purpose Cooperative
URB	upper river basin

Executive Summary

he Integrated Natural Resources and Environmental Management Project (INREMP) is a hugely ambitious, seven-year initiative that aims to restore upland watersheds by investing in communities to develop into sustainable micro-, small-, and medium-sized forest and agri-enterprises. These enterprises would then become the motors of the rural economies in their respective local government areas.

INREMP is funded by the Asian Development Bank (ADB) and implemented by the Philippine Department of Environment and Natural Resources (DENR). World Agroforestry (ICRAF) provides technical support to the Project.

DENR has been working with upland communities for over 40 years to restore forest landscapes. INREMP, however, is novel because it is integrating sustainable land-use models with building the entrepreneurial skills of communities with accompanying infrastructural development. INREMP is the first project to transform communities and upland people from beneficiaries of project funds into partners in public-private partnerships.

As a key action, ICRAF, together with DENR Caraga Region, held a Stakeholders' Forum — Transforming People's Organizations into Viable Tree-based Businesses — on 11–12 March 2020 in Butuan City, Agusan del Norte. The Forum primarily focused on building the capacity of representatives from national and local governments to understand the challenges and opportunities in establishing treebased enterprises with communities. Representatives also came from the larger private sector, development organizations, and leading community members from various regions in the Philippines. Eight speakers from the government, non-government organizations (NGOs), and the private sector presented their experience with connecting sustainability and profitability. Each speaker showcased opportunities for community organizations to maximize the value of tree species, emphasizing that only attractive economic incentives would enable sustainable forest protection.

The business cases presented were multi-strata agroforestry systems, Philippine native tree (PNT) nurseries, high-value timber and fuelwood production, vertically integrated wood value chains, and non-timber forest products (NTFPs). Case stories were also presented by DENR Caraga—about the timber industry in the region—and the Balungagan Farmers' Association (BAFA), Inc.—on community-based agroforestry and tree farming. DENR's National Project Coordinating Office (NPCO) shared the progress of INREMP in planting trees as part of their commercial forestry investment sub-projects (CFISPs).

Based on the discussions of the business cases, the key messages of the Forum were:

- **1.** The Philippine population mandates all governmental restoration programs to create sustainable green employment.
- **2.** Restoration projects focusing on the income component on the planting stage are missing the opportunity for upland communities to go into primary and secondary processing to add more value.
- **3.** A market-driven approach is essential when designing potential product lines and livelihood enhancement activities with crops (both tree- and agriculture-based) and planting cycles based on the demand of the market nearest to the production area.
- **4.** Aggregate and consolidate producers and collectors to eliminate the middlemen and conduct business professionally and above board to avoid abuse in the future.
- **5.** Capacity building—both in terms of technical capacities and organizational skills—is essential to turn people's organizations (POs) into viable small and medium enterprises.
- **6.** The DENR and the Department of Trade and Industry (DTI) must develop and institutionalize a masterplan for different wood, timber, and NTFP enterprises. The plan would require close coordination within the management team (management, finance, marketing operations, and technical).

The Forum agreed that a wider consultation is needed to discuss how different government agencies could work together to ensure that upland communities

could capitalize on the vast opportunities for tree-based businesses. ICRAF has committed to facilitate the next important steps in this process, which are:

- A policy forum with key stakeholders at the regional level (by upper river basin) to develop a roadmap for tree-based enterprises emerging from INREMP. The key elements of the roadmap would be a) revision and simplification of cutting and transport regulations of native tree species planted under CBFM and private land; b) deregulation options for plantation species to be exempted from Executive Order 23; c) smallholder-friendly third-party certification schemes for green procurement; and, d) revision of national guidelines and plans for infrastructure development within forest areas in the context of supporting small and medium enterprises in the uplands.
- 2. A market link-business forum with relevant government agencies and private sector to: a) build the awareness of POs on buyer/investor requirements (quality, volume, etc.); b) align INREMP activities with the planned activities of the Forest Investment Development Division to link POs with potential investors and buyers; and c) coordinate existing efforts and programs.



Forum objectives and background

he key objective of the Forum was to present business options that DENR could adopt to facilitate the transformation of POs into sustainable tree-based businesses, focusing on the beneficiaries of INREMP.

Specifically, the Forum aimed to:

- **a.** look for opportunities to commercialize tree-based products, which would be available from the implemented subprojects under INREMP;
- **b.** present potential CFISP models for production zones that complement those that have been implemented under INREMP; and
- **C.** visit existing wood and timber enterprises in the region and discuss opportunities and bottlenecks.

INREMP aims to improve the conditions of upland watersheds by turning upland communities into sustainable micro, small, and medium enterprises producing forest and agricultural products. Transforming into enterprises would allow upland communities to contribute to the local economies of their respective local government units (LGUs).

This is done through sustainable land-use options, the CFISPs and livelihood enhancement support (LES), which enable infrastructure investment and capacity building for value chain development, upgrading, and governance. Presently, DENR has developed five generic CFISPs used and customized based on the needs of the respective communities involved. These are conservation farming (CF), agroforestry (AF), commercial tree plantation (CTP), reforestation, and assisted natural regeneration (ANR). CF and AF are applied in areas of moderate slope, with a high population and use pressure, whereas CTP and ANR are adopted in steep slope areas with degraded tree cover and less agricultural usage (Table 1). While many of the LES subprojects in place have been focused on developing agricultural products, some centers on agroforestry products such as coffee, cacao, abaca, and bamboo. ICRAF has been contracted by ADB and DENR to provide technical assistance and build the capacity of the Department to enhance the existing CFISPs and LES by developing options to strengthen wood, timber, and NTFP value chains.

CFISP	Criteria	Main Outcome
Conservation farming (CF)	Intensively cropped suitable sloping areas	Poverty alleviation
	Home gardens in upland areas with rolling and undulating slopes	
	Fallow areas in a portion of ancestral domains	
	Multiple Use Zones of Protected Areas dedicated to and currently being used as agricultural plots	
	Areas in designated production zones where slopes are not greater than 50%	
	Areas with 50% slopes where intensive cash crop production is being practiced, depending on the proposed CF system design and assessed as not being susceptible to landslides	
	INREMP Technical Bulletin 2017-10: Subproject Development for Conservation Farming	
Agroforestry	Except in Cordillera Administrative Region, existing cultivated lands in upland/sloping areas by members of people's organizations especially those between 18-30%;	Poverty alleviation
	Upland farms bear residents of claimants within the LRMU area; and	
	Ideal agroclimatic condition for growing market=oriented short, medium, and long- term trees and crops and raising compatible livestock	
	INREMP Technical Bulletin 2015-02: Subproject Development in Agroforestry of INREMP	
Commercial tree plantation	Same as below	Restoration of forest resources
	INREMP Technical Bulletins 2015-03 and 2015- 04: Subproject Development for Reforestation, Assisted Natural Regeneration, and Commercial Tree Plantation	

Table 1. Standard CFISP models developed by DENR and used in INREMP

CFISP	Criteria	Main Outcome
Reforestation and assisted natural regeneration	In degraded forest lands and conservation areas (with extensive grasslands or highly compacted or eroded areas)	Restoration of forest resources
	In ancestral domain areas, where an appropriate indigenous and economically viable minor forest species such as bamboos, vines, and rattan may be inter-planted in degraded site	
	In NIPAS areas	
	INREMP Technical Bulletins 2015-03 and 2015- 04: Subproject Development for Reforestation, Assisted Natural Regeneration, and Commercial Tree Plantation	

Opening remarks

For. Samuel Danganan, Assistant Regional Director for Technical Services, DENR Caraga Region

For. Samuel Danganan gave a passioned account of the importance of the forest sector as a backbone for economic development in the Caraga region. He emphasized the need for investments and capacity building for small and medium tree-based enterprises. He also strongly encouraged an updated economic assessment of the commercial value of forest species, which would enable authorities to make informed decisions about their sustainable utilization.

Forum overview

Dr. Anja Gassner, Senior Livelihood Specialist, ICRAF

Dr. Anja Gassner set the scene for the Forum by reminding the participants that:

- **a.** Agroforestry is a traditional land-use system that integrates three components: trees, crops, and livestock. Based on the function of the land-use, whether it is predominantly for food production, wood, timber, or NTFP production, the composition of the components should vary.
- **b.** For a forest restoration project such as INREMP, the emphasis of an agroforestry model must be on providing livelihood opportunities from the tree components. INREMP has been successful in planting many trees, including Mahogany, Mangium, Narra, and several indigenous trees. What is needed is to provide LES projects to utilize and commercialize these trees.

Speakers

Eight speakers from the government, non-government organizations, and the private sector presented their experiences in connecting sustainability and profitability in tree-based enterprises. Each speaker showcased opportunities for community organizations to capitalize on the value of tree species and emphasized that sustainable forest protection could be fostered by attractive economic incentives.

1. Dr. Agustin Mercado Jr.

ICRAF: Multi-strata agroforestry systems of conservation farming, agroforestry, and commercial tree plantations

Dr. Agustin Mercado, Jr is the Conservation Farming and Agroforestry Specialist of <u>ICRAF Philippines</u>. He presented a stepwise approach to restore degraded upper river basins as multi-strata agroforestry systems. ICRAF Philippines has been recognized for its work not only on agroforestry and other landuse management systems, but also on forest restoration, natural resource management (NRM), and payments for ecosystem services, among others. Its rich portfolio of field research and experience have helped the Government of the Philippines in returning trees to deforested areas, bringing environmental and economic benefits to forest-based communities and smallholder farmers. Dr. Mercado shared in his presentation data sets from his demonstration farm in Claveria, Misamis Oriental. Agroforestry systems such as cacao+rubber and timber+coffee+fruit trees register higher productivity and offer more ecosystem services than farms that apply monocropping.

2. Dr. Ephraim Cercado

Sustainable Tree Farmers Group of the Philippines: Indigenous tree species (nursery)

Ephraim Cercado is the Vice President of the <u>Sustainable Tree Farmers Group</u> of the Philippines and an administrator of <u>Philippine Native Tree Enthusiasts</u>, a knowledge-sharing platform on indigenous and endemic species. A surgeon by profession whose passion is tree farming, Cercado shared the economic and ecological benefits of iconic Philippine native trees such as 'Narra' (*Pterocarpus indicus*), 'Nyatoh' (*Palaquium spp and Payena spp*), 'Dao' (*Dracontomelon dao*)

and 'Toog', the Philippine rosewood (*Petersianthus quadrialatus (Merr) Merr*). He is an author of <u>Philippine Native Trees 202</u>, which provides information on selected endangered and endemic species. He also advocates the promotion of native species in the country's tourism industry, citing the aesthetic and potential economic values of Jade vine (*Strongylodon macrobotrys*), 'Banaba' (*Lagerstroemia speciosa*), 'Siar' (*Peltophorum pterocarpum*), 'Bagras' (*Eucalyptus deglupta*), and 'Malabulak' (*Bombax ceiba*), among others.

3. Mr. Michael John Ong

Industries Development Corporation: High-value timber and fuelwood production

Michael Ong, president of the vertically integrated wood-based company, Industries Development Corporation (IDC), explained the massive potential for the Philippines to capitalize on the growing fuelwood sector. IDC is a Philippinebased company registered with the Securities and Exchange Commission since 1961, managing three Integrated Forest Management Agreements (IFMAs) in Aurora Province. In Casiguran, Aurora, IDC has its primary wood manufacturing facilities, which consist of sawmill and veneer operations. The company employs nearly 500 persons and controls processing from harvesting and planting to <u>finished wood products</u>, making it one of the most vertically integrated wood-based companies in the Philippines. IDC is also a pioneer in timber certification being the only company in the Philippines that has attained a Verified Legal Origin (VLO) certification by the Rainforest Alliance (under their Smartwood Program). The business model that Mr. Ong presented was a reforestation project of degraded areas using high-value timber and fuelwood species with strong and stable markets.

4. Mr. Mario Sebastian Jr.

Marsse Tropical Timber Plantations: Vertical integrated wood product value chains

Mario Sebastian Jr. of the <u>Marsse Tropical Timber Plantations</u> shared how his family turned their family business into a successful tree-based enterprise. Marsse is a 60-hectare timber production farm in Umingan, Pangasinan operated by the Sebastian Family. Established in 1992, the farm currently has an average standing stock of 120,000 assorted hardwood species with some specimens that are now 27 years old. It grows mostly Honduras Mahogany (*Swietenia macrophylla*) and Teak (*Tectona grandis*) intercropped with native fruit and timber trees such as Mango, Narra (*Pterocarpus indicus*), 'Duhat' (*Syzygium cumini (L) Skeels*) and 'Kamagong' (*Diospyros discolor*). At first, Marsse started its timber processing with basic wood-cutting tools such as band saws and rotary saws, as well as outsourced equipment such as kiln dryers, secondary processors, and tools to finish wood planks. The Small Enterprise Technology Upgrade Program of the Department of Science and Technology enabled Marsse to procure additional woodworking equipment that improved their production facilities and in turn added value to their products. Mario highlighted that sustainability and profitability can go together when starting a business focused on trees and other forest products.

5. Ms. Ruth Canlas

Non-Timber Forest Products-Exchange Programme Philippines: Nontimber forest products

Ruth Canlas is the Executive Director for Philippines of <u>Non-Timber Forest</u> <u>Products - Exchange Programme</u> (NTFP-EP). She presented a business case study of a local organization in Palawan, Philippines on 'almaciga' resin or 'Manila copal.' NTFP-EP's Philippine programe called the Non-Timber Forest Products-Task Force was founded in 1998 as an outcome of the conference, "Exploring Commercially Viable Community-based NTFP Enterprises - A Mechanism for Sustainable Resource Management." It has since evolved into a regional network in the Philippines, India, Indonesia, Malaysia, Vietnam, and Cambodia, assisting forest communities to harness livelihood opportunities in the forests and promoting NTFP development. NTFP-EP is known for its 12-year grassroots initiative called, Expanding Community Enterprise and Economic Development Training and Advisory Program (EXCEED). This Program promotes enterprise development among local organizations and rural and forest communities. One of its key products is the Community Livelihood Assessment and Product Scanning (CLAPS) method, which integrates the Sustainable Livelihoods Framework of the British Department for International Development with a product-scanning assessment to determine the commercial potential of an NTFP. In her case study, Ruth emphasized the role of indigenous communities and building their capacities to invest, develop, and manage tree-based enterprises.

6. Mr. Eric Buduan

Forest Foundation Philippines: Cinnamon, spices

Eric Buduan is the Senior Program Officer of <u>Forest Foundation Philippines</u> (FFP). He shared materials about FFP's project with the Forest Products Research and Development Institute on the benefits of Philippine cinnamon. Established in 2002 under two bilateral agreements between the United States of America and the Government of the Philippines, FFP has been providing grants to organizations that aim to protect the forests in the country. The Foundation has supported more than 450 projects, improving the management of about 1.5 million hectares of forest lands; re-introduced appropriate native trees, leading to the restoration of an estimated 4,200 hectares of forests; and established more than 40 conservation areas managed by communities and at least 60 enterprises operating at the community level. For the period 2017-2021, the Foundation has allocated PHP 480 million to protect the major forest landscapes in the Philippines, including Sierra Madre, Palawan, Samar and Leyte, and Bukidnon and Misamis Oriental.

7. Ms. Jennifer Abucejo

Department of Environment and Natural Resources Caraga: Caraga timber value chain

Ms. Jennifer Abucejo shared the forest-related initiatives of DENR Caraga and the status of the timber industry in the region. DENR Caraga is implementing the National Greening Program, one of the world's largest reforestation initiatives. Ms. Abucejo reported that they had already planted 138,803,514 seedlings over 142,059 hectares as of October 2019. Their office has also issued 129 community-based forest management (CBFM) agreements, covering a total area of 221,007 hectares. CBFM is the national government's strategy to empower communities in developing the forests. The CBFM is also integrated with the Comprehensive Agrarian Reform Program (CARP) to improve the productivity of upland communities and promote food security. From 2007-2019, the combined CBFM-CARP initiative has covered 3,344 hectares in the Caraga region. Called the "Timber Corridor of the Philippines" for its favorable climate conditions for growing timber, the region remains as the top supplier of plantation logs in the recent years. From 2013-2016 for instance, Caraga has contributed 50% of the total log production of the country, corresponding to an average of 500,000 cubic meters of logs.

8. Ms. Liezel Tahoynon

Balungagan Farmers' Association, Inc.

Ms. Liezel Tahoynon works as the Business Manager of BAFA. She discussed the production-marketing flow of the Association, the revenue it generates from its business, and the good practices that its members have adopted. BAFA is a people's organization (PO) registered with the Securities and Exchange Commission and operating in Brgy. Balungagan in Las Nieves, Agusan del Norte. Covering 399 hectares, BAFA currently has 86 members (52 male; 34 female) and is led by Mr. Ermito A. Minerva. Its sources of livelihood are farming, livestock raising, and retailing. Since its CBFM agreement was issued in 2005, BAFA has been enhancing the capacities of its members on multicropping/intercropping and building good relationships with its LGUs and other government offices.

Stakeholders' Forum for INREMP: Workshop Report

Case Stories

INREMP's CFISP models and current progress

Johanna San Pedro, INREMP-NPCO

Since its implementation in 2013, INREMP has made significant progress on its subprojects—CFISPs and LED—allowing infrastructure investment and capacity building for value chain development, upgrading, and governance.

INREMP's CFISPs have covered more than 20,000 hectares already. As of 31 December 2019, the Project has established AF plantations in 14,307 hectares, a 99% accomplishment; CTPs in 3,564 hectares, a 99% accomplishment; and CF systems in 3,434 hectares, a 95% accomplishment. In terms of stocking density per hectare, AF subprojects have a total of 100 forest trees and 200 fruit trees; CTPs have 625 fast-growing species; and CF systems have 279 tree species.

Beneficiaries in project sites are already reaping the rewards of the species they planted. In Bukidnon, Cordillera, and Bohol, for instance, fruit trees, abaca, cacao, and coffee, among others, have been harvested and can now be sold at certain prices. Abaca in Bukidnon is priced at PHP 50/kg; cacao at PHP 110/kg; and coffee at PHP 300/kg. In Cordillera, coffee is sold at PHP 300/kg too. In Bohol, 'guyabano' is sold at PHP 15/kg while 'rambutan' can be bought at PHP 40/kg.

INREMP has also rehabilitated at least 21,000 hectares of natural forestlands through assisted natural regeneration, which was applied in 13,317 hectares—a 96% accomplishment—and reforestation, which has just been used in all the target areas covering 8,556 hectares. Moreover, through a community-based monitoring in all project sites, more than 80,000 hectares of forestlands are now protected.

INREMP's LES, meanwhile, has registered an almost 60% progress already. Out of the 202 LES categories targeted, 118 have been done, including 15 concrete drying pavements, four water supply facilities, 20 livelihood facilities, 63 farm machineries and milling facilities, and 16 food processing facilities.

These subprojects are implemented to facilitate the transformation of forest-based POs into successful and sustainable tree-based enterprises even after the INREMP timeline.

Timber Industry in CARAGA

Jennifer Abucejo, Department of Environment and Natural Resources CARAGA

Caraga is known as the "Timber Corridor" of the Philippines. Thanks to its favorable climate, it has ideal ecological conditions for timber plantations. A total of 60% of its almost two million hectares of land is still under tree cover and the region is contributing 50% of the total log production of the Philippines, an annual average of 500,000 cubic meters of logs. DENR Caraga has been implementing several forestry development programs that also improve tree plantations, namely, the National Greening Program, CBFM, and CARP.

Under CBFM, the country's national strategy to achieve a people-centric forest development, the surrounding communities are mandated to apply environmentally friendly and viable practices to the forests. A total of 129 CBFM Agreements have been issued to forest-based communities in Caraga, covering over 221,000 hectares. The Agreements provide a 25-year tenure to the community, which allows full utilization and access to tree resources.

The CBFM is extended to the beneficiaries of CARP to provide additional assistance to farmers who were granted ownership of pieces of agricultural land. From 2007-2019, the joint CBFM-CARP initiative had covered 1,842 hectares where falcata had been intercropped with various crops. Falcata plantations were also established under DENR initiatives such as the Upland Development Program (UDP) and the Integrated Forest Management Agreement (IFMA). The UDP covered 211 hectares from 2009-2010 while the IFMA reached 1,224 hectares. A total of 15,220 hectares of private lands have registered falcata plantations as well.

Beneficiaries were able to find a livelihood from these programs and, as emphasized by the CBFM, fostered a sense of responsibility to the natural resources around them.

DENR Caraga continues to develop its timber industry and harness the overall potential of its forest lands. The Department will promote vertical integration in the wood industry and tap the private sector to identify investment areas in production forests. Recognizing the region's major role in forest development, the Philippine government included the region in the task force that crafted the Forestry Investment Package in 2019.

DENR Caraga's ambitions are supported through the new Asian Forest Cooperation Organization-funded project, "Promotion of Vertical Integration in Wood Processing through People's Organizations in Community Based Forest Management Areas in the Philippines." The project will enhance the technological skills of participating CBFM people's organizations (POs) in value-adding activities in wood production and provide access to machineries and equipment. It will also improve the access of participating POs to reliable market information on woodbased products.

Balungagan Farmers' Association, Inc: Generating Income from Agroforestry and Tree farms

Liezel Tahoynon, Balungagan Farmers' Association, Inc.

The Balungagan Farmers' Association, Inc. (BAFA) is a PO established in 2005 to conserve and manage a 399-hectare forestland in Barangay Balungagan, Las Nieves, Agusan del Sur. BAFA undertakes forest protection, as well as livelihood development, on their area through a community-based forest management (CBFM) agreement with the Department of Environment and Natural Resources (DENR). As of 2020, BAFA has a total of 86 members. Most of the PO members rely primarily on agroforestry, tree farming, and livestock raising for their livelihood.

The PO has continuously developed its area with the help from DENR. For area development and livelihood, BAFA was a DENR project beneficiary of the CBFM-Comprehensive Agrarian Reform Program and the National Greening Program. Moreover, in 2019, BAFA received a seed capital of PHP 500,000 from DENR and the Department of Social Welfare and Development for micro-enterprise development. BAFA established a falcata trading enterprise wherein the PO buys and consolidates timber from its members and non-members.

Members of the PO are encouraged to develop their lands into falcata (*Paraserianthes falcataria*) tree plantations for additional income. The PO recommends planting falcata following a 4m x 3m spacing resulting in 833 trees per hectare. With no intervention after planting, the PO estimates that the farmer can attain at least a 40% survival rate or 333 harvestable trees after seven to eight years of rotation period. BAFA estimates that the farmer can harvest about 0.89 cubic meters of timber per tree, 0.69 for peelable log, and 0.2 for pulp. In total, the farmer can expect around 229 cubic meters of peelable logs and 66 cubic meters of pulpwood per hectare. This total volume of timber is equivalent to six truckloads of peelable logs and two truckloads of pulpwood.

The PO estimates the total expense to be PHP 370,000 per hectare, which includes PHP 50,000 for area development and maintenance and PHP 320,000 for harvesting and transport expenses. At current market prices, a truckload of peelable logs is priced at PHP 150,000 while a truckload of pulpwood is priced at PHP 90,000. This is equivalent to PHP 900,000 worth of peelable logs for six truckloads and PHP 180,000 worth of pulpwood for two truckloads. Based on

the above estimates, the gross revenue per hectare of falcata plantation is PHP 1,080,000. In seven to eight years, a tree farmer can earn at least PHP 710,000, after expenses, for a hectare of falcata plantation.

Business cases

Multi-strata agroforestry systems

Agustin Mercado Jr, ICRAF Philippines

The business model: Multi-strata agroforestry systems mirror the functions of tropical rainforest ecosystems. Integrating multiple layers of trees and crops can achieve better NRM while ensuring food and nutritional security and farmer's income.

The business opportunity: The Philippine Cacao Industry Roadmap has an ambitious target to increase cacao production by 40% to achieve 100,000 metric tons of beans by 2022. A multi-strata agroforestry system is more resilient to extreme weather events such as typhoons than monocropping systems. Cacao and rubber are financially profitable species that can be intercropped with other trees and crops.

A well-managed cacao-rubber system can produce annually 1,125 kg of cacao beans per hectares. The productivity of the rubber trees from the cacao trees and, depending on their age, one tree is estimated to produce between 0.25 kg (5-6 years) and 0.75 kg (13-14 years). These production estimates are based on a system with 750 cacao and 400 shade rubber trees. The system is suitable for active farming households with a skilled rubber tapper easily managing 400 to 500 trees a day and an additional person working part-time on the cacao for activities such as pods leaving, pruning, harvesting, pad breaking, and drying.

The annual revenue depends on the farm gate prices of both cacao beans and cup lumps, as well as the other components of the system. Properly managed trees can be well-integrated into intensive vegetable production systems. The system is flexible and can be customized to the preferences of the farmer—with fruit and timber trees as shade trees and adjusting the spacing to provide room for vegetables if needed. However, the higher the integration of the different components is, the higher the technical knowledge required for the producer.

The system can easily be adopted; large-scale forest landscape restoration can be achieved using multi-strata agroforestry with native tree species or for commercial tree plantations by using fast-growing timber as shade trees.

Co-benefits:

- Resilient value chains, both climatic and economic
- Increased biodiversity value of cacao landscapes
- Livelihood support system for a stepwise approach to transform degraded agricultural land back into forests

What is needed:

- Technical capacity building of producers in both field management, as well as downstream production. Field management is designed to be knowledge-intensive to optimize the synergies between the components.
- Aggregation of individual producers. Downstream productions for both cacao and rubber are skills-, labor-, and capital-intensive, which can be a challenge for ordinary households. Collective processing and marketing are strongly recommended.

Community-based Philippine Native Tree nurseries

Ephraim Cercado, Sustainable Tree Farmers Group of the Philippines

The business model: Community-based Philippine Native Tree (PNT) nurseries to supply directly private and governmental restoration and planting projects.

The business opportunity: The Philippine National Greening Program (NGP) is one of the world's most ambitious countrywide reforestation programs. Its main goal was to plant 1.5 billion seedlings on 1.5 million hectares of public land from 2011–2016. The program has just been extended to cover the remaining 7.1 million hectares of unproductive, denuded and degraded forestlands nationwide. The program is only one out of many private and governmental restoration initiatives in the Philippines for watershed and upland management. In addition, there is a growing market for seedling supply for private tree plantations and ecotourism farms. The income margins depend on the size of the seedlings and the preagreed seed prices.

Co-Benefits:

- Availability of high quality seedling stock for planting projects
- Opportunity to deliver on multiple legislation such as Green Space Act, the Graduation Legacy for the Environment, which mandates the planting of trees with preference to native species, and National Biodiversity Strategies

and Action Plans (NBSAPs) with a national target of "By 2028, there will be no net loss in natural forest cover"

Prevention of zoonosis diseases such as COVID-19, as there are direct links between forest health and transmission of disease from wildlife to humans

What is needed:

- Accreditation process for community-based nurseries to ensure quality control, access to funds, and permission to collect PNT seeds and wildlings
- Inventory of mother trees of various timber species and assessment of phenotypic quality of the mother trees
- Mandatory targets of planting PNT as part of the Philippines NBSAP and of DENR programs
- Pre-agreed seed supply contracts between governmental projects and community-based nursery, with transparent and fair seed and seedling prizes
- Technical assistance to the PO in the proper methods of nursery establishment, seed and wilding handling, seed germination and nursery maintenance

High-Value Timber and Fuelwood Production: A viable, sustainable land management system

Michael Ong, Industries Development Corporation

The business model: Reforestation of degraded areas using high-value timber and fuelwood species can create sustainable upland livelihoods with strong and stable markets.

The business opportunity: Under the Philippine National Climate Change Action Plan, the National Economic and Development Authority prioritizes the mainstreaming of low carbon development and climate change adaptation and mitigation strategies in formulating national and local development plans. Renewable energy development is one of the key strategies. Fast-growing timber species are a sustainable biofuel feedstock for biomass energy, which is baseload power. Integrated with high-quality hardwood species, biomass energy can be the catalyst needed to jumpstart massive forest plantations with private equity funds. The size of the plantation area per farmer is computed using a bottom-up approach, which ensures that the contract for plantation activities enables the farmer to reach the daily minimum wage. For 1,020 hectares of degraded forest land, a combination of 'madre de cacao' (*Gliricidia sepium*) as fuel-wood species and American mahogany (*Swietenia mahagoni*) as high-value timber species can produce a total of 69,000 tons of charcoal, or 210,000 tons of fuelwood and 18,000 m3 or 7.6 million board feet of lumber.

When an energy producer is awarded a contract from the Energy Regulatory Commission, banks are willing to lend funds, which can be used to develop the plantation and the community.

Co-benefits:

Green jobs: Upland development can generate raw materials, enabling downstream manufacturing investment in local communities (i.e., rural industrialization). A total of 441,353 jobs (80%) are generated in the lowland, while 88 jobs are in the upland. When compared to the population density of the Philippines, the project can sustain 43 ppl/km2, which is a far cry from the country's population density of 361 ppl/km2.

What is needed:

- Third-party certification of plantations. Modern forestry tools and equipment are crucial factors to determine the infrastructure, planting, maintenance, and harvesting costs of the project, which comprises 95% of the total cost.
- Attractive Feed-in Tariff (FIT) rates for biomass energy. To attract power producers, the FIT rate must be adjusted to account for raw material cost in the form of a third-party certified plantation fuelwood.
- Attractive and stable income perspective for communities. Forestry work, if done properly, is a tough and strenuous job. To encourage the farmers to diligently maintain their plantations, a profit share is given on the fuelwood while a stumpage value is provided on the high-value timber when the resource is harvested. When added to the farmer contract, the daily income of the farmer should reach PHP 522/day for the project life.

Vertically integrated wood value chains

Mario Sebastian Jr., MARSSE Tropical Timber Plantations, Inc.

The business model: Vertically integrated wood value chains for locally crafted wooden products made from sustainably farmed trees, including customized furniture and flooring, as well as high-quality wood home, dining, and kitchen accessories.

The business opportunity: A total of 17,000 hectares of agroforestry and commercial timber plantations have been planted under the INREMP. More than 370 POs have benefited, many of which already have harvestable tree resources on their land. There is a huge opportunity to utilize this timber resource to produce local wood products, both for tourism, as well as house utilities and accessories.

Co-benefits: Restoration and landscape diversity and ecosystem services

What is needed:

- Inventory of available tree resources
- Develop a master plan for product lines
- Aggregation of POs into a marketable institution. The key is to have the numbers to get the most efficient economies of scale. Marketability—in terms of product origins, community upliftment, and product quality and sustainability of supply—is very important.
- Investments in infrastructure, quality equipment, and training. Prioritize the needs based on the master plan and slowly build capacity as they progress.
- Brand building. Build the brand and partner with other established brands to advance each other's interests during growth.
- Market-enterprise links

Almaciga Resin: Unlocked, Upscaled

Ruth Canlas, Non-Timber Forest Products – Exchange Programme

The business model: Collector cooperative to consolidate and formalize NTFP value chain

The business opportunity: There is an increasing demand for NTFPs globally, as well as domestically, thanks to a growing interest in nature-based products in food and beverages, cosmetics, herbal medicines, and pharmaceuticals. NTFPs are one of the key priced forest possessions of indigenous communities in the Philippines. However, most revenue is captured by traders and exporters, leaving harvesters with marginal income.

Harvesting of 'almaciga' (*Agathis philippinensis*) resin or 'Manila copal,' one of the country's top NTFP exports, can be explored. Almaciga resin is used as a raw material to manufacture varnish, lacquer, and paints. It can also be used for making incense, asphalt, printing inks, paper sizing, sealing wax, and as a fire starter. This valuable NTFP has been managed and protected by the 'Palaw'an' people, an indigenous people group living in Barangay Amas at the Municipality of Brooke's Point. In the 1990s, the group formed the 'Samahan ng mga Palaw'ano sa Amas, Brooke's Point' (SPABP), a community-owned cooperative that trades the resin collectively. Today, their total land claim is now at 14,000 hectares, covering three other barangays that are part of the Mount Mantalingahan Protected Landscape. From PHP 22 per kilo of almaciga resin, the price was increased to Php30/kilo. The SPABP shared that almaciga resin sales are at least a million each year. At least 60% of this goes to the indigenous people as payment for harvesting almaciga resin through dividends and patronage refunds.

Co-benefits:

Conserve for the future. Ownership, access, and attractive benefit-sharing result in more sustainable management of tree resources. As part of their activities, SPABP has established an almaciga nursery and a replanting program. Together with their elders, the youth conduct regular participatory resource monitoring to check on the health of the trees.

What is needed:

- Understanding the market and value chain to shorten the connection between producers and market, as well as understanding the needs of the market in terms of quality, volume, and peak seasons
- Consolidation of individual collectors into a cooperative to increase the quality and volume of the product, enhance the bargaining power of the cooperative, and decrease the transaction costs
- Capacity building of cooperative in legal issues such as application for resource use permit, in quality control of the raw material, in negotiations to develop fair and transparent benefit-sharing and revenue distribution, and marketing skills to open opportunities

Philippine cinnamon: Important lesser-known forest resource

Eric Buduan, Forest Foundation Philippines

The business model: Philippine cinnamon as a promising multi-functional NTFP with a wide array of potential markets

The business opportunity: The demands for healthy food and natural healthcare

products have been rising as people become more conscious about their diet and lifestyle. The Philippine cinnamon can be turned into various products that can meet such demands. In 2011, the Philippines imported 29,000 kg of cinnamon worth USD 92,000 and gained USD 23,000 from 6,000 kg of cinnamon exports. The Philippine cinnamon remains understudied and underexplored, but its potential as a sustainable forest-based livelihood has been evident for many years. Among the 250 cinnamon species in the world, 25 are found in the Philippines and three—Cinnamonum cebuense Kosterm or Cebu cinnamon; *C. mercadoi S. Vidal* or 'kalingag;' and *C. burmannii (Nees & T. Nees) lume syn. C. mindanaense Elmer* or the Mindanao cinnamon—are known for their economic potential.

Co-benefits:

- A sustainable livelihood for forest communities: The FFP and the Forest Products Research and Development Institute documented the proper way of harvesting cinnamon. Aside from harvesting, they worked together to promote its sustainable development and utilization. Many opportunities are now waiting to be tapped, including potential businesses on food supplements, food spices, beverages, pastries, medicinal products, and cosmetic products.
- Health benefits: lowers cholesterol levels, prevents diabetes and heart disease, and contains vitamins, micronutrients, and antioxidants
- Personal healthcare benefits: scent or fragrance for perfume, mouthwash, lip balm, facial packs

What is needed:

- More studies about the 25 cinnamon species found in the Philippines
- Outreach campaigns to increase domestic demands for cinnamon
- Aggregation of growers into cooperatives to increase the quality and volume of the product, enhance the bargaining power of the cooperative, and decrease the transaction costs
- Capacity building of cooperatives in legal issues such as application for resource use permit, in quality control of the raw material, in negotiations to develop fair and transparent benefit-sharing and revenue distribution, and marketing skills to open opportunities

Key messages from the Forum

- The Philippines has a population density of 361 ppl/km2 which is 2.7 times denser than Thailand, 3.6 times denser than Malaysia, and 120 times denser than Canada. This shows how the social aspect is the greatest challenge in any forest-related development initiative in the country. On one hand, it can be a challenge in getting everybody to think as one, but on another hand, it can offer a vested, reliable labor force that will care and protect their areas as long as proper tools, infrastructure, training, and, most importantly, an up to par daily wage, are included in the project.
- Restoration projects that are focusing on the income component on the planting stage are missing the opportunity for upland communities to go into primary and secondary processing for more added value.
- A market-driven approach is essential when designing potential product lines and livelihood enhancement activities, with crops (both tree and agricultural) and planting cycles based on the demand of the market nearest the production area.
- Aggregate and consolidate producers and collectors to eliminate the middlemen and do everything professionally and above board to avoid abuse in the future.
- Capacity building both in terms of technical capacities and organizational skills are essential to turn POs into viable small and medium enterprises.
- The DENR and the DTI must develop and institutionalize a masterplan for different wood, timber, and NTFP enterprises. The plan should be a cohesive effort of the management team (management, finance, marketing operations, and technical).
- The web of policies and laws that regulate planting, harvesting, and sale of trees and NTFPs on state land must be simplified. Such a web has been designed to protect the remaining forests but inadvertently restricts farmers and discourages large-scale private investors.

Recommendations

Un behalf of INREMP Project Manager Percival Cardona, For. San Pedro assured the participants that the discussions and the insights they provided in this forum would be considered as DENR continues to implement the INREMP. The specific recommendations on how this can be done were synthesized as follows:

- Ensure that the demonstration sites developed by ICRAF are established and managed to showcase the economic potential of the INREMP NRM activities.
- Estimate the potential timber, wood, and NTFP stocks within the project sites using INREMP's inventory data.
- Facilitate a policy forum with key stakeholders at the regional level (by Upper River Basin) to develop a roadmap for tree-based enterprises emerging from INREMP. The key elements of the roadmap would be:
 - revision and simplification of cutting and transport regulations of native tree species planted under CBFM and private land;
 - deregulation options for plantation species to be exempted from Executive Order 23;
 - smallholder-friendly third-party certification schemes for green procurement; and
 - revision of national guidelines and plans for infrastructure development within forest areas in the context of supporting small and medium enterprises in the uplands.
- Conduct a market link-business forum with relevant government agencies and the private sector to:
 - build the awareness of POs on buyer/investor requirements (quality, volume, etc.);
 - align INREMP activities with the planned activities of the Forest Investment Development Division to link POs with potential investors and buyers; and

- coordinate existing efforts and programs.
- Select a subset of demonstration sites that could benefit from having indigenous tree nurseries (probably those where INREMP sites could provide important buffer zones and connectivity corridors between protected areas) and include indigenous tree nurseries as part of the design, building on the ICRAF training on handling wildings.
- Design and conduct capacity-building workshops on the PO's aggregation/ federation to reduce transaction costs, as well as business plan development; there should be pilot workshops and training materials for different products such as wood value chain and potentially rubber. So far, only Wahig-Inabanga River Basin has federated its POs at the provincial level.

Field Visits

During the field visit on 12 March, participants visited several sites in Agusan del Norte, Philippines.

Privately owned timber plantation of Mr. Roque Amora

The eight-hectare tree plantation located in Brgy. Consortia, Las Nieves, Agusan del Norte is a registered commercial tree plantation owned by Mr. Roque Amora. Falcata (*Paraserianthes falcataria*) is the dominant tree species planted by the owner, which is grown for a rotation length of nine to ten years. The tree farmer has a certificate of tree plantation ownership registered with the DENR.

Balungagan Farmers' Association, Inc.

DENR issued a CBFMA to BAFA in 2005 to conserve and manage 399 hectares of forestland in Brgy. Balungagan, Las Nieves, Agusan del Norte. Members of the PO develop their land holdings to agroforestry and tree plantations for their livelihood. BAFA was a recipient of various livelihood projects by the DENR, including the National Greening Program. The PO also received seed capital from the Department of Social Welfare and Development for a Sustainable Livelihood Project (SLP). The SLP seed capital enabled BAFA to operate as a business and become a timber consolidator. As a consolidator, it offers reasonable and higher prices to the tree farmers. The PO and its members also receive an additional income with the business.

A&V Veneer Manufacturing and Mini-Sawmill

This company is a wood processing plant located in San Vicente, Butuan City. The company manufactures lumber and veneer for local plywood processing plants and has a daily rated capacity of eight cubic meters. It is a small business enterprise with less than 100 employees.

Orgon Wood Industries

This company is a veneer and plywood processing plant located in San Vicente, Butuan City. The company has a daily rated capacity of 18 cubic meters and an annual log requirement of 10,800 cubic meters. Orgon Wood Industries manufactures interior and exterior grade plywood panels that are distributed and sold in the domestic market. The company sources its core veneer domestically while it imports its face veneers.

Casilayan Softwood Development Corporation

The <u>Casilayan Softwood Development Corporation</u> (CSDC) is an industrial tree plantation development company and a wood processing plant that produces wood requirements for the manufacturing of match for the JAKA Group of Companies. CSDC supplies the matchstick, striking surface, and box for the matches produced by the JAKA Equities Corporation. The company also manufactures veneer and lumber core. CSDC has commercial tree plantations in Agusan del Norte, which they manage through an IFMA with DENR.

JAKA Equities Corporation

JAKA Equities Corporation, in partnership with CSDC, produces safety matches, which are not only at par with today's standards but are also made through ecofriendly means; all wood products that go into each matchbox are made from JAKA's IFMA concessions. The company also supplies splints and matchsticks to other match manufacturing companies.

List of Participants

Number	Name	Organization/Affiliation
1	Arriane R. Jimena	DENR-FASPS
2	Marie Vel Gaerlan	DENR-FMB
3	Diana Q. Vinarao	DENR-FMB
4	Thelma Chuson	DENR-FMB
5	Johanna San Pedro	DENR INREMP-NPCO
6	Irene E. Custodio	DENR INREMP NPCO
7	Christine Ivy Inocencio	DENR INREMP-NPCO
8	Charlene Devela	DENR INREMP-NPCO
9	Marilyn L. Malecdan	Chico Upper River Basin
10	Mario Velasco	Chico Upper River Basin
11	Venus Donggui-is	Chico Upper River Basin
12	Mildred C. Diwayan	Chico Upper River Basin
13	Jovito Palangdao	Chico Upper River Basin (PO leader)
14	Sony B. Nalog	Chico Upper River Basin (PO leader)
15	Ambrocio B. Wenceslao	Wahig-Inabanga River Basin
16	Maria Lorena E. Castino	Wahig-Inabanga River Basin
17	Aruel M. Orog	Wahig-Inabanga River Basin

Number	Name	Organization/Affiliation
18	Gerry Payot	Wahig-Inabanga River Basin
19	Librando Ybanez	Wahig-Inabanga River Basin (PO leader)
20	Reynado Amelia	Wahig-Inabanga River Basin (PO leader)
21	Dario P. Barborana	Bukidnon Upper River Basin
22	Ner A. Doydoy	Bukidnon Upper River Basin
23	Achilles Camaso	Bukidnon Upper River Basin
24	Robert Sudlayan	Bukidnon Upper River Basin(PO leader)
25	Armando Goay	Bukidnon Upper River Basin(PO leader)
26	Ismael Ambola	Lake Lanao River Basin
27	Samsodin B. Taha	Lake Lanao River Basin
28	Amilhair Hadjimalic	Lake Lanao River Basin
29	Palao Rinayong	Lake Lanao River Basin (PO leader)
30	Janida Adilao	Lake Lanao River Basin (PO leader)
31	Samuel Danganan	DENR Caraga
32	Nilda Ebron	DENR Caraga
33	Herzon Gallego	DENR Caraga
34	Michael Ong	Industries Development Corporation
35	Mario Sebastian, Jr.	MARSSE Tropical Timber Plantations
36	Ephraim Cercado	Sustainable Tree Farmers Group of the Philippines
37	Ruth Canlas	Non-Timber Forest Products - Exchange Programme

Number	Name	Organization/Affiliation
38	Andrew Wardell	Center for International Forestry Research
39	Anja Gassner	World Agroforestry Philippines
40	Agustin Mercado, Jr.	World Agroforestry Philippines
41	Caroline Piñon	World Agroforestry Philippines
42	Andrew Evangelista	World Agroforestry Philippines
43	Renz Louie Celeridad	World Agroforestry Philippines
44	Claridad Kiat-ong	World Agroforestry Philippines
45	Kareen Dyan Lucas	World Agroforestry Philippines
46	Yasser Mandoc	World Agroforestry Philippines
47	Erwin Albios	World Agroforestry Philippines
48	Jonally Ortiz	World Agroforestry Philippines
49	Marichelle Nabol	World Agroforestry Philippines
50	Robert Coombs	World Agroforestry Philippines
51	Rosemarie Caballero	World Agroforestry Philippines