

REGIONAL ACTION PLAN FOR IMPLEMENTING THE PHILIPPINE MASTER PLAN FOR CLIMATE RESILIENT FORESTRY DEVELOPMENT

Region 11, Davao Region

I. Background and Rationale

The first Philippine forestry master plan which was formulated in 1990 was revised in 2003 in view of new developments in the forestry and environment sectors both at the local and international scenes. Ten years after its implementation, the Forest Management Bureau (FMB) again decided to update the 2003 revised master plan for forestry development (RMPFD), to take into consideration the potential impacts of climate change to the forestry sector. The revision was in consonance with the Climate Change Act of 2009 requiring that all government programs and policies should consider the impacts of climate change. Hence, a Philippine master plan for climate resilient forestry development (PMPCRFD) was formulated where three strategic programs were identified for implementation to ensure that the forestry sector can respond to the adverse impacts of climate change and address varying demands for forest ecosystems goods and services from multiple clients. The three major programs include the following:

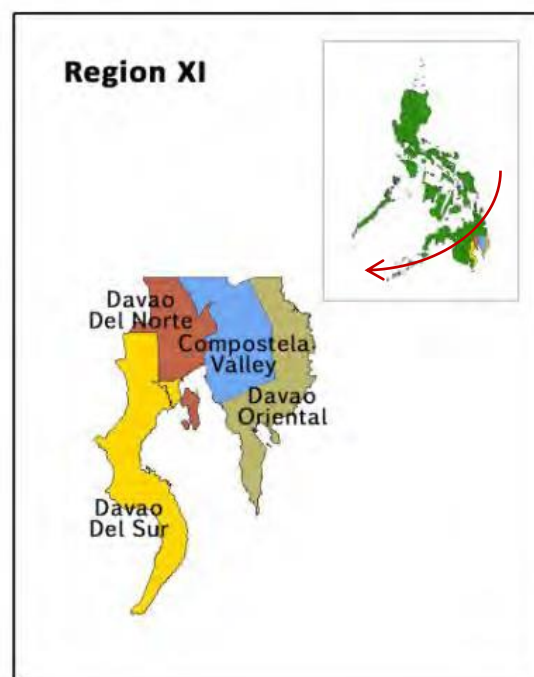
1. Program on strengthening resilience of forest ecosystems and communities to climate change;
2. Program responding to demands for forest ecosystem goods and services; and
3. Program promoting responsive governance in the forestry sector.

This plan outlines the action plan of DENR Region 11 to support implementation of the PMPCRFD for CY 2016-2028.

Figure 1. Location of Region 11

II. Regional Profile

Davao Region is located in the southeastern part of Mindanao surrounding the Davao Gulf. It is bounded on the north by the provinces of Surigao del Sur, Agusan del Sur of Caraga Region and Bukidnon of Northern Mindanao Region. On its west is Central Mindanao and on its east is the Philippine Sea. It faces Micronesia in the Southern Pacific Ocean to the east and Eastern Indonesia through the Celebes Sea to the south.



2.1 Physical features

Davao region or Southern Mindanao, designated as Region XI, consists of four provinces, namely: Compostela Valley, Davao del Norte, Davao Oriental, and Davao del Sur. The region encloses the Davao Gulf and its regional center is Davao City..

The region is characterized by extensive mountain ranges extending along the western border, in the northern central area and in the northwestern area leading to the peninsula in the southeast with uneven distribution of plateaus and lowlands. Its coastline is about 1,600 square kilometer. The area is dominated by peninsular and island topography.

Davao Region is blessed with good climate with rainfall evenly distributed throughout the year. It is outside the typhoon belt. Fair weather is usually experienced during the months of December to June. The prevailing wind is slightly variable and generally moves from the northeast to southwest. During this time, the southwest monsoon wind known as “Habagat” prevails. From July to October, the region also experiences the east to west wind, locally known as “Amihan”.

2.2 Socio-Economic Profile

Davao Region is composed of 4 provinces, 1 highly-urbanized city, 5 component cities and 43 municipalities, divided into 1,162 barangays in 11 congressional districts. The provinces are Davao Oriental, Davao del Norte, Compostela Valley and Davao del Sur. The cities are Davao, Panabo, Tagum, Island Garden City of Samal, Digos and Mati.

There are 18 ethnic groups in the region with Mandaya, B’laan and T’boli as the largest groups. Cebuano, Ilonggo, Ilokano and Tagalog are the common dialects beside those spoken by the tribal communities. The principal products are banana, rice, corn, coffee, fish, timber, root crops, livestock and poultry, fruits (durian) and vegetables. The region is also known for its cut flower industry (DILG, Davao Region).

Manufacturing in the region is concentrated mostly around Davao City, the largest city in the Philippines outside Metro Manila. Industrial products from the region include construction materials, processed food, and furniture.

The region can be a vital link to markets in other parts of Mindanao, Brunei Darussalam and parts of Malaysia and Indonesia. There is also a small but growing call center sector.

Based on the 2015 national census, Region 11 has a total population of 4,893,318. Its average annual population growth rate from 2000 to 2015 is about 1.89%. Davao City is the most populated province and together with Davao del Norte has the highest annual population growth rate in the region (Table 1).

Table 1. Population and Annual Population Growth Rates of Region 11

Provinces	Population			Annual Pop. Growth Rate		
	May 2000	May 2010	Aug. 2015	2000-2010	2010-2015	2000-2015
REGION XI (DAVAO REGION)	3,676,163	4,468,563	4,893,318	1.97	1.74	1.89
DAVAO DEL NORTE	743,811	945,764	1,016,332	2.43	1.38	2.07

Provinces	Population			Annual Pop. Growth Rate		
	May 2000	May 2010	Aug. 2015	2000-2010	2010-2015	2000-2015
DAVAO DEL SUR (excluding DAVAO CITY)	504,289	574,910	632,588	1.32	1.84	1.50
DAVAO CITY	1,147,116	1,449,296	1,632,991	2.36	2.30	2.34
DAVAO ORIENTAL	446,191	517,618	558,958	1.50	1.47	1.49
COMPOSTELA VALLEY	580,244	687,195	736,107	1.71	1.32	1.57
DAVAO OCCIDENTAL 4	254,512	293,780	316,342	1.44	1.42	1.44

Source: PSA, CY 2000, 2010, 2015

2.3 Resources

Davao region is rich in natural resources. Aside from its forestland and fertile fields, the region is famous for its rich mineral resources. Reserves of gold, copper, manganese and nickel are found in this part of the country. The Diwalwal area in Compostela valley has attracted thousands of small scale miners as well as commercial explorers. Five of the major fishing grounds of the Philippines are located in this region.

Land Resources

Region 11 has a total land area of 1,967,183 hectares. Of this, 63% or 1,229,550 hectares are classified as forestlands while 37% or 737,633 hectares are alienable and disposable lands (table 2). Most of the forestlands are situated in the provinces of Compostela Valley and Davao Oriental.

Table 2. Land Classification in Region 11

Land Classification	Area (ha)	%
Forestlands	1,229,550	63%
Classified Forestlands	1,215,174	62%
Established Timberlands	1,040,220	53%
Forest Reserves, National Park/ Prot. Areas & Other Reservations	174,954	9%
Unclassified forestlands	14,376	1%
Alienable and disposable lands	737,633	37%
Total	1,967,183	100%

Source: Philippine Forestry Statistics, CY 2014

Forests Resources

About 22% (428,176 hectares) of the region's land area are still forested consisting of open forest (13.5%), closed forest (8.1%), and mangrove forests (0.15%). Most of the forests are located in Davao Oriental (162,325 ha.) followed by the province of Compostela Valley (144,653 ha). Davao del Norte has the least forest, covering only an estimated area of 53,146 hectares. Table 3 summarizes the land cover per province in Region 11 for CY 2010.

Table 3. Land Cover of Region 11, CY 2010

Province	Land Area	Total Forest	Close Forest	Open Forest	Mangrove Forest	% of Region's Forest	% of Prov. Forested	% of total Forest Closed
Region 11	1,967,183	428,716	160,083	265,754	2,879	22%	22%	37%
Compostela Valley	812,975	144,653	54,106	90,338	209	10%	24%	32%
Davao del Norte		53,146	10,149	42,327	670			
Davao del Sur	637,762	68,593	17,570	50,891	132	3%	11%	26%
Davao Oriental	516,446	162,325	78,258	82,198	1,868	8%	31%	48%
%		22%	8.1%	13.5%	0.15%			

Source: Phil Forestry Statistics, CY 2014

In general, there was an increase in the forest cover of Region 11. From about 421,035 hectares in 2003 its total forest (close, open and mangrove forests) has increased to 428,716 hectares in 2010. This means that around 7,681 hectares of forests were added in Region 11 in a span of 7 years or an annual increase of 1,097.29 hectares. While there was an overall increase in forest cover, a net decrease in forest cover is evident in Davao del Norte and Davao del Sur. Thus, forest protection activities should be strengthened further in these provinces. In addition, Compostela Valley and Davao del Sur lost 3,182 hectares and 25,302 hectares of close forest, respectively. Thus, in terms of biodiversity loss, these provinces are most critical in the region. The forest cover change in Region 11 is summarized in table 4.

Table 4. Forest Cover Change in Region 11 (CY 2003-CY 2010)

Provinces	Close Forest			Open Forest			Mangrove Forest			Net Change
	2010	2003	Change	2010	2003	Change	2010	2003	Change	
Region 11										
Compostela Valley	54,106	57288	(3,182)	90,338	67219	23,119	209	53	156	20,093
Davao del Norte	10,149	9492	657	42,327	58152	(15,825)	670	55	615	(14,553)
Davao del Sur	17,570	42872	(25,302)	50,891	26950	23,941	132	277	(145)	(1,506)
Davao Oriental	78,258	67851	10,407	82,198	89201	(7,003)	1,868	1625	243	3,647
Total*	160,083	177,503	(17,420)	265,754	241,522	24,232	2,879	2,010	869	7,681

* Include plantations

Source: Philippine Forestry Statistics, CY 2004 and CY 2014.

Water resources

The Region has abundant water supply both from surface and ground water resources. About 85.7% of the total water supply comes from surface water and only 14.3% comes from ground water. The region's total water output reaches 31,049 cubic meters per minute (cmm) per year. Davao Oriental has the largest water output both from surface and ground sources at 7,402 cmm and 1,246 cmm, respectively. Compostela Valley follows with 6,668

cmm and 1,167 cmm, respectively. Davao City has the least water output from both surface and ground water at 2,993 and 499 cmm.

Davao region has 5 watershed forest reserves covering approximately 140,964 hectares (table 5). These watersheds together with other identified watersheds in the region support national irrigation systems as indicated in 6. .

Table 5. List of Watershed Forest Reserves in Region 11

Name of Reserve	Location	Area (ha)	Proc. No.
Andap Watershed Forest Reserve	New Bataan	6,725	329
Baganga Watershed Forest Reserve	Baganga	114	195
Malagos Watershed Reservation	Guianga, Davao City	235	612
Mati Watershed Forest Reserve	Mati	890	222
Palinpinon Geothermal Watershed Reservation	Dumaguete, Siaton, Tanjay	133,000	1413 Amended by EO 223
Total		140,964	

Source: Philippine Forestry Statistics, 2014

Table 6. Watersheds Supporting NIA Irrigation Systems (NIS) in Region 11

River Basin	Name of Watershed	NIS Supported	Province	Municipality	Watershed Area NIA (ha)	NIS Service Area (In ha)
Agusan RB	Batutu Watershed	Batutu RIS	Compostela Valley	Compostela	10,500	3,269
Tagum-Libugan RB	Libugan River Watershed	Libugan RIS	Davao del Norte, Compostela Valley	Kapalong, Sto. Tomas, Asuncion, San Vicente, New Correla Tagum City, Nabunturan Moncayo	74,730	9,000
Saug RB	Saug River Watershed	Saug RIS	Davao del Norte, Compostela Valley	Kapalong, Asuncion, Nabunturan	41,100	3,900
Lasang RB	Lasang River Watershed	Lasang RIS	Davao del Norte	Kapalong & Panbo, Davao City	39,450	4,450
Matanao RB	Matanao River Watershed	Mal RIS	Davao del Sur	Digos	35,400	2,613
Padada RB	Padada River Watershed	Padada RIS	Davao del Sur, North Cotabato	Digos, Makilala	81,850	3,512
Sumlog RB	Sumlog River Watershed	Lupon RIS	Davao Oriental, Davao del Norte	Lupon, Banay-banay & Mati, Panutukan	25,540	2,450
Buayan RB	Buayan-Tinagacan Rivers	Buayan RIS	Davao del Sur, Sarangani, South Cotabato	Malalag, Sta. Maria & Malita, Malungon, Alabel, Polomolok, Gen Santos City	7,580	710

Biodiversity Resources

Southern Mindanao has rich biodiversity resources. It has 7 proclaimed protected areas apart from the watershed forest reserve. These protected areas, which serve as habitats of various species are classified as protected landscape, protected landscape and seascape, national parks or wildlife sanctuary (table 7).

The Mount Apo National Park is considered by the Department of Environment and Natural Resources (DENR) as the center of endemism in Mindanao. It has one of the richest botanical mountains in the region hosting hundreds of rare, endemic and threatened species of flora. Identified floral species includes 629 species, 42 of which are endemic and 18 species are considered at risk, including the “waling-waling,” the country’s second flower icon (after sampaguita).

Waling-waling (*Vanda sanderiana*) “is one of the finest orchid species endemic to the Philippines, desired by orchid growers and breeders alike. This species of orchid was discovered in Mindanao in 1882. It used to grow on tree trunks in the rainforests of Davao, Sultan Kudarat and other parts of the island. The Mount Apo National Park is also home to one of the world’s largest eagles, the critically endangered Philippine Eagle, the country’s national bird. It was in 1896 when the bird of prey was first discovered by English naturalist John Whitehead in Samar.

According to the ASEAN Center for Biodiversity (ACB), Mount Hamiguitan, has one of the most diverse wildlife populations in the Philippines. Aside from Philippine Eagles, there are several species of *Nepenthes* that inhabit the area, including the endemic *Nepenthes peltata*. The mountain has a protected forest area of approximately 2,000 hectares. This woodland is noted for its unique pygmy forest of century old trees in ultramafic soil, with many endangered, endemic and rare species of flora and fauna. Wikipedia also reported that inventory of flora species in the mountain and its vicinity showed that its montane forest has the highest species richness of plants with 462 species, followed by its dipterocarp forest with 338 species, mossy forest with 246 species and agro-system with 246 species.”

Aside from terrestrial biodiversity, marine studies showed that several species of sea turtles, dolphins, whales, and seabirds are found in the region. Sea cows and whale sharks also live in the region. The sea cow species and all species of sea turtle found in the region are listed as endangered. Corals and benthic species are also abundant while sea grass density ranged from 772.0 to 3,174.2 shoots per square meter.

Table 7. List of Protected Areas Reserves in Region 11

Name	Location	Area (ha)	PA Classification
Baganga	Davao Oriental	114.88	Protected Landscape
Mainit Hot Spring	Compostela Valley	1,374	Protected Landscape
Mati	Davao Oriental	914.26	Protected Landscape
Mabini	Compostela Valley	6,106	Protected landscape & seascape
Aliwagwag	Davao Oriental- Compostela Valley	10,491.33	National Parks
Mt. Apo	Davao del Sur & Cotabato	3,632.74	National Park
Mount Hamiguitan Range	Davao Oriental	6,834	Wildlife Sanctuary
TOTAL		29,467.21	

(http://readtiger.com/wkp/en/List_of_protected_areas_of_the_Philippines)

Nature-Based Tourism Areas

Southern Mindanao is a growing tourism destination, with tourism receipts and tourist arrivals recording annual increases of ten and eleven percent, respectively. It has a wide array of tourism facilities such as hotels, resorts, restaurants, cafes, malls, medical facilities, as well as, land, sea and air transport.

The region has varied tourist attractions that include the Philippine Eagle, the world's largest eagle and king of Philippine skies which can be seen at the Philippine Eagle Center in Malagos, Davao City; Waling-waling, the queen of orchids is propagated in Malagos Garden Resort in Davao City; Mt. Apo, the country's highest peak and king of Philippine mountains is partly located in Davao del Sur; dive spots in the Davao Gulf are among the best in the country; and Aliwagwag falls, which is a series of falls, is in Davao Oriental. Davao Region is also renowned for its festivals. The beautiful beaches and rich marine life of southern Mindanao provide additional destinations to tourists.

Foremost among them are the Kadayawan Festival (Davao City) which is celebrated in August, Musikahan Festival (Tagum City, Davao del Norte) in February, Bulawan Festival (Nabunturan, Compostela Valley) in March, Pista sa Kinaiyahan (Sta. Cruz, Davao del Sur) in April and Sambuokan Festival (Mati, Davao Oriental) in October. (Davao Regional Development Plan, 2011-2016)

The ASEAN Center for Biodiversity (ACB) also recommends other places in the Philippines where people "can enjoy history, culture and biodiversity richness all at the same time." The ACB calls those recommended areas as ASEAN Heritage Parks (AHPs). These are protected areas of high-conservation importance, preserving in total a complete spectrum of representative ecosystems of the ASEAN region. In Davao region, two national parks were included: the Mount Apo Natural Park and Mount Hamiguitan National Park and Wildlife Sanctuary.

2.4 Vulnerability to Climate Change Hazards.

Climate projections by PAGASA (2011) indicate that there will be increasing temperature in 2050. In terms of rainfall, rainy season will have more rainfall while dry season will become drier. For Region 11, the estimated increase in temperature will range from 1.8°C to 2.5°C, with higher temperature increase during the months of June to August. Meanwhile, decrease in rainfall is estimated to range from -2.2% to -22.2%. Higher reduction in rainfall is expected from March to May, while up to 15.9% increase in rainfall is expected during the rainy months of December, January and February. (table 8 and 9).

Table 8. Seasonal temperature increases in 2050 under medium-range emission scenario, Region 11

Provinces	Observed Baseline in °C (1971-2000)				Change in 2050 in °C (2036-2065)			
	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON
Copostela Valley	26.7	27.8	27.6	27.6	1.9	2.3	2.4	2.1
Davao del Norte	26.7	27.8	27.4	27.4	1.9	2.3	2.5	2.1

Provinces	Observed Baseline in °C (1971-2000)				Change in 2050 in °C (2036-2065)			
	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON
Davao del Sur	26.9	27.8	26.9	27.1	1.9	2.2	2.3	2
Davao Oriental	26.8	27.8	27.5	27.6	1.8	2	2.4	2

Source: PAGASA, 2011

Table 9. Seasonal rainfall change (in %) in 2050 under medium-range emission scenario in Region 11

Provinces	Observed Baseline (1971-2000)				Change in 2050 (2036-2065)			
	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON
Copostela Valley	748.1	559.0	546.7	586.6	6.6	-21.9	-6.5	0
Davao del Norte	637.0	496.5	535.6	556.2	1.1	-22.2	-7.9	-2.2
Davao del Sur	288.1	347.1	494.1	442.3	15.2	-12.0	-12.6	-4.5
Davao Oriental	827.3	611.8	540.4	599.2	15.9	-16.1	-9.9	4.9

Source: PAGASA (2011)

With more rains during the rainy season, floods, soil erosion and landslide may be aggravated endangering lives and properties of communities especially in Compostela Valley, Davao Del Norte and Davao Oriental. On the other hand, with less rains during the dry season, water availability for irrigation, power generation and domestic use will be adversely affected. Lesser areas will be irrigated by NIA irrigation systems, particularly those enumerated in table 6. At the same time, forest fire will intensify due to higher temperature increase in Mindanao.

III. Development Challenges in the Forestry Sector of Region 11

The challenges faced by the forestry sector in Region 11 is summarized in the succeeding discussions

1. There is a need to continue the protection of existing forests and rehabilitate degraded forestlands in Region 11. While the general trend is that forest cover is increasing in the region, this trend must be sustained and if possible expand further forest plantation/ orchard development to further enhance ecosystems services to local communities. In particular, forest protection activities must be intensified in Davao del Norte and Davao del Sur since these provinces registered a net loss in forest cover from 2003 to 2010.
2. Protection and rehabilitation of watersheds to ensure adequate supply of water for irrigation, domestic use and power generation. As the region continues to expand its economic activities coupled with increasing population, water requirements for domestic and industrial uses will increase. Hence the need to protect and conserve watersheds becomes more urgent. The ability of the region to continuously supply irrigation and domestic water as well as hydro electric energy may be compromised if land uses within the watersheds are not harmonized.

3. Loss of Biodiversity is evident in some provinces of southern Mindanao. A closer examination of the forest cover loss data in Region 11 would show that large areas of close forests (25,302 hectares) had been destroyed in Davao del Sur in a span of 7 years from 2003 to 2010. About 3,182 hectares of close forests were also lost in Compostela Valley. Since close forests are known to contain rich biodiversity resources, large scale destruction of this type of forest imply loss of habitat of important biodiversity species. Specifically, habitat of the Philippine Eagle in Davao del Sur may be threatened if forest destruction continue in this province.

Citing a technical report by an American consultancy firm, an environmental group also warned of the threats on the region's biodiversity as well as on the ecology of neighboring regions because of an impending mining project in Southern Mindanao. Accordingly, the King-king Copper-Gold Project will affect 12 "vulnerable or critically endangered" species of the 253 native or endemic plant species present in the area, as defined by the International Union for Conservation of Nature Red List and the Philippine National Red List. The project will also affect six bird species endemic to Mindanao of the 74 bird species in the area, and a total of 17 mammal species and 10 reptile species. It also recommends that a "comprehensive Biodiversity Action Plan, including a well-designed biodiversity offset program, will be developed and implemented with full consideration of all threatened, endangered, and vulnerable species." (MindaNews, November 03, 2015)

4. Reducing the impacts of climate change hazards should be given priority attention. Region 11 is vulnerable to climate and geological related hazards such as floods, landslides, storm surge, and forest fire. The increased frequency and intensity of these hazards, aggravated by changes in climatic conditions, will continue to endanger the lives, properties and livelihood of communities. Most LGUs and majority of the population are not prepared for hazards and communities are not organized for disaster risk reduction. A comprehensive disaster risk reduction plan and climate change adaptation plan is therefore necessary to respond to these threats. It is also imperative to harmonize land uses from ridge to reef through the integration of the forest land use plan of LGUs to their comprehensive land use plans.

5. National demand for timber and fuelwood has increased considerably due to population increase and expanding economy of the country. However because of the moratorium on timber harvesting in natural forests, this demand is mainly addressed through wood imports which drains much our foreign exchange reserve. It is therefore necessary to establish forest plantations locally to internally meet wood demand in the country. The Mindanao region, which includes region 11, is more in a position to respond to this need because of the favourable climatic conditions for tree plantation development.

6. Collaborative management is necessary to address the overlapping mandates of different agencies in the management of forests and forestlands. However, to be effective, the capabilities of members of the collaborative management bodies must be upgraded. Most LGUs for instance, lack technical capability and financial resources to manage and implement devolved forestry programs. They also lack the capability to enforce forestry laws and regulations and mobilize communities in forest protection activities. Most of them do not

have approved forest land use plans which can complement their comprehensive land use plans and local development plans.

IV. Regional Comparative Advantages and Competitive Goods and Services: Opportunities for Forestry Development

While lots of challenges exist in the forestry sector, the region has inherent comparative advantages and competitive goods and services which can be strengthened to maximize the forestry sector's contribution to regional development. The comparative advantages of Region 11 include the following:

1. It has vast areas of agricultural lands suited for the production of banana, rice and other agricultural crops;
2. Presence of watershed reservations that provide water for dams and other reservoirs for irrigation, power generation and for domestic/ industrial use;
3. Extensive areas of forests, lakes, rivers, biodiversity resources, beaches and other marine resources that are potential for ecotourism;
4. Existing plantations of timber, banana and fruit trees, such as durian, that provide livelihood to local population and which have potential for agroforestry farms;
5. Established markets for various products such as durian, banana, rice, rubber, fuelwood and other non-timber products;
6. Existing wood processing plants
7. Large areas of existing forests that can be supported through REDD +
8. Presence of mangroves and coastal resources that support fisheries
9. Relatively high rainfall in most provinces
10. Low exposure to typhoon

The following are the region's competitive goods and services which can be supported through its regional action plan for PMPCRFD implementation, to maximize the forestry sector's contribution to regional and national development.

1. Ecotourism
2. Power generation
3. Timber products
4. Durian;
5. Banana
6. Water production for domestic use and to support rice production;
7. Fuelwood products
8. Fisheries products such as the tuna
9. Coffee and cacao
10. Rubber
11. REDD+

The matrix of comparative advantages and competitive goods and services of Region 11 as identified by DENR Region 11 is attached as annex 1.

V. Regional Action Plan for Implementing the Philippine Master Plan for Climate Resilient Forestry Development

The regional action plan for implementing the PMPCRFD addresses the forestry challenges and maximizes the opportunities provided by the comparative advantages and competitive goods and services of the region. It focuses on ensuring the health and resiliency of forest ecosystems and communities to climate change hazards so that forest resources can sustainably provide and meet the increasing demands for forest ecosystems goods and services. Equally important is the institutionalization of climate responsive governance where various stakeholders collaborate and participate in making decisions in the management of forest resources and ecosystems.

5.1 The Forestry Sector Vision

The region adopts the vision of the Philippine master plan for climate resilient forestry development as follows:

Climate resilient and sustainably managed watersheds and forest ecosystems, providing environmental and economic benefits to society

To achieve the vision and address the challenges in the forestry sector, the region has adopted the following goals of the PMPCRFD:

1. To place all forestlands under sustainable management in order to meet demands for forest goods and services and to promote resilience to climate change;
2. To strengthen resilience of forest dependent communities to climate change hazard;
3. To place all forestlands of the region under appropriate land management arrangements; and
4. To sustainably manage watersheds in partnership with stakeholders.

5.2 Strategic Programs

Considering the identified issues and the region's comparative advantages and competitive goods and services, the forestry programs in Region 11 will focus on the following:

1. Protection of existing forests to support ecotourism, hazard mitigation and watershed management for power generation, irrigation and domestic water supply;
2. Harmonization of land uses through integration of forest land uses into the LGUs comprehensive land use plans;
3. Forest Plantation development to address demand for timber and fuelwood;
4. Rehabilitation of other protection forests to mitigate climate change hazards such as flooding;
5. Agroforestry farm development to diversify livelihood & support durian, and rubber production, among others;

6. Rehabilitation of degraded mangroves for fisheries and disaster risk reduction;
7. Rehabilitation of watersheds to ensure adequate supply of quality water to stakeholders;
8. Institutionalizing collaborative management

a. Program to Strengthen Resilience of Forest Ecosystems and Communities to Climate Change Hazards

Effective climate change mitigation and adaptation strategies will be integrated into the regional forestry action plan to meet the multiple objectives of preventing further forest degradation, reducing disaster risks, maximizing productivity, and reducing vulnerability to climate hazards.

Objectives

1. To align land uses within watersheds and forest ecosystems by integrating the forest land use plans of 23 LGUs into their comprehensive land use plans;
2. To undertake vulnerability assessment and adaptation planning in 5 priority watersheds;
3. To formulate the integrated watershed management plan of 15 priority watersheds;
4. To protect 483,138 hectares of existing forests and plantations starting in 2016 gradually increasing to 812,134 hectares in 2028;
5. To diversify livelihood of local communities by developing 155,343 hectares of agroforestry farms;
6. To rehabilitate 5,500 hectares of protection forests through assisted natural regeneration;
7. Rehabilitate 223 hectares of degraded mangrove areas; and
8. To implement REDD+ in Davao Oriental and Compostela Valley

Strategic Activities, Targets and Period of Implementation

The activities that will be implemented to strengthen resilience of forest ecosystems and communities to climate change hazards, and their implementation period and targets are summarized in table 10.

Table 10. Summary of Activities and Period of Implementation to Strengthen Resilience of Communities and Ecosystems to Climate Change Hazards

Strategic Programs and Activities	Targets and Implementation Period			
	2016	2017 - 2022	2023 -2028	Total
1. Vulnerability assessment and adaptation planning in priority watersheds (no.)	4	1	0	5
2. Formulation of integrated watershed	0	10	5	15

Strategic Programs and Activities	Targets and Implementation Period			
	2016	2017 - 2022	2023 -2028	Total
management plans (no.)				
3. Updating of IWMP (No)	0	0	0	0
4. FLUP formulation (no. of LGUs)	6	17	0	23
5. Protection of existing forests and plantations including mangroves (ha)	483,138	715,681	812,134	812,134
6. Mangrove rehabilitation (ha)	0	223	0	223
7. Agroforestry development (mixed crops in ha)	2,000	153,343	0	155,343
8. Rehabilitation of protection forests (ANR) in ha.	0	5,500	0	5,500
9. Training on vulnerability assessment, adaptation planning, integrated pest management, IWM, FLUP (no. of training)	0	30	30	60
10. REDD+ Implementation (no. of provinces)	0	1	1	2

b. Program to Address Increasing Demands for Forest Goods and Services

Considering the regional comparative advantages, and its competitive goods and services, the regional action plan of Region 11 will give more focus on addressing demands for timber, fuelwood, agroforestry products such as durian and rubber, water, biodiversity for ecotourism, and the need to improve environmental conditions especially in urban centers.

Objectives

The specific objectives of this program are:

1. To develop 11,185 hectares of plantations for fuelwood production;
2. To develop 139,486 hectares of tree plantations to address demand for timber
3. To protect, conserve and rehabilitate 29,500 hectares of priority watersheds for power generation, domestic and industrial use and for irrigation to support production of rice and other agricultural crops; and
4. To develop forest parks, and green belts in 72 cities/ urban centers of the region

Strategic Activities, Targets and Period of Implementation

The activities, targets and their period of implementation to address demands for forest goods and services are summarized in table 11.

Table 11. Summary of Activities, Targets and Period of Implementation to Address Demands for Forest Goods and Services

Strategic Activities	Targets and Implementation Period			
	2016	2017 -2022	2023 -2028	Total
1. Demarcation of forestland boundaries & forest management zones (ha.)	0	1,928.48	1,928.48	3,856.95
2. Development of seed production areas in all provinces (no. of sites)	4	4	4	4
3. Establishment of mechanized nurseries (no.)	0	1	4	4
4. Fuelwood/ bio energy plantation dev't in all provinces (ha)	715	4,680	5,790	11,185

Strategic Activities	Targets and Implementation Period			
	2016	2017 -2022	2023 -2028	Total
5. Development of forest plantations for timber	8,205	63,000	68,281	139,486
6. Management of grazing lands (ha)	0	0	0	0
7. Watershed rehabilitation				
Vegetative SWC (ha)	0	29,500	0	29,500
Structural soil and water conservation (cu. Meters)	0	1,330	2,400	3,730
Organization and capacitation of watershed management bodies , such as the watershed management council (no.)	0	12	12	12
8. Support to urban forestry in major cities and urban centers (LGUs assisted)	0	24	48	72

c. Institutionalizing Responsive Governance in Forestry

The governance of forestlands and protected areas in the region has been complicated, by overlapping institutional mandates and overlapping tenure at the forest management unit level. With different policy issuances, such as the local government code, indigenous peoples rights act, national integrated protected area system act and the water code, among others, DENR no longer has exclusive jurisdiction over forest ecosystems. This overlapping mandates have resulted to overlapping tenure instruments at the forest management unit level. In many instances, CADTs, protected areas, watershed reserves, and CBFMAs overlap with each other, leading to confusion on who is accountable for the management of the allocated forestlands and protected areas.

Apart from overlapping mandates and overlapping tenure, the different demands for forest ecosystems goods and services from multiple clients, which often times are conflicting, requires collaborative management of forests and forestlands. In view of this situation, the forestry sector in the region will enhance the skills and capabilities of its personnel so that it can effectively collaborate with other stakeholders in implementing programs on strengthening resilience to climate change hazards and respond to demands for forest ecosystems goods and services.

Objectives

The primary objectives of this program are the following:

1. To establish clear accountability in the management of forestlands;
2. To promote active participation of stakeholders in the management of forests and forestlands;
3. Keep track of progress in the implementation of the Philippine forestry master plan and
3. Strengthen the capabilities of DENR and other stakeholders in implementing forest management programs related to enhancing resilience to climate change and responding to demands for forest goods and services from multiple clients.

Strategic Activities and Targets

The activities, targets and their implementation periods to institutionalize responsive governance in the forestry sector in Region 11 are summarized in table 12.

Table 12. Summary of Activities, Targets and Period of Implementation to Institutionalize Responsive Governance in Region 11

Strategic Programs and Activities	Targets per Implementation Period			
	2016	2017 -2022	2023 -2028	Total
Promoting Responsive Governance				
1. Inventory of forest occupants (No. Of LGUs)	0	23	0	23
2. Tenure issuance in open access forestlands (ha)	0	50,000	150,000	200,000
3. Organization and capacitation of multi-sectoral collaborative management bodies (region & prov.)	0	12	12	12
4. Creation and operationalization of regional/provincial TWG on climate change (no.)	0	5	5	5
5. Capability enhancement for DENR/ LGUs (no. of trainings)	0	30	30	60
6. Semi-annual / annual monitoring and evaluation of PMPCRFD implementation (No.)	2	12	12	26
7. Performance assessment of tenure holders (No.)	1	6	6	13

d. Support programs

Cross cutting support programs will focus on facilitating implementation of the three major forestry programs in the region. These are designed to inform the public of the important role of forest ecosystems in mitigating the adverse impacts of climate change and in securing water supply and other forest ecosystems goods and services. These are also intended to develop sustainable financing mechanisms, promote science based decision making and improve accountability through forest certification and improved data base.

Objectives

The support programs aim to:

1. Generate stakeholders' support in the implementation of the Philippine master plan for climate resilient forestry development;
2. Develop a data base management system to establish appropriate baseline data as basis for management decisions and monitoring and evaluation
3. Identify sustainable sources of financing for implementing the forestry master plan
4. Institutionalize a system for certifying sustainably managed forests and industries
5. Provide research based information for forest management decision making, vulnerability assessment and climate change adaptation planning

Strategic Activities, Targets and Period of Implementation

The strategic activities, targets and period of implementation to achieve the objectives of this program are summarized in table 13,

Table 13. Summary of Support Program Activities, Targets and Implementation Period

Strategic Activities	Targets per Implementation Period			
	2016	2017 -2022	2023 -2028	Total
1. Information, education and communication campaign (no. of LGUs)	0	49	49	49

Strategic Activities	Targets per Implementation Period			
	2016	2017 -2022	2023 -2028	Total
2. Upgrading of regional MIS facilities (no.)	1	5	5	5
3. Implementation of forest certification (Provinces)	0	4	4	4
4. Identification and assessment of sustainable sources of financing in forestry projects (No. of sites assessed)	0	25	25	50
5.Forestry research (no. of studies)	0	6	6	12

VI. Plan Implementation

This regional action plan shall be implemented by DENR Region 11 in collaboration with LGUs, NCIP, CBFMA/ CADT holders, private investors, and other relevant stakeholders. Orientation/ information campaign about the regional action will be undertaken for LGUs and key stakeholders to encourage them to participate in its implementation.

Financing of the regional action plan for implementing the PMPCRFD will come both from the government and the private sector. Government financing will primarily come from existing programs/ projects of the DENR and to some extent from existing programs of the LGUs, especially those related to disaster risk reduction, climate change adaptation and the formulation/ updating of the comprehensive land use plans which integrates the FLUP, protected area management plans, ADS DPP and the watershed management plans as mandated under existing guidelines. Fund sourcing will be undertaken for activities and programs which are not included in existing programs and projects of DENR, LGUs and other agencies. Where there are opportunities for donor assistance, unfunded programs and projects will be submitted for possible financial support.

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ANNEXES

Annex 1. Comparative Advantages and Competitive Forests Goods and Services, Region11

Comparative advantages	Durian/ fruits	Fuel-wood	Rice	timber	Banana	water for power irrigation	Nature-Based tourism	fisheries	rubber	cacao/ coffee	REDD+
Vast areas of A & D lands			X		X						
Existing watersheds			X			X	X				
Less typhoons	X	X		X	X				X	X	
More rainfall	X	X		X		X			X	X	
Existing dams			X			X					
Existing tree plantations		X		X	X				X		
fruit orchards	X									X	
established markets	X	X	X	X	X			X	X	X	
Wood processing plants				X							
Natural forests						X	X				X
Protected areas						X	X				X
caves, lakes, beaches, waterfalls, rivers							X				
Mangroves & marine res.							X	X			
Investors	X			X	X				X	X	

