

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

Negros Island 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 Negros Island Region to support implementation of the PMPCRFD for CY 2016-2028.

II. Regional Profile

Region

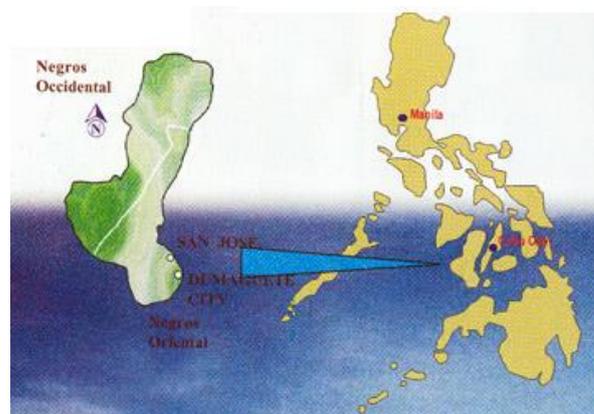
The Negros Island Region (NIR), is the newest region of the Philippines comprising the highly urbanized city of Bacolod and the provinces of Negros Oriental, along with its corresponding outlying islands and islets.

([https://en.wikipedia.org/wiki/Negros_\(Philippines\)](https://en.wikipedia.org/wiki/Negros_(Philippines)))

2.1 Physical features

Negros is the second largest island in

Figure 1. Location of the Negros Island



the Visayas and the fourth largest of the Philippines, with a total land area of 1,332,834 ha. It is located between the islands of Panay and Guimaras to the west and Cebu to the east, with Siquijor located on the toe of the island and the islands of Bantayan to the north.

The region's topography is characterized by low, grooved mountain ranges of which some lie close to the shoreline. At the southern end of Negros Oriental is Mount Talinis, also known as *Cuernos de Negros* ("Horns of Negros"), which is a dormant complex volcano and which rises to a height of 2,000 metres (6,600 ft). At the central - northern part of the island is the active Kanlaon Volcano, the highest peak of the island region and of the Visayas, with a height of 2,465 metres above sea level (8,087 ft). Other notable peaks on the island are Mount Silay and Mount Mandalagan in Negros Occidental.

The north and western parts of the region are largely composed of plains and gentle slopes. Also, there are a few flatlands and plateaus in the interior to the southwest of Negros Oriental, which includes the Tablas Plateau. Lakes dot the island, among the most notable of which are the Balinsasayao Twin Lakes in Negros Oriental.

Negros Island's climate is generally pleasant with a dry season from December to May and rainy season from June to November. The warmest months are April and May and the coolest are from December to February. The average temperature is 26°C/80°F.

2.2 Socio-Economic Profile

Negros is divided into two provinces: Negros Occidental and Negros Oriental. Its division, which roughly follows the mountain range in the center of the island, corresponds to the two linguistic groups. The western half (Occidental) is home to the Ilonggo-speaking population while the eastern half (Oriental) is home to the Cebuano-speaking population. Together, they are all called as Negrenses.

The region is noted for being the country's prime producer of sugar. Sugarcane plantations abound in the agricultural areas of the island. The island also produces cotton and hardwood. Sugar is the biggest industry in the island, followed by other agricultural products and game fowl breeding. Its principal sugar-growing region is located in the north and west of the island, stretching from northwest along the coasts of the Visayan Sea and Guimaras Strait, which is one of the country's principal lowland areas.

Sugar refining has many by-products such as acetylene, fertilizers and rum. Fishing is the major industry based in Cadiz City. There are also a number of fishponds and prawn farming has become a major industry. Bacolod City is the center of commerce and finance in Negros Island Region. It is where oil companies, factories, bottling plants, allied industrial businesses, steel fabrication, power generation, agri-businesses, prawn culture and other aqua-culture ventures are found. (<http://www.dti.gov.ph>)

Power plays a very crucial role in the economic development of the province. Currently, the volcanic activity in Negros is harnessed into electricity through geothermal power plants in the island. One is located in Palinpinon of Valencia in Negros Oriental and the other is in Mailum of Bago City in Negros Occidental, which was eventually shut down. (Source: [https://en.wikipedia.org/wiki/Negros_\(Philippines\)](https://en.wikipedia.org/wiki/Negros_(Philippines)))

Based on the 2015 national census, Negros Island Region has a total population of 4,414,131. Its average annual population growth rate from 2000 to 2015 is about 1.17%. Negros Occidental (excluding Bacolod City) is the most populated province, but Bacolod City has the highest annual population growth rate in the region at 1.78% (Table 1).

Table 1. Population and Annual Population Growth Rates of Negros Island Region

Provinces	Population			Annual Pop. Growth Rate		
	May 2000	May 2010	Aug. 2015	2000-2010	2010-2015	2000-2015
NEGROS ISLAND REGION (NIR)	3,695,811	4,194,525	4,414,131	1.27	0.98	1.17
NEGROS OCCIDENTAL (excluding BACOLOD CITY)	2,136,647	2,396,039	2,497,261	1.15	0.79	1.03
BACOLOD CITY	429,076	511,820	561,875	1.78	1.79	1.78
NEGROS ORIENTAL	1,130,088	1,286,666	1,354,995	1.31	0.99	1.20

Source: PSA, CY 2000, 2010, 2015

2.3 Resources

Negros Island has varied resources from ridge to reef. It has rich forest as well as marine resources including mineral resources. Its rich biodiversity supports ecotourism, fisheries and agriculture.

Land Resources

Negros Island Region has a total land area of 1,332,834 hectares. Of this, 36% or 478,402 hectares are classified as forestlands while 64% or 854,432 hectares are alienable and disposable lands (table 2). Most of the forestlands are situated in the province of Negros Occidental.

Table 2. Land Classification in Negros Island Region

Land Classification	Area (ha)	%
Forestlands	478,402	36%
Classified Forestlands	411,936	31%
Established Timberlands	302,740	23%
Forest Reserves, National Park/ Prot. Areas & Other Reservations	109,196	8%
Unclassified forestlands	66,466	5%
Alienable and disposable lands	854,432	64%
Total	1,332,834	100%

Source: Philippine Forestry Statistics, CY 2014

Forests Resources

About 5.6% (74,958 ha.) of the region's land area are still forested consisting of open forest (3.7%), closed forest (1.4%), and mangrove forests (0.5%). Most of the forests are located in Negros Occidental (49,091 ha.). Negros Oriental has lesser forest, covering only an estimated area of 25,867 hectares. Table 3 summarizes the land cover per province in Negros Island Region for CY 2010.

Table 3. Land Cover of Negros Island Region, CY 2010

Province	Land Area	Total Forest	Close Forest	Open Forest	Mangrove Forest	% of Region's Forest	% of Prov. Forested	% of total Forest Closed
Negros Island Region	1,332,834	74,958	19,247	49,637	6,072	5.6%	5.6%	26%
Negros Occidental	792,607	49,091	16,506	27,563	5,021	3.7%	6.2%	34%
Negros Oriental	540,227	25,867	2,741	22,074	1,051	1.9%	4.8%	11%
% of Region		5.6%	1.4%	3.7%	0.5%			

Source: Phil Forestry Statistics, CY 2014

In general, there was a decrease in the forest cover of Negros Island Region. From about 90,845 hectares in 2003 its total forest (close, open and mangrove forests) has decreased to 74,956 hectares in 2010. This means that around 15,889 hectares of forests were lost in Negros Island Region in a span of 7 years or an annual decrease of 2,269 hectares. The overall decrease in forest cover is even more significant because Negros Occidental lost close to 60% of its close forest which were generally converted to open forests. The forest cover change in Negros Island Region is summarized in table 4.

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

Provinces	Close Forest			Open Forest			Mangrove Forest			Net Change
	2010	2003	Change	2010	2003	Change	2010	2003	Change	
Negros Occidental	16,506	40647	(24,141)	27,563	10427	17,136	5,021	1741	3,280	(3,725)
Negros Oriental	2,741	1312	1,429	22,074	34929	(12,855)	1,051	1789	-738	(12,164)
Total*	19,247	41,959	(22,712)	49,637	45,356	4,281	6,072	3,530	2,542	(15,889)

* Include plantations

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

Water resources

Negros Island Region is drained by many river systems that are potential for power generation, irrigation and domestic/ industrial uses. It has 3 watershed forest reserves covering approximately 72,569 hectares (table 5). These watersheds support ecotourism, biodiversity conservation, agriculture and even the fisheries sector.

Table 5. List of Watershed Forest Reserves in Negros Island Region

Name of Reserve	Location	Area (ha)	Proc. No.
Ilog-Hilabangan Watershed Forest Reserve	Himamaylan and Kabankalan	10,211	602
Kabankalan Watershed Forest Reserve	Kabankalan	432	820
Bago River Watershed Forest Reserve	Bago City & San Carlos	61,926	
Total		72,569	

Source: Philippine Forestry Statistics, 2014

Biodiversity Resources

Negros Island Region, like the Central Philippines (Visayas), is generally recognized as a top priority area for wildlife conservation, both in terms of numbers of endemic species and severity of threat. More than half of the critically endangered species listed in the Philippines occurs in Negros and the West Visayas. It is the most threatened area of the Philippines, since it has the least remaining forest cover and the highest numbers of severely threatened endemic species and subspecies.

There are six major protected areas (PAs) under the National Integrated Protected Areas System in Negros – Mount Kanlaon, Northern Negros and Balinsasayao Twin Lakes Natural Parks, Sagay Marine Reserve, Apo Island Protected Landscape and Seascape, and Tañon Strait Protected Seascape. These PAs contain remaining natural ecosystems that are serving as habitats to assorted species of endemic flora and fauna and provide numerous ecosystem services. (<http://www.dti.gov.ph>)

Mount Kanlaon is one of the mountain ranges found in the heart of Negros Island. One of the country's 13 most active volcanoes, Kanlaon is the highest peak in Central Philippines. At an elevation of 2,465 meters above sea level, the most dominant and attractive feature of this volcano is its active summit-crater. Mt. Kanlaon has a land area of 24,388 hectares, with rainforest and verdant vegetation sliced from the cities of Bago, La Carlota, San Carlos and Canlaon (in Negros Oriental) and the towns of Murcia and La Castellana. Rare endemic species such as the Bleeding Heart Pigeon and the Negros Fruit Dove are protected in this park, which makes bird watching a prime attraction. Other birds include woodpeckers, bulbuls, babblers, warblers and flycatchers.

Mt. Silay and Mt. Mandalagan are the two mountain peaks in the Northern Negros Natural Park. These mountains have old-growth forests. Threatened species recorded in this area are White-winged cuckoo shrike, Visayan Flowerpecker, Flame-templed babbler, Writhed-billed hornbill, Visayan tarictic hornbill, Rufous-lored kingfisher, Blue napped parrot, Philippine hawk-eagle. (<http://www.negros-occ.gov.ph/>)

Table 6. List of Protected Areas in Negros Island Region

Name	Location	Area (ha)	PA Classification
Balinsasayao Twin Lakes	Negros Oriental	8,016.05	Natural Park
Mount Kanlaon	Negros Occidental- Negros Oriental	24,388	Natural Park
Northern Negros	Negros Occidental	80,454.50	Natural Park

Name	Location	Area (ha)	PA Classification
Apo Island	Negros Oriental	691.45	Protected landscape & seascape
Sagay	Negros Occidental	32,000	Marine Reserve
Tanon Strait	Cebu-Negros Or.	450	Protected seascape
TOTAL		146,000	

Source: http://readtiger.com/wkp/en/List_of_protected_areas_of_the_Philippines

Ecotourism Areas

Negros Occidental has a wide array of beautiful scenic spots, parks, exotic resorts, mountains, caves and other natural wonders that offer potentials for private investment in tourism projects and related support services. The Kanlaon Volcano, as well as many other neighbouring peaks, are popular amongst mountain climbers and hikers visiting Negros. The town of Pulupandan, situated in the western tip of Negros, is becoming popular to bird-watching enthusiasts due to its new bird-watching sanctuary.

When it comes to beaches and coastal resorts within the region, the most popular ones are Lakawon Island in Cadiz City, Jomabo Island in Escalante City, Sipaway/Refugio Island in the city of San Carlos, Sibalay City, Hinoba-an and Manjuyod's sand bar. The top attractions in Cauayan are the Punta Bulata White Beach Resort and Danjungan Island, which serves as a major diving spot in Negros Occidental. Also, a marine reserve is established in Sagay City, which protects the marine life and reefs of Carbin and Maca, making it a popular draw for marine life enthusiasts. Dauin is known for its beach resorts and Apo Island, a famous diving spot and marine reserve in Negros Oriental. Bais City has also become a tourist spot for whale and dolphin watching, due to its coastline touching the Tañon Strait. Antulang Beach Resort and Tambobo Bay, as well as the inland Lake Balanan serve as three important attractions in the town of Siaton. Situated within the towns of Sibulan, San Jose and Valencia is the Balinsasayao Twin Lakes Natural Park, which serves as an important draw for tourists going to inland Negros Oriental. (Source: [https://en.wikipedia.org/wiki/Negros_\(Philippines\)](https://en.wikipedia.org/wiki/Negros_(Philippines)))

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 Negros Island Region, the estimated increase in temperature will range from 1.9°C to 2.3°C, with higher temperature increase during the months of March to May. Meanwhile, decrease in rainfall is estimated to range from -6.8% to -9.3%. These reduction in rainfall is expected from March to May, while up to 20.7% increase in rainfall is expected during the rainy months of June, July and August. (table 7 and 8).

Table 7. Seasonal temperature increases in 2050 under medium-range emission scenario, Negros Island Region

Provinces	Observed Baseline in °C (1971-2000)				Change in 2050 in °C (2036-2065)			
	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON
Negros Occidental	26.7	28.4	27.8	27.6	1.9	2.3	2	1.9

Provinces	Observed Baseline in °C (1971-2000)				Change in 2050 in °C (2036-2065)			
	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON
Negros Oriental	27	28.4	28	27.8	1.9	2.3	2	1.9

Source: PAGASA, 2011

Table 8. Seasonal rainfall change (in %) in 2050 under medium-range emission scenario in Negros Island Region

Provinces	Observed Baseline (1971-2000)				Change in 2050 (2036-2065)			
	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON
Negros Occidental	234.9	283	899.6	784	7.3	-9.3	11.8	14.3
Negros Oriental	225.8	226	639.5	636.9	17.4	-6.8	20.7	10.5

Source: PAGASA (2011)

With more rains during the rainy season, floods, soil erosion and landslide may be aggravated endangering lives and properties of communities all over the provinces. On the other hand, with less rains during the dry season, water availability for irrigation, power generation and domestic use will be adversely affected. Higher increase in temperature will also increase the probability of occurrence of forest fires during the rainy season which could further contribute to forest destruction, watershed degradation and loss of biodiversity.

III. Development Challenges in the Forestry Sector of NIR

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

1. The protection of existing forests and rehabilitation of degraded forestlands is a major concern in Negros Island Region. From 2003 to 2010 the region registered a net loss in forest cover of about 15,889 hectares or an annual forest destruction of about 2,269 hectares. Most of these forest conversion activities are due to encroachment for agricultural cultivation and to timber poaching and charcoal making.
2. Loss of Biodiversity is a critical problem in Negros Occidental. The forestry statistics indicate that close to 60% of its close forest were lost from 2003 to 2010. This province was losing about 3,448 hectares of close forests annually which were mostly converted to lower quality open forest cover. 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.
3. With decreasing forest cover, the ability of watersheds to provide adequate supply of water for irrigation, domestic use and power generation is compromised. Since agriculture is a major economic activity of Negros Island, watershed degradation will adversely impact on the productivity of agricultural lands in the area. This will also affect the plan of the region to develop the major rivers of Negros for hydro power generation.
4. As a result of decreasing forest cover, availability of non timber products, such as rattan, nito, buri and bamboo, also decreased significantly in the region. As such, raw materials for

handicraft making and for production of souvenir items have become limited affecting the livelihoods of local communities.

5. Illegal fishing, illegal collection of corals and other marine resources including increased sedimentation have resulted to decreasing fish catch and have damaged some of the marine based ecotourism areas. Thus, there is a need to intensify protection of both the marine and forest resources.

6. Adaptation strategies should be put in place to reduce the impacts of climate change hazards in Negros. Many areas in the region are vulnerable to flooding, landslide, soil erosion and storm surge. With erratic climate and projected increase in rainfall during the wet season, there will be increased intensity of these hazards, endangering the lives, properties and livelihood of communities. Most LGUs and majority of the population are not fully prepared for hazards and communities are not adequately organized for disaster risk reduction.

7. 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, especially in Negros Occidental, 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 Negros Island Region include the following:

1. It has vast areas of agricultural lands which are suited for the production of rice, sugar cane, corn and other crops;
2. Presence of watershed reservations that provide water for dams and other reservoirs for irrigation, power generation and for domestic use;
3. Extensive areas of forests, lakes, rivers, biodiversity resources, beaches that are potential for ecotourism;
4. There are existing natural forests and protected areas which are also used as tourist destinations;
5. Existing tree plantations for fuelwood and timber products;
6. Less typhoons which is suitable for tree plantation development;
7. Established markets for various products such as, rice, sugar, fuelwood and other non-timber products;
8. Presence of mangroves and coastal resources that support ecotourism and fisheries
9. Presence of skilled handicraft makers and the

10. Presence of private investors

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. Water for irrigation, power and domestic use
4. Fuelwood
5. Timber products
6. Rice
7. Fisheries
8. Coffee and cacao
9. Handicrafts and non timber products

The matrix of comparative advantages and competitive goods and services of Negros Island Region as identified by DENR Negros Island Region is attached as annex 2.

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 Negros Island Region 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. Forest Plantation development to address demand for fuelwood and timber products;
3. Rehabilitation of other protection forests to mitigate climate change hazards such as flooding;
4. Agroforestry farm development to diversify livelihood & support production of coffee, cacao and other fruit trees;
5. Rehabilitation of degraded mangroves for fisheries and disaster risk reduction
6. 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 18 LGUs into their comprehensive land use plans;
2. To undertake vulnerability assessment and adaptation planning in 36 priority watersheds;
3. To formulate the integrated watershed management plan of 22 priority watersheds;
4. To protect 74,956 hectares of existing forests and plantations starting in 2016 gradually increasing to 215,684 hectares in 2028;
5. To diversify livelihood of local communities by developing 9,500 hectares of agroforestry farms;
6. To rehabilitate 13,078 hectares of protection forests through assisted natural regeneration and
7. Rehabilitate 800 hectares of degraded mangrove areas

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 9.

Table 9. 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.)	2	18	18	36
2. Formulation of integrated watershed management plans (no.)	1	8	13	22
3. Updating of IWMP (No)				
4. FLUP formulation (no. of LGUs)	3	15	0	18
5. Protection of existing forests and plantations including mangroves (ha)	74,956	137,105	215,684	215,684
6. Mangrove rehabilitation (ha)	0	300	500	800
7. Agroforestry development (mixed crops in ha)	821	8,679	0	9,500
8. Rehabilitation of protection forests (ANR) in ha.	13,078	0	0	13,078
9. Training on vulnerability assessment, adaptation planning, integrated pest management, IWM, FLUP (no. of training)	0	12	12	24

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 Negros Island Region will give more focus on addressing demands for fuelwood, timber, agroforestry products such as coffee and cacao, water, biodiversity for ecotourism, and the need to reduce disaster risks and improve environmental conditions especially in urban centers..

Objectives

The specific objectives of this program are:

1. To develop 5,000 hectares of fuelwood plantations;
2. To develop 125,107 hectares of forest plantations for timber production;
3. To protect, conserve and rehabilitate 8,500 hectares in priority watersheds for power generation, domestic and industrial use and for irrigation to support production of rice and other agricultural crops;
4. To protect and rehabilitate 13,078 hectares of protection forestlands for biodiversity, and mitigation of climate hazards
5. To develop forest parks, and green belts in key cities and urban areas 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 10.

Table 10. 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	478,402	0	478,402
2. Development of seed production areas in all provinces (no. of sites)	0	2	2	4
3. Establishment of mechanized nurseries (no.)	0	0	0	0
4. Fuelwood/ bio energy plantation dev't in all provinces (ha)	0	1,600	3,400	5,000
5. Development of forest plantations for timber	0	47,000	78,107	125,107
6. Watershed rehabilitation				
Vegetative SWC (ha)	100	2,600	5,800	8,500
Structural soil and water conservation (cu. Meters)	0	500	40	540
Organization and capacitation of watershed management bodies, such as the watershed management council (no.)	0	8	8	8
8. Support to urban forestry in major cities and urban centers (LGUs assisted)	0	10	10	20

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 Negros Island Region are summarized in table 11.

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

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 assisted)	0	18	0	18
2. Tenure issuance in open access forestlands (ha)	0	10	15	25
3. Organization and capacitation of multi-sectoral collaborative management bodies (region and province)	0	6	6	12
4. Creation and operationalization of regional/provincial TWG on climate change (no.)	0	3	3	3
5. Capability enhancement for DENR/ LGUs (no. of trainings)	4	12	12	18
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 12,

Table 12. 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)	3	15	15	33
2. Upgrading of regional MIS facilities (no.)	0	3	3	3
3. Implementation of forest certification (Provinces)	0	2	2	2
4. Identification and assessment of sustainable sources of financing in forestry projects (No. of sites assessed)	0	4	4	8
5. Forestry research (no. of studies)	0	6	6	12

VI. Plan Implementation

This regional action plan shall be implemented by DENR Negros Island Region in collaboration with LGUs, NCIP, NPC, 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, ADSDPP 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.

References

Biodiversity Management Bureau. 2015. Guidebook to Protected Areas of the Philippines. Biodiversity Management Bureau – Department of Environment and Natural Resources. Philippines. pp. 100).

Forest Management Bureau. 2014. Philippine Forestry Statistics

Forest Management Bureau. 2004. Philippine Forestry Statistics

<http://www.psa.gov.ph>

[https://en.wikipedia.org/wiki/Negros_\(Philippines\)](https://en.wikipedia.org/wiki/Negros_(Philippines))

<http://www.dti.gov.ph>

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

ANNEXES

Annex 1. Comparative Advantages and Competitive Goods and Services, Negros Island Region

Comparative advantages	COMPETITIVE GOODS AND SERVICES											
	Fruits	Fuel-wood	Rice & corn	round wood/	Handicrafts	water for irrigation & domestic use	eco-tourism	fisheries	non timber products	Sugar cane	Cacao/ coffee	power gen.
Vast areas of agricultural lands			All prov.							All provin ces		
Existing watersheds						All Prov.		All prov				All prov.
Existing power plants												Negros Or.
less typhoons		All prov.		All prov.								
Existing dams			All prov.			All prov.						All prov.
Existing plantations		All prov		Negros Or.						All prov.	All prov.	
fruit orchards	All prov.											
established markets	All prov.	All prov.	All prov.	All prov.	All prov.				All prov.	All prov.	All prov.	All prov.
skilled handicraft makers					Negros Or.							
Natural forests						All prov.	All prov.	All prov.	All prov.			
Protected areas						All prov.	All prov.	All prov.	All prov.			All prov.
caves, waterfalls, lakes, rivers, beaches,							All prov.					
mangroves							All prov.	All prov.				
Private investors										All prov.	All prov.	All prov.