



# Performance Audit Report

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PAO-2019-01

## NATIONAL GREENING PROGRAM

*Reforestation Remains an Urgent Concern but Fast-Tracking its Process Without Adequate Preparation and Support by and Among Stakeholders Led to Waste of Resources*



# Audit Highlights

## Why COA did this Study

As of CY 2010, the Philippines already lost 60 percent of its total forest cover. Out of 16.90 million hectares of forestlands in 1934, approximately 6.84 million hectares remain. To jumpstart reforestation, in CY 2011, the Aquino Administration created the National Greening Program (NGP) to regain 1.50 million hectares of forestlands by planting 1.50 billion trees within six years. To cover the rest of the forestlands, NGP was extended until CY 2028. Around ₱47.22 billion has been allocated to the Department of Environment and Natural Resources (DENR) from CY 2011 to CY 2019 to implement the program. However, despite eight years of implementation, legislators are still skeptical as to its actual impact. As a result, the NGP's budget has been cut in half from ₱5.15 billion in CY 2018 to ₱2.60 billion in CY 2019.

This audit aims to determine: 1) the extent the program made an impact on the environment; 2) the extent the program made an impact on its beneficiaries; and 3) the extent the DENR ensured that the program was administered in accordance with established policies and procedures.

To answer the aforementioned objectives, the audit team conducted document review and interviewed program officials. To validate the information gathered, the audit team visited NGP sites and conducted focus group discussions with the People's Organizations implementing the program on the ground. The audit scope covers program implementation from CY 2011 to CY 2018.

## What COA recommends

COA recommends to DENR to: 1) consult the Provincial Environment Natural Resources Office (PENRO) and/or City Environment Natural Resources Office (CENRO), private sector, and the beneficiaries in formulating the action plan and targets; 2) ensure that the POs benefit from seedling production by providing them sufficient time to produce the seedlings themselves; 3) make community organizing as pre-requisite before proceeding with the program; and 4) implement the convergence initiative at the national and local levels.

December 2019

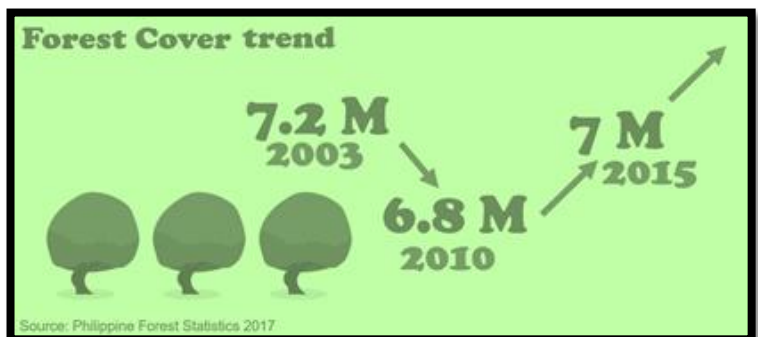
## NATIONAL GREENING PROGRAM

### Reforestation Remains an Urgent Concern but Fast-Tracking its Process Without Adequate Preparation and Support by and Among Stakeholders Led to Waste of Resources

#### What COA found

Program implementers, including people's organizations (POs), identified various problems in implementing the program, such as distance of the areas, calamities, and insufficiency of the contract payments. However, we found that the most crucial issue is DENR's strategy of fast tracking the program. Fast tracking led the DENR to 1) impose targets on its field officials beyond their absorptive capacities; 2) proceed with the program without conducting survey, mapping, and planning; 3) include far untenured areas, which will be abandoned after the term of the maintenance and protection contract; and 4) cause the POs to miss financial opportunities, such as profits from seedling production. According to the field officials, the targets were too ambitious. Instead of increasing forest cover, fast tracking reforestation activities only increased the incidences of wastage.

Based on the latest Philippine forest statistics, forest cover increased marginally by 177,441 hectares; from 6,836,711 hectares in CY 2010 to 7,014,152 hectares in CY 2015. This is only 11.82 percent of the 1.50 million-hectare target of the NGP under Executive Order (E.O.) No. 26. Even if the 85 percent standard of survival rate of 1,275,000 hectares is used, the accomplishment will still be at the low rate of 13.92 percent. On a positive note, it was enough to reverse the previous downward trend.



We found pieces of evidence showing that NGP contributed to the reduction of poverty, however, we could not conclude as to its scale due to insufficiency of data. Generally, beneficiaries narrated how the program payments helped augment their household budget. There are exceptional groups/communities, which were able to transform themselves into cooperatives, thereby gaining access to credit facilities/finance, equipment, and technical assistance from other government agencies. With additional capital, they were able to create additional sustainable income streams. The crucial factors in the success of these beneficiaries are 1) the preparedness of the beneficiaries to implement the program and 2) the convergence of different agencies, including the private sector. However, community organizing is not the priority of NGP. This is the reason why dependent POs are still prevalent. Convergence, on the other hand, is a requirement under E.O. No. 26, s. 2011. DENR was not able to implement this on a national scale. The pockets of successes were caused by the individual ingenuity at the local level.

# Contents

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<b>Background .....</b>	<b>3</b>
How NGP works .....	6
Budget Utilization .....	23
<b>The environmental targets of the NGP is way beyond the absorptive capacity of the DENR; and forcing to meet these targets led to waste .....</b>	<b>25</b>
Philippine Forest Cover marginally increased after five (5) years .....	26
DENR is still having problems with the implementation of survey, mapping, and planning .....	28
DENR included perennial crops, which do not contribute to the increase of forest cover .....	34
Members of the POs leave the NGP sites to look for other means to make a living after the NGP contract term expires .....	35
As soon as the NGP contract expires, untenured areas are left with minimal supervision and care .....	36
NGP sites in farther portions of the forests are harder to establish and maintain .....	40
Calamities .....	43
Harvesting .....	47
The Government is also a cause for the marginal increase of the forest cover .....	48
Because the DENR is focused on meeting the planting targets, there are POs which missed the opportunity to earn from seedling production .....	52
It has been established that DENR fast-tracked the NGP process, especially in the early years of implementation, and it has led to waste .....	56
<b>NGP will not be able to meet its environmental targets without first addressing the capacity and socio-economic needs of its beneficiaries .....</b>	<b>57</b>
POs prefer exotic species of trees over indigenous species of trees .....	57
The quality of Maintenance and Protection heavily depend on the capacity of the PO .....	60

# Contents

---

NGP contributed to the reduction of poverty, however, we could not conclude as to its scale due to insufficiency of data .....	61
With resources, community organizing, and trainings, POs were able to create additional and sustainable income streams .....	64
By implementing the convergence initiative, the POs will gain access to a variety of government services, which will help them in managing the sites.....	68
Convergence has not been implemented in the national level but there are pockets of successes on the local level.....	72
<b>Gaps in the planning, implementation, and monitoring of the program.....</b>	<b>73</b>
NGP has five (5) objectives but not all of them has performance indicators .....	73
Prioritization of watersheds also not met.....	77
POs reject the seedlings produced by the mechanized nurseries for its inferior quality, which was a result of its long transport period .....	79
Overwhelming work of Extension Officers affect the reliability of data and delivery of services to the PO ....	81
Despite being an important stakeholder in the implementation of NGP, EOs do not have security of tenure, which could impact the continuity of the program .....	83
Social mobilization has been a helpful strategy in attaining the NGP's annual target during its early years; however, its implementation has not been effective ....	84
Promotion of Public and Private Partnership in managing NGP sites still has room for growth.....	87
Absence of established centralized database, and weakness in input control and data management cast doubt to data accuracy and reliability .....	90
Manually encoding of data by DENR is highly vulnerable to human error .....	91
No established monitoring tool.....	91
Data inconsistencies in the ArcMap .....	92
Delay in the updating of shapefiles .....	96

# Contents

<b>Conclusions.....</b>	<b>97</b>
<b>Recommendations .....</b>	<b>98</b>
<b>Agency Comments .....</b>	<b>100</b>
<b>Appendix I: Objectives, Scope and Methodology ....</b>	<b>101</b>
<b>Appendix II: Status of Third-Party Validation .....</b>	<b>103</b>
<b>Appendix III: Examples of Distant NGP Sites .....</b>	<b>104</b>
<b>Appendix IV: Objectives vis-à-vis Output, Outcome, Target and Indicators .....</b>	<b>105</b>
<b>Appendix V: COA Contact and Staff</b>	
<b>Acknowledgments.....</b>	<b>108</b>

## List of Figures

Figure 1: 1934-2010 Forest Cover Trend (Baseline).....	3
Figure 2: Annual Budget Allocation of NGP .....	5
Figure 3: Classification of Forests .....	6
Figure 4: 2010 Philippine Land Classification and Forest Cover .....	7
Figure 5: NGP Program Cycle with share from the Total Budget per Major Component.....	9
Figure 6: Sample SMP Format .....	10
Figure 7: Standard Unit Cost of Activities .....	12
Figure 8: Costs of Seedlings by Commodity (CY 2014) ...	14
Figure 9: Sample Certificate of Site Development .....	20
Figure 10: Forest Cover Data in CYs 2003, 2010*, and 2015 .....	26
Figure 11: Land Cover Map of the Philippines (2010 v. 2015).....	27
Figure 12: Summary of experiences on SMP as identified by the interviewees.....	30
Figure 13: Samples of Rectified Shapefiles/Polygons (CYs 2013-2014) .....	31
Figure 14: Samples of Rectified Shapefiles/Polygons (CY 2018).....	32
Figure 15: NGP CYs 2013-2016 Commodity Roadmap...34	
Figure 16: Survival Rate Trend of Untenured CYs 2011- 2015 NGP sites .....	37
Figure 17: Tenured v. Untenured (CYs 2013-2016).....	38
Figure 18: Sample NGP sites with long travel period.....	40
Figure 19: Images showing the road conditions of some NGP sites .....	41

# Contents

Figure 20: Number of hectares of NGP sites affected by calamities and its corresponding estimated cost of destruction* .....	43
Figure 21: Report on the 100% assessment/validation and geo-tagged photos of NGP sites planted in CYs 2011-2017.....	45
Figure 22: Established Plantation in CY 2015 covering an area of 251 hectares located at Masipi West, Cabagan, Isabela .....	46
Figure 23: Projected harvestable trees after 10 years in plantation.....	47
Figure 24: DENR projection of the POs income from harvesting timber from Falcata plantations .....	48
Figure 25: Image of the piles of logs found in Burgos, Ilocos Norte .....	49
Figure 26: Satellite images of the Solar Farm.....	51
Figure 27: Land Cover Map of Ilocos Norte .....	52
Figure 28: Distance of the NGP site and the Seedling Supplier .....	53
Figure 28: NGP CYs 2011-2016 Commodity Roadmap...58	
Figure 30: Satellite images of the MBTUPI in CY 2014 and CY 2018 .....	62
Figure 31: Closer images of the structures in the MBTUPI NGP Site.....	63
Figure 32: Photo of DUFA's Office and Rice Harvester ...65	
Figure 33: Machineries and Equipment acquired by MMA.....	65
Figure 34: RNSFMC's Financial Performance from CY 2013 to CY 2018.....	66
Figure 35: Images of the business venture locations of the RNSFMC .....	67
Figure 36: HTAMC's Financial Performance from CYs 2014-2018 .....	67
Figure 37: Vermicompost Facility in Piddig .....	69
Figure 38: Tractors from the DA .....	69
Figure 39: Image of the Coffee Processing Plant of the Municipality of Piddig, which is also an eco-tourism spot.....	70
Figure 40: Water Impounding Dam in Piddig .....	70
Figure 41: Coffee Processing Facility in Piddig.....	71
Figure 42: NGP Stakeholders.....	72
Figure 43: MEF Development Process .....	77

# Contents

Figure 44: NGP Areas within the Priority Critical Watershed in Regions I and II .....	78
Figure 45: Distance between NGP sites and nearest Modern and Mechanized Forest Nursery .....	80
Figure 46: Tree planting activities of students in Catanduanes .....	86
Figure 47: SMFI Accomplishment as of January 15, 2017 .....	88
Figure 48: Sample Photos of SM Foundation, Inc.'s Activities .....	89

## List of Tables

Table 1: Budget Allocation per Major Component as of CY 2019 .....	8
Table 2: Sample Cost Computation of an NGP Site .....	13
Table 3: Sample Adjusted Cost as a Result of Changes in the Prescribed Unit Cost and Density .....	15
Table 4: Sample Schedule of Payment for Seedling Production .....	17
Table 5: Payment Schedule for Site Preparation and Seedling Production .....	18
Table 6: Payment Schedule for Maintenance and Protection .....	19
Table 7: Total NGP and eNGP Allotment, Obligation and Disbursement .....	23
Table 8: List of NGP sites which registered low survival rate due to the unsuitability of the area for planting.....	28
Table 9: List of NGP sites which registered low survival rate due to site-species mismatch .....	29
Table 10: Computation of the estimated income of the HTAMC from CYs 2014-2018.....	55
Table 11: Established Modern and Mechanized Forest Nurseries.....	79
Table 12: Ratio and Salary of Hired EOs.....	82
Table 13: Contribution of Private Sector from CYs 2011-2017 .....	87
Table 14: Gaps in DENR Reported Accomplishments over Attribute Table from CYs 2011-2018.....	93

## Acronyms

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ACSM	Advocacy, Communication and Social Mobilization
AEV	Aboitiz Equity Ventures, Inc.
CAR	Cordillera Autonomous Region
CBFMA	Community-Based Forest Management Agreement
CENRO	City Environmental and Natural Resources Office
COA	Commission on Audit
CRMF	Community Resource Management Framework
CSD	Certificate of Site Development
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DENR	Department of Environment and Natural Resources
DMC	Department Memorandum Circular
DOT	Department of Tourism
DPWH	Department of Public Works and Highways
DSWD	Department of Social Welfare and Development
DTI	Department of Trade and Industry
DUFA	Dibboa Upland Farmers Association
ENGP	Expanded National Greening Program
EO	Executive Order
EOs	Extension Officers
ERDB	Ecosystems Research and Development Bureau
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
FLUP	Forest Land Use Plan
FMB	Forest Management Bureau
GAA	General Appropriations Act
GIS	Geographic Information System
GPPB	Government Procurement and Policy Board
GPS	Global Positioning System
HTAMC	Holy Trinity Agro-forestry Multipurpose Cooperative
IAC	Inspection and Acceptance Committee
IEC	Information, Education, and Communication
IRR	Implementing Rules and Regulations

## Acronyms

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ISSAI	International Standards for Supreme Audit Institution
ISSP	Information Systems Strategic Plan
JO	Job Orders
LGU	Local Government Unit
MBTUPI	Manobo, Banwaon Talaandig United for Peace
MEF	Monitoring and Evaluation Framework
MFO	Major Final Output
MMA	Mabilag Mountaineers Association
MMFN	Mechanized and Modernized Forest Nursery
MOA	Memorandum of Agreement
NAMRIA	National Mapping and Resource Information Authority
NCI	National Convergence Initiative
NG	National Government
NGO	Non-Government Organization
NGP	National Greening Program
OPIF	Organization Performance Indicator Framework
PACBRMA	Protected Area Community-Based Resources Management Agreement
PAO	Performance Audit Office
PENRO	Provincial Environment and Natural Resources Office
PI	Performance Indicator
PIDS	Philippine Institute of Development Studies
PMS	Project Management and Supervision
PO	People's Organization
RNSFMC	Rang-ayan Nature Spring Farmers Multi-Purpose Cooperative
SCIS	Strategic Communication and Initiatives
SDG	Sustainable Development Goals
SMFI	SM Foundation, Inc.
SMP	Survey, Mapping and Planning
UNDP	United Nations Development Programme



**Republic of the Philippines**  
**COMMISSION ON AUDIT**

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**Commonwealth Avenue**  
**Quezon City**

December 18, 2019

**SECRETARY ROY A. CIMATU**

Department of Environment and Natural Resources  
Quezon City

Dear **Secretary Cimat**:

In line with its vision to become an enabling partner of the government in ensuring a better life for every Filipino, the Commission on Audit (COA) conduct performance audits to help government agencies better perform their mandates and achieve program goals and objectives more economically, efficiently, and effectively.

For CY 2019, COA identified the National Greening Program (NGP) as one of the priority programs for audit due to its size and projected impact to the Filipino people. The NGP is the biggest environmental project of the Philippine Government. A total of ₱47,224,575,000 has been allocated to this program by the National Government (NG) from CY 2011 up to CY 2019.

This program has been identified by the NG as one of the key programs which primarily contributes to the achievement of Sustainable Development Goal 15: Protect, Restore and Promote Sustainable Use of Terrestrial Ecosystems, Sustainably Manage Forests, Combat Desertification, Halt and Reverse Land Degradation, and Halt Biodiversity Loss.<sup>1</sup>

It also contributes to the achievement of SDG Goal 1: End poverty in all its forms everywhere. Based on DENR data, approximately 670,000 beneficiaries are involved in the program. These beneficiaries are mostly composed of upland farmers and Indigenous Peoples. Based on Executive Order (E.O.) No. 26, s. 2011, this program has

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<sup>1</sup> SDS Admin, Enhanced National Greening Program, *available at* <http://sdg.neda.gov.ph/enhanced-national-greening-program/> (last accessed (October 15, 2019).

also been created to pursue sustainable development for poverty reduction.

However, despite eight (8) years of implementation and numerous accomplishment reports, legislators are still skeptical as to its actual impact. As a result, the NGP's budget has been cut in half from ₱5.15 billion in CY 2018 to ₱2.60 billion in CY 2019. During the budget hearing for the 2019 General Appropriations Act, Senator Loren B. Legarda called the attention of COA to conduct performance audit on the NGP to determine its impact on the environment and its beneficiaries.<sup>2</sup>

This audit aims to determine 1) the extent the program made an impact on the environment; 2) the extent the program made an impact on the lives of its beneficiaries; and 3) the extent the program implementers administered the program in accordance with established policies and procedures.

To answer the aforementioned objectives, the audit team conducted document review and interviewed program officials. To validate the information gathered, the audit team visited NGP sites and conducted focus group discussions with the People's Organizations implementing the program on the ground.

The audit scope covers program implementation from CY 2011 to CY 2018. The audit team used non-generalizable sample, hence, the data will only indicate the presence but not the extent of the condition in the population.

We conducted our performance audit from April to September 2019 in accordance with the International Standards of Supreme Audit Institutions (ISSAI) 3000 – Standard for Performance Auditing. The standard requires that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions.

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<sup>2</sup> Catherine Gonzales, Legarda wants COA to conduct a performance audit of gov't projects, *available at* <https://newsinfo.inquirer.net/1028610> [September 5, 2018] (last accessed October 15, 2019).

## Background

The National Greening Program (NGP) is the biggest reforestation project of the Philippines with the Department of Environment and Natural Resources (DENR) as the lead implementing agency. It aims to promote sustainable forest management, biodiversity conservation, climate change adaptation and mitigation, poverty reduction and food security.<sup>3</sup> Initially, its main objective is to plant 1.50 billion trees in 1.50 million hectares of forestlands for a period of six (6) years from CY 2011 to CY 2016.<sup>4</sup> The program started as a response to the declining forest cover of the country. It has now evolved to become a long term program to recover the entire Philippine forest.

**History.** In CY 2010, the Philippines already lost 60 percent of its forest cover. Out of 16.90 million hectares of forest in CY 1934, approximately 6.84 million hectares remain.<sup>5</sup>

Figure 1: 1934-2010 Forest Cover Trend (Baseline)



Source: Philippine Master Plan for Climate Resilient Forestry Development

<sup>3</sup> Department of Environment and Natural Resources, Guidelines and Procedures in the Implementation of the National Greening Program, DENR Memorandum Circular No. 2011-01 [D.M.C. No. 2011-01] (March 08, 2011), § 1.

<sup>4</sup> D.M.C. No. 2011-01, § 2.

<sup>5</sup> Philippine Master Plan for Climate Change Resilient Forestry Development at 15, available at [http://forestry.denr.gov.ph/pdf/mp/PMPCRFD\\_2015\\_plus\\_Annexes.pdf](http://forestry.denr.gov.ph/pdf/mp/PMPCRFD_2015_plus_Annexes.pdf) (last accessed October 15, 2019).

To immediately halt further degradation of forest lands, the Aquino Administration issued E.O. No. 23, s. 2011, which imposed a moratorium on the cutting and harvesting of timber in the natural and residual forests of the entire country. The same E.O. ordered the DENR, through the National Convergence Initiative (NCI), to develop a national greening program.<sup>6</sup>

The NCI was originally created to develop and operationalize a common framework for Sustainable Rural Development that will facilitate the convergence of the resources of three (3) agencies—the DENR, the Department of Agriculture (DA), and the Department of Agrarian Reform (DAR)—to maximize the impact on countryside development.<sup>7</sup> It was repurposed for the implementation of the NGP.

A few weeks after the issuance of E.O. No. 23, the Aquino Administration issued E.O. No. 26, s. 2011 declaring the implementation of the NGP as a government priority.<sup>8</sup> E.O. No. 26 defined the roles and responsibilities of concerned government agencies.<sup>9</sup>

**Stakeholders and their respective roles and responsibilities.** The DENR is the primary agency responsible for the conservation, management, development and proper use of the country's environmental and natural resources<sup>10</sup> and shall be the lead agency of the NGP.<sup>11</sup> On the other hand, the DA is the lead agency to boost farmer's income and reduce poverty in the rural sector<sup>12</sup> and shall be responsible in the production of seedlings of fruit trees and other crops

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<sup>6</sup> Office of the President, Declaring a Moratorium on the cutting and harvesting of Timber in the Natural and Residual Forests and Creating the Anti-Illegal Logging Task Force, Executive Order No. 23 [E.O. No. 23] (February 1, 2011), § 2 and 2.6.

<sup>7</sup> Policy and Implementation Framework for the Enhanced Convergence Initiative among DA, DAR, and DENR, Joint Memorandum Circular No. 01 [JMC NO. 1] (November 17, 2010).

<sup>8</sup> Office of the President, Declaring An Interdepartmental Convergence Initiative For A National Greening Program, Executive Order No. 26 [E.O. No. 26] (February 24, 2011).

<sup>9</sup> E.O. No. 26, §§ 5 and 6.

<sup>10</sup> *Id.* 3<sup>rd</sup> whereas clause.

<sup>11</sup> *Id.* § 4.

<sup>12</sup> *Id.* 4<sup>th</sup> whereas clause.

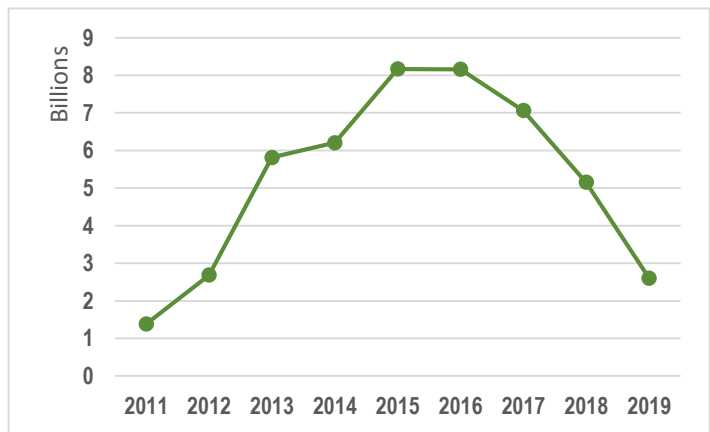
for agroforestry<sup>13</sup> together with the DAR, who is the lead agency in the implementation of agrarian reform and sustainable rural development programs.<sup>14</sup> The NCI works in collaboration with all government agencies, Local Government Units (LGUs), People's Organizations (POs), Non-Government Organizations (NGOs), and in partnership with the private sector and civil society to achieve the goals and objectives of the Program.

**Present situation.** In CY 2015, at the tail end of the NGP, the Aquino Administration issued E.O. No. 193, s. 2015<sup>15</sup> expanding the NGP to cover all remaining unproductive, denuded, and degraded forestlands. This covers an additional 7.10 million hectares of forestlands—on top of the original 1.50 million-hectare target—to reforest.<sup>16</sup> Hence, the period of implementation has been extended from CY 2016 to CY 2028.<sup>17</sup>

**Budget Allocation.** So far, a total of ₱47,224,575,000 has been allocated to this program since it started in CY 2011.

**Figure 2: Annual Budget Allocation of NGP**

Year	Total Allotment
2011	1,380,729,000
2012	2,682,232,000
2013	5,811,737,000
2014	6,204,680,000
2015	8,167,805,000
2016	8,161,811,000
2017	7,060,707,000
2018	5,152,437,000
2019	2,602,437,000
<b>TOTAL</b>	<b>47,224,575,000</b>



Source: 2011-2019 General Appropriations Act

<sup>13</sup> D.M.C. No. 2011-01 § 3.1.

<sup>14</sup> E.O. No. 26, 5<sup>th</sup> whereas clause.

<sup>15</sup> Office of the President, Expanding the Coverage of the National Greening Program, Executive Order No. 193 [E.O. No. 193] (November 12, 2015).

<sup>16</sup> E.O. No. 193, 5<sup>th</sup> whereas clause.

<sup>17</sup> *Id.* § 1.

## How NGP works

**Definition of forest cover.** According to the Food and Agriculture Organization (FAO), “forests are land spanning more than 0.50 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds on site. It does not include land that is predominantly under agricultural or urban land use.”<sup>18</sup>

**What does this definition look like?** Figure 3 provides an image of the classification of forests. Lands, which meet the minimum requirement as defined by FAO, are classified as open forests. When tree canopy density reached 40-70 percent, the area shall be classified as moderately densified forest. Lastly, when the canopy cover is beyond 70 percent, the area shall be classified as very dense forest.<sup>19</sup> The Philippines has a more simple classification scheme for forest cover. It classifies forestlands into three (3) categories, which are: closed, open, and mangrove forests.

**Figure 3: Classification of Forests**



Source: India State of Forest Report (ISFR) 2015

In CY 2010, the official total land area of the Philippines is 30,000,000 hectares, of which 15,805,325<sup>20</sup> hectares are

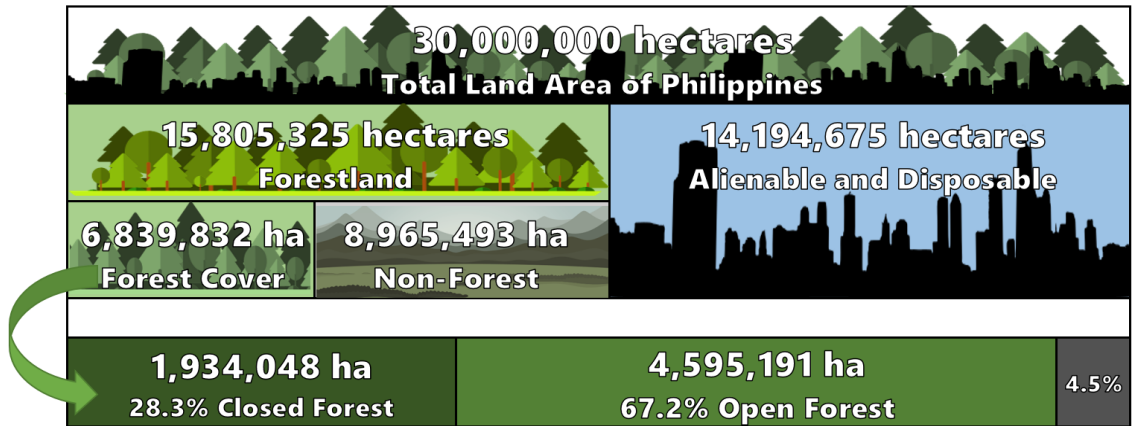
<sup>18</sup> Food and Agriculture Administration, Forest Resources Assessment FRA 2015: Terms and Definitions, *available at* <http://www.fao.org/3/aP862e/aP862e00.pdf> (last accessed October 16, 2019).

<sup>19</sup> Forest Survey of India, State of Forest Report 2017, *available at* <http://fsi.nic.in/forest-report-2017> (last accessed November 21, 2019).

<sup>20</sup> Through the years, the government proclaims forestlands as alienable and disposable. Hence, there is a difference between the 1934 data (16.90 million hectares) and the 2010 data (15.80 million

legally classified as forestland. Out of the 15,805,325 hectares forestland, only 6,839,832 hectares fall within the internationally accepted definition of forests, of which 28.3 percent (1.93 million hectares) is closed forest, 67.2 percent (4.59 million hectares) is open forest, and 4.5 percent (310,593 hectares) is Mangrove Forest<sup>21</sup>. The rest of the forestlands, which covers 8,965,493 hectares, are non-forest. (Figure 4)

**Figure 4: 2010 Philippine Land Classification and Forest Cover**



Source: Philippine Forest Statistics 2016

**Program Objective.** Basically, the objective of the program is to increase forest cover while addressing the socio-economic needs of its beneficiaries.

Under the first six (6) years of NGP, the government aims to increase forest cover by 1.50 million hectares.

In order to execute this objective, the government partnered with POs in the uplands. Under E.O. No. 26, the POs shall be given the primary responsibility of maintaining and protecting the established plantations.<sup>22</sup> The government—the DA-DAR-DENR convergence in particular—is primarily in-charge of the following: provision of nursery establishment, seedling production, site identification, technical support, and program

hectares). Approximately, 1.1 million hectares of forestlands have been reclassified as alienable and disposable.

<sup>21</sup> Philippine Forest Statistics 2016 by Forest Management Bureau.

<sup>22</sup> E.O. No. 26, § 3.1.2.

monitoring.<sup>23</sup> The POs, on the other hand, shall primarily do the following: prepare the sites, plant the seedlings, and maintain and protect the trees.

Other stakeholders such as other government agencies and private sector partners are tasked to provide support to the above enumerated activities.<sup>24</sup> E.O. No. 26 provides a long list of government agencies and the corresponding roles and responsibilities.

The program addresses the socio-economic needs of its beneficiaries through the following:

1. DENR pays the POs for producing the seedlings (if the seedling production contract has been awarded to them), preparing the sites, planting the seedlings, and maintaining the sites;<sup>25</sup>
2. All proceeds from agroforestry plantations shall accrue to the NGP beneficiary communities;<sup>26</sup> and
3. NGP beneficiary communities shall be considered priority in the Conditional Cash Transfer Program.<sup>27</sup>

**Process Cycle.** All NGP sites undergo a 3-year process cycle, which has six (6) major components. Table 1 lists the major components and the corresponding budget allocation as of CY 2019.

**Table 1: Budget Allocation per Major Component as of CY 2019**

Particulars	Amounts
Survey, Mapping and Planning	₱ 1,402,976,850
Seedling Production	15,987,775,192
Site Preparation and Plantation Establishment	8,132,272,000
Maintenance and Protection	11,352,654,000
Others Activities	4,291,251,000
Project Management and Supervision (PMS)	6,057,645,958
<b>Total</b>	<b>₱47,224,575,000</b>

Source: COA Analysis of DENR data

<sup>23</sup> E.O. No. 26, § 5.1.

<sup>24</sup> *Id.* § 3.1.2.

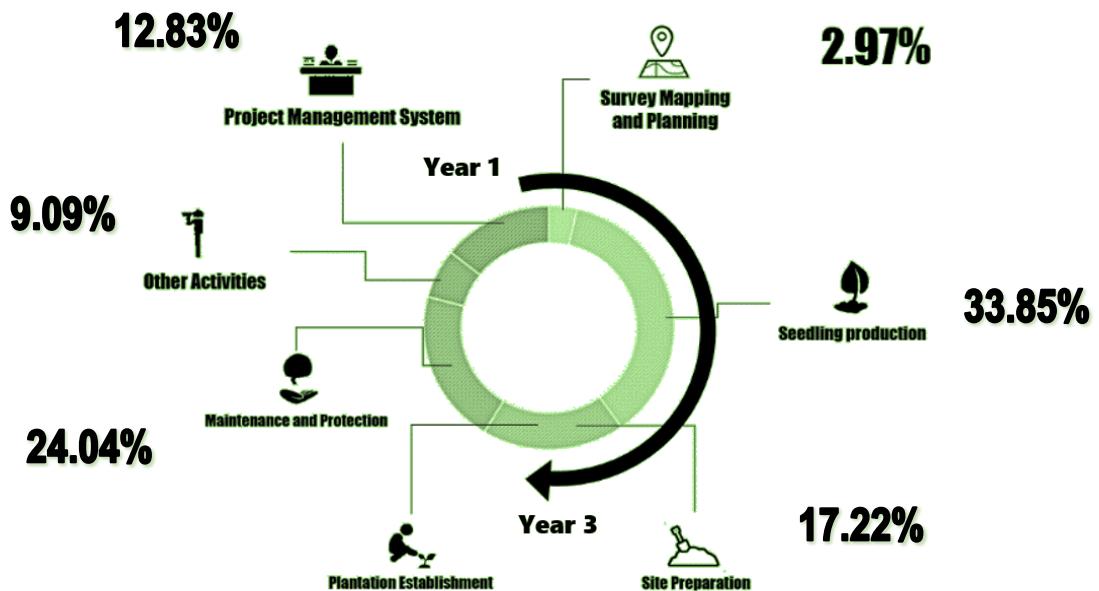
<sup>25</sup> DENR Officer-In-Charge, Guidelines and Procedures for Plantation Development for the National Greening Program, DENR Memorandum Circular No. 2013-06 [DMC 2013-06] (April 16, 2013).

<sup>26</sup> E.O. No. 26, § 3.3.1.

<sup>27</sup> *Id.* § 3.3.2.

Figure 5 presents the process cycle of a NGP site and the percentage of government expenditure per stage of the process. The activity that received the biggest chunk of the NGP budget is seedling production. Unfortunately, this activity is also the most vulnerable to fraud and corruption. In fact, there have been cases filed against public officials for alleged corruption involving seedling production.<sup>28</sup>

**Figure 5: NGP Program Cycle with share from the Total Budget per Major Component**



Source: COA Analysis of DENR data

**Major Component # 1: Survey Mapping and Planning (SMP).** SMP is the most basic yet most important activity in any forest development project.<sup>29</sup> It involves the actual ground survey of the planting area. Under this activity, the DENR also determines the most suitable species to plant based on the physical characteristic of the site and

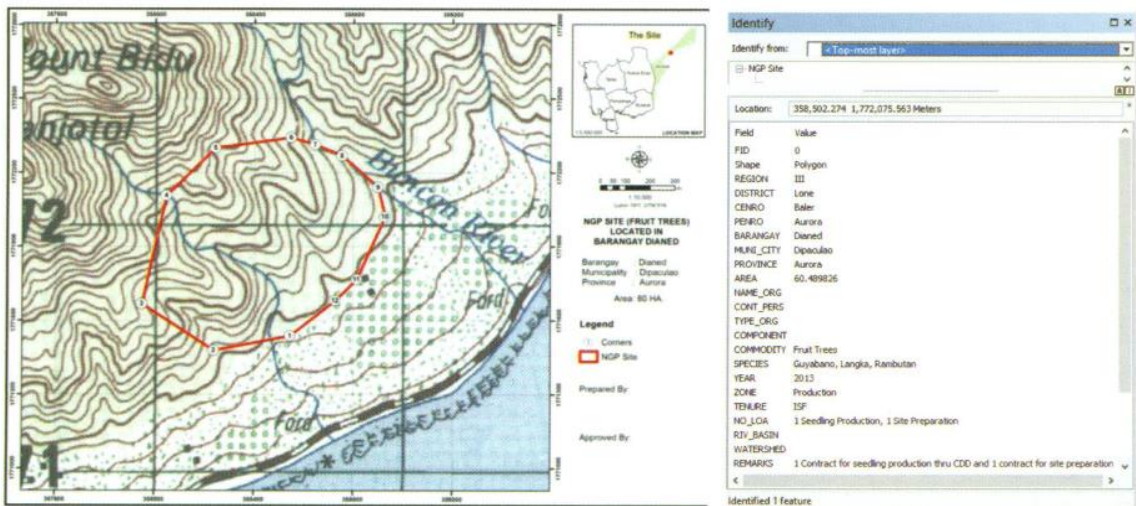
<sup>28</sup> See *Because the DENR is focused on meeting the planting targets, there are POs which missed the opportunity to earn from seedling production*, at 52.

<sup>29</sup> Department of Environment and Natural Resources, Survey Mapping and Planning, FMB Technical Bulletin No. 1 [FMBTB1] (April 2014).

available site indicators. Lastly, during this activity, the DENR also identifies the actual occupants of the land.

Initially, the potential NGP sites will be derived from the land cover data of National Mapping and Resource Information Authority (NAMRIA).<sup>30</sup> The potential areas shall then be validated by a composite technical team from the Provincial Environment and Natural Resources Office (PENRO) and City Environment and Natural Resources Office (CENRO) with technical assistance from the Region.<sup>31</sup> The cost of SMP was pegged at ₱900/hectare under Forest Management Bureau (FMB) Technical Bulletin No. 1,<sup>32</sup> and was readjusted to ₱450/hectare under FMB Technical Bulletin No. 1-A.<sup>33</sup> Figure 6 presents an image of the output of the composite team.

**Figure 6: Sample SMP Format**



Source: FMB Technical Bulletin No. 1

<sup>30</sup> Department of Environment and Natural Resources, Standard Seedling Cost and Unit Cost of Activities of the National Greening Program, FMB Technical Bulletin No. 10 [FMBTB10] (April 2014).

<sup>31</sup> FMBTB1, § 1.

<sup>32</sup> *Id.*

<sup>33</sup> Department of Environment and Natural Resources, Survey Mapping and Planning Development and Other Activities for Expanded National Greening Program Planting Sites, FMB Technical Bulletin No. 1-A [FMBTB1A] (June 3, 2016).

The SMP contains the shapefile identifying the size and location of the potential NGP site. It also contains the type of species of tree that will be planted on the area as well as the organization, which will manage the site.<sup>34</sup>

**Who are qualified to become partners/ beneficiaries of NGP?** Any person, whether natural or juridical may participate in the program, provided that they passed the organizational assessment conducted by the DENR. From the audit team's site visits, the following are the common groups, which participated in the program:

1. People's Organizations with Community-Based Forest Management Agreement (CBFMA) or Protected Area Community-Based Resources Management Agreement (PACBRMA);
2. People's Organizations without CBFMA or any tenure instruments; and
3. Local Government Units (LGUs).

DENR prioritizes POs with existing CBFMA/PACBRMA because they are already organized and they are the actual occupants and tillers of the forestlands. Especially in the early years of the program, most—if not all—NGP partners are CBFMA/PACBRMA holders. However, the number of POs with existing CBFMA/PACBRMA holders is insufficient to cover all denuded forestlands, hence, they had to allow POs without any tenure instruments to join. They will be the ones who will occupy the untenured areas (areas with no tenurial contracts). For areas with no POs, DENR partners with LGUs. LGUs are allowed to participate in the Program, *provided* that the area that they will develop is within their administrative jurisdiction and consistent with their adopted Forest Land Use Plan (FLUP).

**What are CBFMAs/ PACBRMAs?** These are agreements entered into by and between the DENR and the local community, represented by the POs, as forest managers, which has a term of 25 years and renewable for another 25 years. It shall provide tenurial security and incentives to develop, utilize and manage specific portions of forest lands pursuant to the affirmed Community Resource Management Framework (CRMF). The difference between the two is that PACBRMA is within

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<sup>34</sup> FMBTB1, § 3.

protected areas while CBFMA are within production areas. Hence, CBFMA holders, as opposed to PACBRMA holders, may apply for cutting permits from the DENR. This is the reason why there are NGP sites which contain species of trees which can be used as timber.

**Next step:** Regional Offices forwards the SMPs to the DENR Central Office for review and incorporation in the DENR budget. The SMPs shall be submitted to the DENR Central Office for review and budgeting. There are times that the DENR Central Office requests for the revision of the SMP to increase or decrease the plantation target.

If the DENR Central Office is satisfied with the information on the SMPs, the same shall be incorporated in the Work and Financial Plan of the Department.

**Budgeting.** The proposed budget will be computed based on the total number of hectares of the NGP sites proposed by the composite teams. Costing is based on the cost matrix prepared by the FMB. Figure 7 shows the standard unit of cost of activities.

**Figure 7: Standard Unit Cost of Activities**

Activities	Unit of Work Measure	Unit Cost
Site Validation, Assessment and Planning	ha	Php 450
Social Mobilization		
Site Preparation (hauling, hole digging, brushing, etc.) and Planting	ha	Php 3,000
IEC/Transportation/Mobilization of Partners	ha	Php 1,000
Maintenance and Protection of Established Plantations		
-1st year	ha	Php1,000
-2nd year	ha	Php3,000
-3rd year	ha	Php2,000

Source: FMB Technical Bulletin 10

Based on the standard unit of cost presented above, if a PO is awarded a contract to plant fast growing species of trees in a 100-hectare NGP site, the budget breakdown for the entire three (3) years is as follows:

**Table 2: Sample Cost Computation of an NGP Site**

Cost per Activity				
	Area	Unit Cost	Payment	
SMP	100 ha	450	₱ 45,000	
Site Preparation	100 ha	3,000	300,000	
Mobilization of Partners	100 ha	1,000	100,000	
M&P Year 1	100 ha	1,000	100,000	
M&P Year 2	100 ha	3,000	100,000	
M&P Year 3	100 ha	2,000	200,000	
<b>Sub-Total</b>			<b>₱845,000</b>	
Seedling Costs				
Species	Area	Density	Unit Cost	Payment
Fast Growing	100 ha	500	10	500,000
<b>TOTAL</b>				<b>₱1,345,000</b>

Source: COA Analysis of DENR data

Based on the prescribed costing of the FMB, the government needs to appropriate a total of ₱1,345,000 in order to plant 500 seedlings of fast growing species of trees in a 100-hectare lot in CY 2014. The computation of the cost of seedlings is based on the seedling cost matrix found on the same FMB Technical Bulletin. Figure 8 shows the standard cost of seedlings by commodity.

**Figure 8: Costs of Seedlings by Commodity (CY 2014)**

Density (# of seedlings, propagules or culms/ha)	Species	2014 Cost	
		Unit Cost (Php)	Per Hectare
500	Indigenous	12	6,000
500	Fast Growing	10	5,000
1000	Fuelwood	6	6,000
500	Coffee (from seeds)	12	6,000
	Coffee (Luzon) - Clonal Propagation*	20	10,000
	Coffee (Visayas) - Clonal Propagation*	18	9,000
	Coffee (Mindanao) - Clonal Propagation*	15	7,500
500	Cacao (budded)	25	12,500
500	Rubber (from seeds)	15	7,500
	Rubber (budded)	35	17,500
200	Bamboo	35	7,000
500	Rattan	20	10,000
2500	Mangrove (Propagule)	3	7,500
2000	Mangrove (Potted)	15	30,000
200	Other fruit trees (grafted)	25	5,000
400/ha or km	Urban Greening (saplings)**	75	30,000

Source: FMB Technical Bulletin No. 10

The FMB is in-charge of adjusting the cost per unit and density per NGP site. Change in unit cost and density affects the cost of seedling production. For example, in the case of fast-growing species, like *Falcata*, FMB changed the density from 4m x 5m spacing to 2m x 3m spacing; thereby, increasing the number of seedlings per hectare from 500 to 1,667. The FMB then decreased the unit cost from ₱10 to ₱8. The adjustments increased the cost of seedling production per hectare by 266 percent; from ₱500,000 per hectare to ₱1,333,600 per hectare.

**Table 3: Sample Adjusted Cost as a Result of Changes in the Prescribed Unit Cost and Density**

Seedling Costs				
Species	Area	Density	Unit Cost	Payment
Falcata	100 ha	1,667	8	₱1,333,600

Source: COA Analysis of DENR data

**Next step: Direct release of budget.** Once the budget has been approved by Congress, the budget earmarked for specific NGP sites will be directly sent to the Regional Offices concerned for implementation. There are instances that the DENR Central Office retains NGP operational budget to augment the plantation activities in certain areas. As a result, some CENROs receive additional targets in the middle of the year.

**Contract Signing.** Upon receipt of the budget, the DENR, through the PENROs/ CENROs, shall then enter into a contract with the PO identified in the SMP for the site preparation and plantation establishment. And if the PO is capable of producing the seedlings themselves, the contract for seedling production shall be awarded to them as well; otherwise, the contract shall be bidded out to qualified suppliers.

Year 1 of the process cycle starts at the signing of the Site Preparation and Plantation Establishment Contract. Upon signing, the PO will receive 15 percent of the contract price as Mobilization Fee which shall be used for strip brushing, hole-digging, and staking.

To facilitate payment, the POs are required to open an account with government banks, such as the Land Bank of the Philippines.

**Major Component # 2: Seedling Production.** There are several ways on how to procure seedlings under the program, these are through the following:

1. Community-Managed Procurement in Locally-Funded Projects<sup>35</sup>;
2. Seedling donations from partners;
3. Mechanized nursery; and
4. Regular procurement.

**First, through Community-Managed Procurement in Locally-Funded Projects.** The Implementing Rules and Regulations (IRR) of the Government Procurement Reform Act allows a procuring entity, as a contract manager, to use negotiated procurement as a means to engage a community to implement a locally-funded community-based project.

Through this provision and the supplemental guidelines issued by the Government Procurement and Policy Board (GPPB), the DENR is authorized to award the contract of seedling production to the POs themselves.

**Second, through seedling donations from partners.** POs may also secure seedlings from donations from public or private partners.

**Third, through the mechanized nurseries.** The DENR established 11 Mechanized Nurseries located in different parts of the country. The government paid ₱110,562,000 for its establishment. It costs an additional ₱55,000,000 annually to maintain and operate all 11. The cost of maintenance and operation of one (1) mechanized nursery is ₱5,000,000 annually.

The seedlings produced through the mechanized nurseries are distributed by the DENR to the POs for free. The problem is that the scope of operations of the mechanized nurseries is limited to the respective geographic locations; hence, a limited number of POs benefit from it.

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<sup>35</sup> Government Procurement Policy Board, Approving the Guidelines on Community-Managed Procurement as a Supplement to the Community Participation Procurement Manual (CPPM), Government Procurement Policy Board Resolution No. 28-2016, [GPPB Res. No. 28-2016] (April 20, 2016).

**Lastly, through regular procurement.** If the POs are incapable of producing the seedlings themselves and there is no mechanized nursery nearby, the DENR will have to bid out the seedling production contract to qualified suppliers.

**Monitoring.** For seedlings procured through community-managed procurement and regular procurement, the DENR monitors compliance of the suppliers with the terms of the contract through the PENROs and CENROs. Generally, seedling production contracts contain a templated schedule of payment, which has the standard elements as shown in Table 4.

**Table 4: Sample Schedule of Payment for Seedling Production**

Payment	Major Accomplishment	Percent release
1 <sup>st</sup> payment	Upon approval of the agreement.	15%
2 <sup>nd</sup> payment	Upon delivery and due inspection of the seedlings.  (Number of installment payments vary depending on the contract terms)	75%
Last payment	Upon issuance of Certificate of Completion and acceptance.	10%
		100%

Source: DENR data

The PENROs have an Inspection and Acceptance Committee (IAC) which inspects and reports on the compliance of the POs or private suppliers. The IAC depends on the ground inspection of its Extension Officers (EOs). EOs are usually foresters or environmental science majors hired by the DENR as job orders. If the IAC validation report is sufficient, the PENRO will approve it to allow processing and release the payment.

**Activity timeframe.** Seedling production should be accomplished within the first six (6) months of the year, before the onset of the rainy season on the 3<sup>rd</sup> quarter. The POs should be able to plant the seedlings during the rainy season to increase its survival rate. Timing is crucial especially in NGP sites with no access to water.

**Major Component # 3: Site Preparation and Plantation Establishment.** To prepare the NGP site, the POs need to conduct the following activities: strip brushing, hole-digging, and staking. Once these activities are done, the POs will have to wait for the rainy season before planting the seedlings.

Since the POs receive payment for these activities, as mentioned earlier, there is also a corresponding contract that the parties will have to enter into. Table 5 shows the standard schedule of payment contained in the site preparation and plantation establishment contracts.

**Table 5: Payment Schedule for Site Preparation and Seedling Production**

Payment	Major Accomplishment	Percent release
1 <sup>st</sup> payment	Upon approval of the agreement.	15%
2 <sup>nd</sup> payment	Upon completion of the strip brushing, hole digging, and staking according to the agreed density and planting standards	50%
3 <sup>rd</sup> payment	Upon completion of hauling and planting of seedlings according to the agreed density and planting standards	40%
4 <sup>th</sup> payment	Upon planting the target number of seedlings.	10%
		100%

Source: DENR data

**Monitoring.** The same with seedling production, the IAC will have to prepare a report on the accomplishment of the listed activities in the contract. The EOs will have to visit the sites to inspect and take geo-tagged pictures as proof of compliance. If the validation report is in order, the PENRO will approve it to allow processing and release the payment.

**Activity timeframe.** For site preparation, first six (6) months of Year 1. For plantation establishment, 3<sup>rd</sup> Quarter of Year 1.

**Major Component # 4: Maintenance and Protection.**

As soon as the seedlings are planted, the POs are required to take care of the NGP site for at least three (3) years. This activity requires the execution of three (3) contracts, one contract for each year, between the DENR and the POs. Table 6 shows the standard payment schedule for maintenance and protection.

**Table 6: Payment Schedule for Maintenance and Protection**

Payment	Major Accomplishment	Percent release
1 <sup>st</sup> payment	Upon production of 25% of the total seedling requirements of the NGP site.	15%
2 <sup>nd</sup> payment	Upon completion of at least 70% of the total target on maintenance and protection activities such as ring weeding/ strip brushing and site preparation intended for replanting activities, including replanting of the area.	50%
3 <sup>rd</sup> payment	Upon completion of at least 30% of the total target on maintenance and protection activities such as ring weeding/ strip brushing and site preparation intended for replanting activities, including replanting of the area.	40%
4 <sup>th</sup> payment	To be released after accomplishing the total target for the maintenance and protection and after attaining the survival rate of at least 85% as basis in the issuance of certificate of completion and acceptance of the total project.	10%
		100%

Source: DENR data

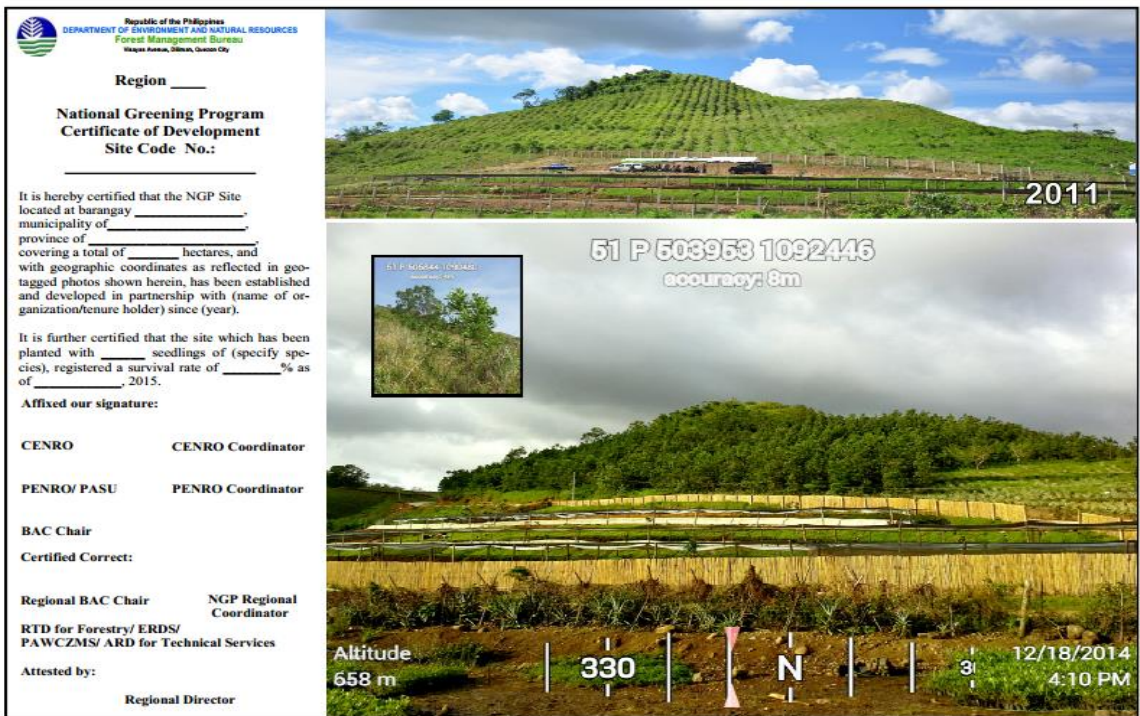
The most important part of maintenance and protection is ensuring the survival of at least 85 percent of the seedlings planted.<sup>36</sup> If the POs fail to meet this

<sup>36</sup> National Greening Program Implementation Manual for CY 2012 [NGP Manual 2012] § 7, at 13.

requirement during site inspection, the DENR will not be able to legally pay them. This is the reason why the contract requires the POs to produce buffer stock of seedlings aside from the seedling requirement of the NGP site. The seedlings will be used to replace those that did not survive during the previous year.

**Monitoring.** The same with the previous components, the IAC will have to prepare a report on the accomplishment of the listed activities in the contract. The EOs will have to visit the sites to check whether 85 percent of the seedlings planted survived. They will then take geo-tagged pictures as proof of compliance. If the validation report is in order, the PENRO will approve to the report to allow processing and release the payment. At the end of year 3, the DENR will issue the Certificate of Site Development (CSD), a sample is presented below.

Figure 9: Sample Certificate of Site Development



Source: DENR data

The CSD contains the survival rate of the seedlings at year 3 and the geo-tagged photos of the NGP site comparing its images taken in year 1 and year 3. The

geo-tagged photos will be used by the third party evaluator to locate the NGP sites and validate the survival rates reported.

**Activity timeframe:** As discussed, maintenance and protection activities take three (3) years to accomplish.

**Post-Contract Activities.** At the end of the term of the contract, the area shall be subjected to performance evaluation by a third party to be identified by the DENR. If conditions in the contract have been complied, the area shall be turned-over to the DENR.<sup>37</sup>

All areas turned over to the DENR shall be bidded to interested parties in accordance to RA 9184 for long term development of the area. Thereafter, an appropriate legal instrument shall be issued by the DENR for the sustainable management of the area.<sup>38</sup>

For areas managed by POs with tenurial instruments, management of the same shall remain with the concerned PO and shall be co-terminus with the tenure instrument issued to them.<sup>39</sup>

The LGUs may opt to avail of the co-management agreement with the DENR. Under the co-management agreement, the LGUs shall not be allowed to sublease the area to a third party.<sup>40</sup>

Areas turned over to the DENR shall be disposed of to interested and qualified parties to ensure sustainable management and continued maintenance and protection of the established plantations thru public bidding.

While custody is with the DENR, the NGP site shall be under the supervision of the forest rangers, under its Forest Protection Program.

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<sup>37</sup> Department of Environment and Natural Resources, Guidelines and Procedure for Plantation Development for the National Greening Program with Area Coverage of 100 hectares and within Public Forestlands through the Engagement of Services of Private Sectors, Civil Society Organizations, Non-Government Organizations, People's Organizations/ Indigenous People, Local Government Units and Other Government Entities, DENR Memorandum Circular No. 2013-06 [DENR MC No. 2013-06] (April 16, 2013).

<sup>38</sup> DENR MC No. 2013-06, § 6.

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

**Major Component # 5: Other Activities.** This component include support services such as the following:

1. Establishment of Mechanized Nurseries;
2. Maintenance and operationalization of Mechanized Nurseries;
3. Clonal Nursery;
4. Establishment and Maintenance of Seedling Production;
5. Extension Officers;
6. Procurement of Additional Seedling Trays;
7. Establishment/ Maintenance of Seed Storage Facilities;
8. Convergence;
9. Balik Probinsya;
10. Production Areas for Organic fertilizer/ Mycorrhiza;
11. Third Party Monitoring;
12. Enhancement Training of POs and other Stakeholders re: Agroforestry, contour; and
13. Enterprise Development.

Funding for the acquisition of extension officers takes the biggest budget under this component. Approximately ₱2.12 billion has been allocated to it from CY 2011 to CY 2018. Despite this, we believe that this component needs to receive more. As discussed, EOs are hired as job orders. However, they play one of the biggest roles in the program. They are a crucial component of all the activities of NGP, from SMP to the issuance of the CSD. The accuracy of the SMP, the release of payments, and the trainings of the POs depend on the EOs. But based on our interviews and focus group discussions, DENR is still short of EOs. In the findings portion, we will discuss this matter more in detail.<sup>41</sup>

**Major Component # 6: Project Management and Supervision (PMS).** This component covers payment for the personnel services requirement of the program.

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<sup>41</sup> See *Overwhelming work of Extension Officers affect the reliability of data and delivery of services to the PO*, at 81.

## Budget Utilization

**Budget Utilization.** As of December 31, 2018, 99.32 percent of the total allotment was obligated (obligation/allotment) and 81.40 percent of the total obligation was disbursed (disbursement over obligation). However, net total amount of ₱302.02 million or 0.68 percent was unutilized. This amount could have been allocated to other DENR program that needs additional funding.

**Table 7: Total NGP and eNGP Allotment, Obligation and Disbursement**

Year	Appropriation (a)	Special Allotment Release (b)	Total Allotment (c = a + b)	Obligation (d)	Unutilized (e)	Disbursement (f)	Undisbursed/ Unpaid (g = d-f)
<b>NGP</b>							
2011	₱1,331,143,000	₱49,586,000 <sup>2/</sup>	₱1,380,729,000	₱1,147,026,000	₱233,703,000	₱995,532,000	₱151,494,000
2012	2,682,232,000		2,682,232,000	2,336,665,000	345,567,000	1,906,225,000	663,671,000
continuing 2011			233,703,000	233,231,000	472,000		
2013	5,811,737,000		5,811,737,000	5,560,746,000	250,991,000	4,958,012,000	942,660,000
continuing 2012			345,567,000	339,926,000	5,641,000		
2014	6,204,680,000		6,204,680,000	5,628,535,000	576,145,000	4,872,807,000	1,000,954,000
continuing 2013			250,991,000	245,226,000	5,765,000		
2015	7,022,349,000	1,145,456,000 <sup>3/</sup>	8,167,805,000	7,454,791,000	713,014,000	6,672,313,000	1,355,143,000
continuing 2014			576,145,000	572,665,000	3,480,000		
2016	8,161,811,000		8,161,811,000	7,772,113,000	389,698,000	7,366,234,000	1,117,152,000
continuing 2015			713,014,000	711,273,000	1,741,000		
<b>eNGP</b>							
2017	7,060,707,000		7,060,707,000	6,871,591,000	189,116,000	5,509,562,000	1,746,145,000
continuing 2016			389,698,000	384,116,000	5,582,000		
2018	5,152,437,000		5,152,437,000	5,062,217,000	90,220,000	3,794,079,000	1,268,138,000
<b>Total (2011-2018)</b>			<b>44,622,138,000</b>	<b>44,320,121,000</b>	<b>302,017,000</b>		<b>8,245,357,000</b>
<b>2019</b>	2,602,437,000		2,602,437,000	Data not yet available		Data not yet available	
<b>Total (2017-2019)</b>	<b>₱14,815,581,000</b>		<b>₱47,224,575,000</b>				

Source: COA Analysis of DENR data

Please note that the total undisbursed/unpaid obligation of NGP amounts to ₱8,245,357,000. This amount is higher than the highest budget allocation of the program for a year. Due to the decentralized nature of the management of the program, the individual contracts are in the custody of the Regional Offices.

Based on the areas that the team covered, the following are the possible reasons for the ballooning undisbursed/unpaid obligations under the NGP:

1. Non-payment of the maintenance and protection fees for those plantations that did not achieve the survival rate of 85 percent; and
2. Non-payment of the 10 percent retention fee.

**Non-payment of the maintenance and protection fees for those plantations that did not achieve the survival rate of 85 percent.** Under the maintenance and protection contracts, the NGPs must attain an 85 percent survival rate before the POs will receive payment. During our site visits, we found that there are POs that failed to meet this requirement.

**Non-payment of the 10 percent retention fee.** DENR withholds the payment of the 10 percent retention fee until a third party evaluator finds that the NGP sites have met the 85 percent survival rate. So far, no third-party evaluator has finished an evaluation.

The team raised this issue during the exit conference wherein the DENR Management committed to provide additional information on the undisbursed/ unpaid obligations of the NGP. However, no data has been forwarded to the audit team as of report date.

Providing details on these undisbursed/unpaid obligations under the NGP must be prioritized by the DENR. Based on the nature of the operations of the program, there is a high possibility that the some of the claims may no longer be valid; as in the case of failure of POs to meet the 85 percent survival rate requirement. Failure to meet this requirement releases the DENR from its obligation to pay the POs for the maintenance and protection of the NGP site. Another reason may be abandonment of the NGP site. During our site visits, some CENROs reported that there are POs that abandoned the NGP sites. Under these circumstances, the budget allocated for the payment of the maintenance and protection of these areas would no longer be utilized due to absence of a valid claim. Hence, the amount would be considered as savings, which must be reverted to the National Treasury in accordance with existing regulation.

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## **The environmental targets of the NGP is way beyond the absorptive capacity of the DENR; and forcing to meet these targets led to waste**

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Reforestation remains an urgent concern but fast-tracking the process without the necessary capacity and support led to waste. With only about 40 percent remaining forest cover in the Philippines, it is understandable that there is a need to take big steps to regain the forest cover losses. However, if the key stakeholders lack capacity, the program is bound to miss its objectives.

From our interviews, PENROs and CENROs informed us that they have tried to tell the DENR Central Office that the targets given to them are way beyond their capacity but their concerns were not heeded; hence, they have no choice but to follow orders. Some of them even mentioned that the targets were too ambitious. The Central Office, on the other hand, informed us that the target proposals originated from the PENROs and CENROs themselves. We informed the PENROs and CENROs of the response of the Central Office. They explained that their submissions contain the potential NGP sites in their respective areas, which was the request of the Central Office. The PENROs and CENROs explained further that their submissions were not, per se, commitments of what they could manage for that year.

Our audit led us to believe that the field offices do not have the absorptive capacity to meet the target set by E.O. No. 26. Despite this, the DENR still proceeded with the target implementation and it led to the following:

1. Pursuing the program without conducting proper survey, mapping, and planning;
2. Inclusion of potential areas even without a fully organized PO that would continuously manage the site;
3. Inclusion of very far NGP sites even though the closer ones are registering low survival rates; and

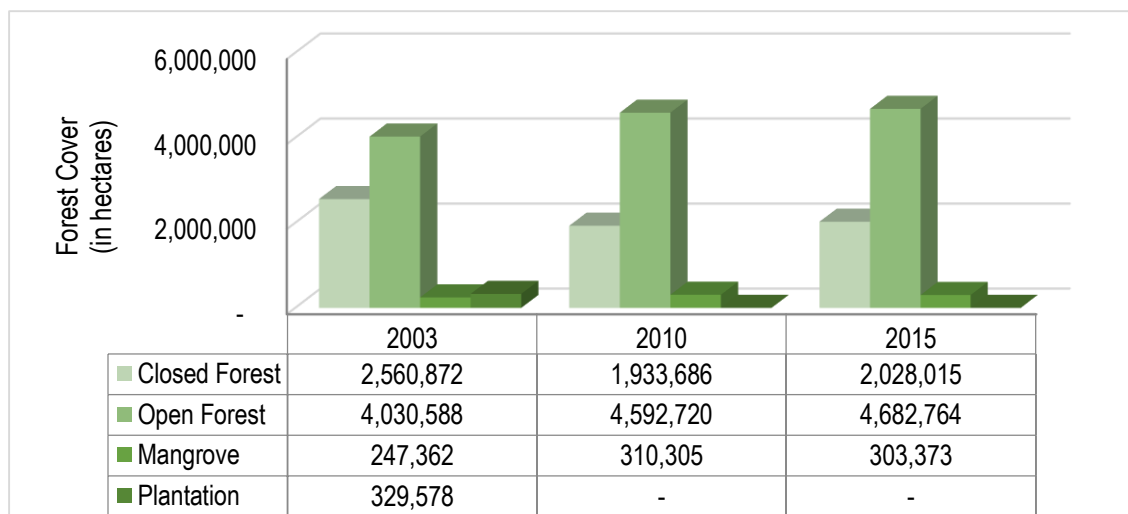
4. Causing the POs to miss financial opportunity, specifically, payments from seedling production.

As a result, even with the biggest budget for reforestation, the forest cover gain was marginal; and NGP's goal of addressing the socio-economic concerns of its beneficiaries did not reach its maximum potential.

### Philippine Forest Cover marginally increased after five (5) years

Philippine forest cover increased by 177,441 hectares from CYs 2010-2015. From 6,836,711 hectares in CY 2010, forest cover reached 7,014,152 hectares in CY 2015.<sup>42</sup> This is only 11.82 percent of the 1.50 million-hectare target of the NGP under E.O. No. 26. Even if we consider using the 85 percent survival rate as the standard, which is 1,275,000 hectares, accomplishment is still at 13.92 percent. Figure 10 presents the breakdown of the forest trend through the years.

**Figure 10: Forest Cover Data in CYs 2003, 2010\*, and 2015**



\*In CY 2010, a different definition of land cover was adopted by NAMRIA. Forest plantations depending on age and height have been classified under closed, open or other categories.<sup>43</sup>

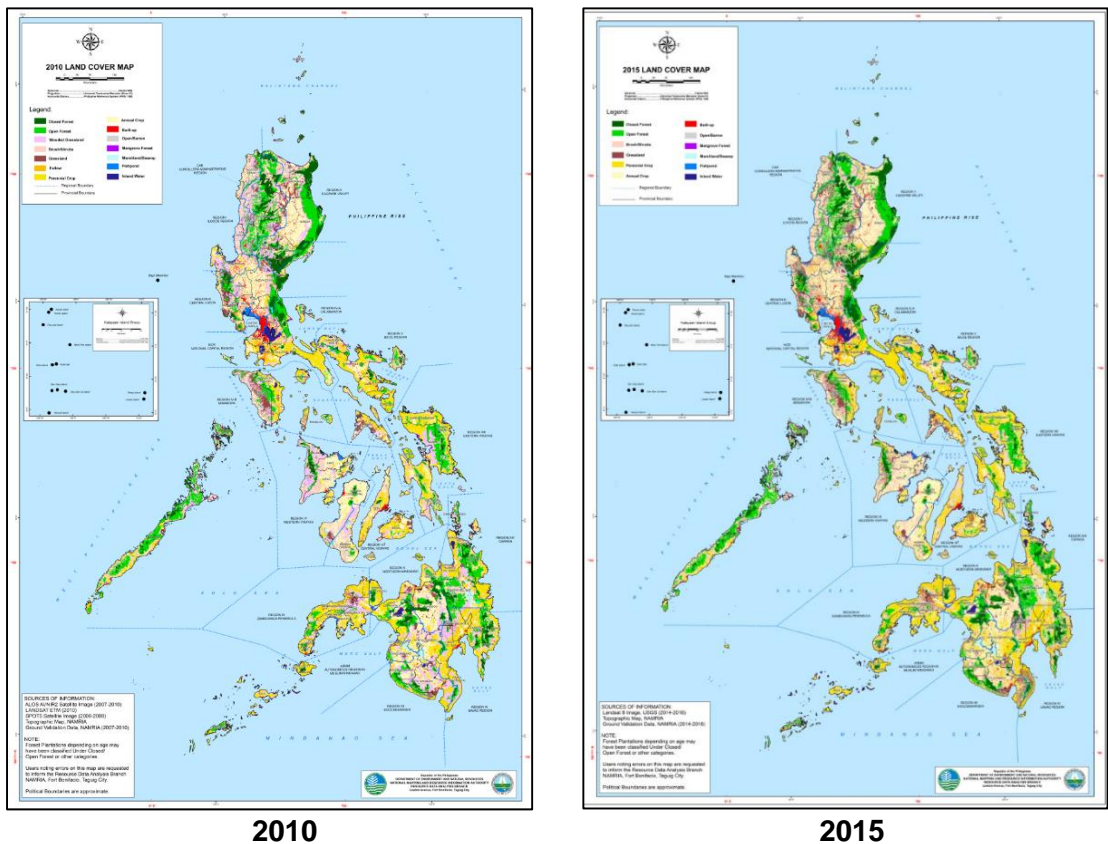
Source: NAMRIA and DENR data

<sup>42</sup> 2017 Philippine Forests Statistics, available at <https://forestry.denr.gov.ph/index.php/statistics/philippines-forestry-statistics> (last accessed October 16, 2019).

<sup>43</sup> NAMRIA Land Cover Map Classification.

Out of the 177,441 hectares gained, about 94,329 hectares are closed forest gains. This means that the increase in forest cover under this category is due to the natural growth of the forests. This could be attributed to the moratorium on the cutting of trees, which halted the decrease of closed forests. The rest of the forest cover gains, which is 90,044 hectares, are open forest gains. These gains could be attributed to the growth of new plantations. Below are images of the land cover map of the Philippines in 2010 and 2015. As presented, there is hardly any difference between the two maps.

**Figure 11: Land Cover Map of the Philippines (2010 v. 2015)**



Source: National Mapping and Resource Information Authority (NAMRIA)

NAMRIA explained that the 2015 forest statistics data they released in 2017 actually contains validation data covering CY 2013 to CY 2016. According to NAMRIA, it takes them years to complete their survey of the land cover of the Philippines. For this update, they were able to start validating in CY 2013; and they were able to finish in

CY 2016. They labelled their data as “2015 data” because the bulk of the information were gathered in CY 2015. NAMRIA mentioned that the next update of the forest statistics data would be released in CY 2021.

Based on our desk review, interviews, focus group discussions, and site visits, the following contributed to the marginal increase in the forest cover in the Philippines:

1. Problems with Survey, Mapping, and Planning;
2. Inclusion of perennial crops in NGP Commodity Roadmap design;
3. Length and amount of the Contract;
4. Distance of Areas;
5. Calamities;
6. Harvesting; and
7. Programs, which require the cutting of trees.

DENR is still having problems with the implementation of survey, mapping, and planning

**Problems with survey, mapping and planning.** When we looked at the results of the Technical Monitoring and Evaluation of CYs 2011-2015 NGP sites prepared by the FMB, we noticed that there are NGP sites that registered below 30 percent survival rate due to the steepness of the terrain or unsuitability of the site for planting.

**Table 8: List of NGP sites which registered low survival rate due to the unsuitability of the area for planting**

Year	Survival Rate	Area (in ha)	Site Code
2011	0.00%	15.00	11-086005-0282-0015
2011	0.00%	6.85	11-084805-0152-0006
2011	0.22%	38.81	11-084805-0161-0036
2011	4.20%	30.00	11-083708-0076-0030
2011	23.80%	30.18	11-175109-0069-0030
2011	28.20%	25.00	11-086000-0168-0025
2012	0.00%	40.00	12-082604-0514-0040
2012	0.00%	21.32	12-084815-0470-0021
2012	0.09%	79.00	12-042122-0146-0079
2012	0.20%	13.00	12-083739-0520-0013
2012	3.80%	1.00	12-021527-0478-0001
2012	5.85%	0.41	12-175109-0080-0000
2012	25.40%	5.00	12-021502-0089-0005
2013	0.13%	100.00	13-045619-0188-0100
2013	10.25%	4.00	13-041007-0069-0004
2013	10.60%	100.00	13-051603-0024-0100

Year	Survival Rate	Area (in ha)	Site Code
2013	18.80%	25.00	13-086414-0306-0025
2014	0.00%	50.00	14-015546-0173-0050
2014	10.00%	14.00	14-083708-0461-0014
2014	14.96%	30.52	14-084805-0084-0030
2015	8.10%	11.00	15-082606-1094-0011

Source: FMB Technical Monitoring and Evaluation of CYs 2011-2015 NGP sites

We also noticed from FMB's Technical Monitoring and Evaluation Report that there are also NGP sites which registered low survival rate due to site-species mismatch.

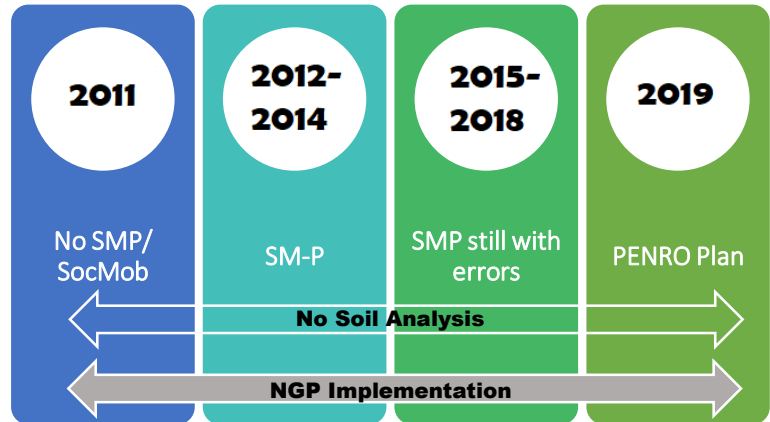
**Table 9: List of NGP sites which registered low survival rate due to site-species mismatch**

Year	Survival Rate	Area (in ha)	Site Code
2013	0.00%	60	13-045402-0287-0060
2013	4.63%	50	13-086000-0171-0050
2013	8.95%	10	13-083703-0056-0010
2013	17.40%	2	13-148102-2142-0002
2015	0.13%	54	15-021502-0014-0054
2015	0.76%	1	15-087800-0347-0002
2015	5.20%	50	15-140101-0315-0050

Source: FMB Technical Monitoring and Evaluation of CYs 2011-2015 NGP sites

We interviewed program officials from the Central Office and the Field Offices to determine the reason for such occurrences. Many of the interviewees cited the prevailing issues with SMP. Figure 12 is an illustration of the summary of experiences on SMP as identified by the interviewees.

**Figure 12: Summary of experiences on SMP as identified by the interviewees**



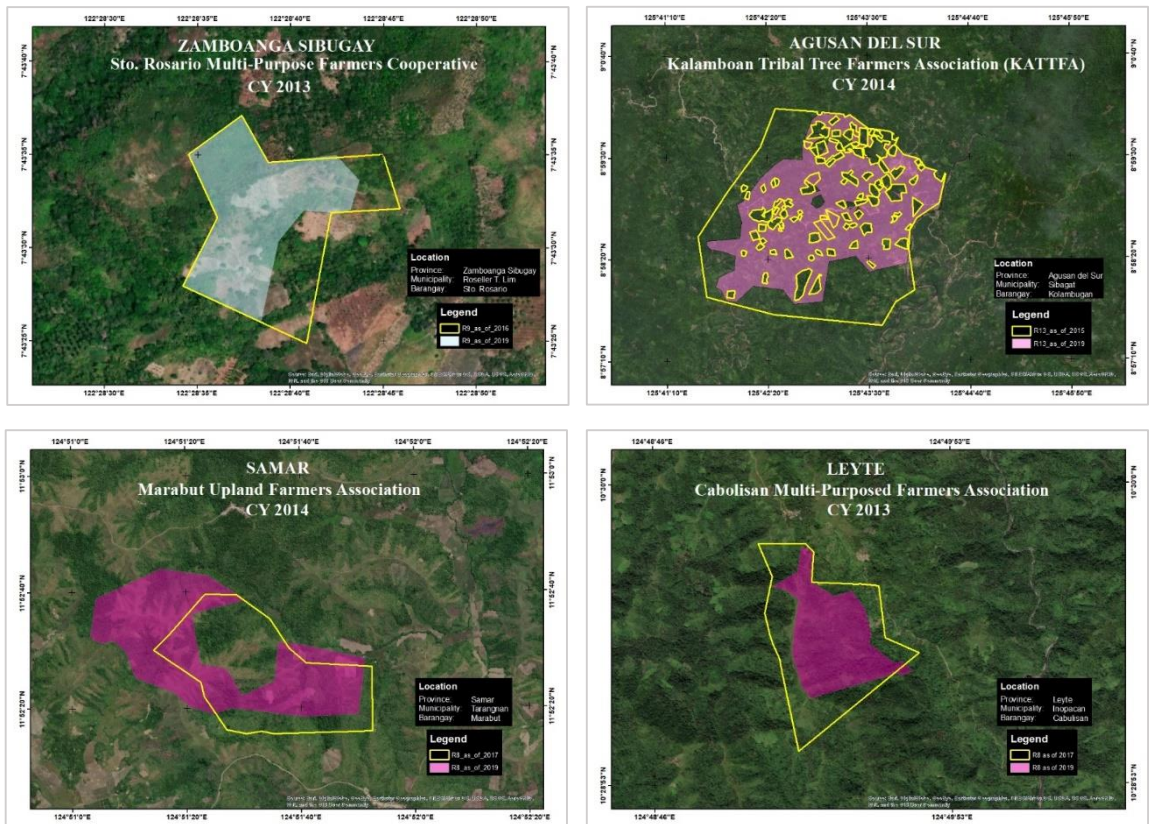
Source: COA Analysis of DENR data

**No SMP.** Program officials and field officers disclosed that SMP was not conducted in CY 2011 due to absence of funding and time constraints. We checked the DENR budget documents and found that there was no funding for SMP in CY 2011. Program officials explained that E.O. No. 26 was issued on 24 February 2011; at that point, the budget for the year has already been finalized. Despite the absence of a budget, DENR Central Office still committed to cover 100,000 hectares before the end of that year.

**Survey Mapping minus Planning (SM-P).** In CY 2012, DENR was able to secure funding for the conduct of SMPs after the management realized the need for SMPs due to the low survival rate from the previous year's plantation. However, despite having a budget and guidelines for the conduct of SMP, most Field Offices disclosed that they were only able to do survey and mapping but not planning.

In addition, through our interviews with EOs, we found that they merely made estimates on the areas to determine the potential NGP sites. When asked why they resorted to mere estimates, EOs explained the difficulty and danger of surveying vast tracts of forestlands. As a result, non-plantable areas were included as shown in Figure 13.

Figure 13: Samples of Rectified Shapefiles/Polygons (CYs 2013-2014)



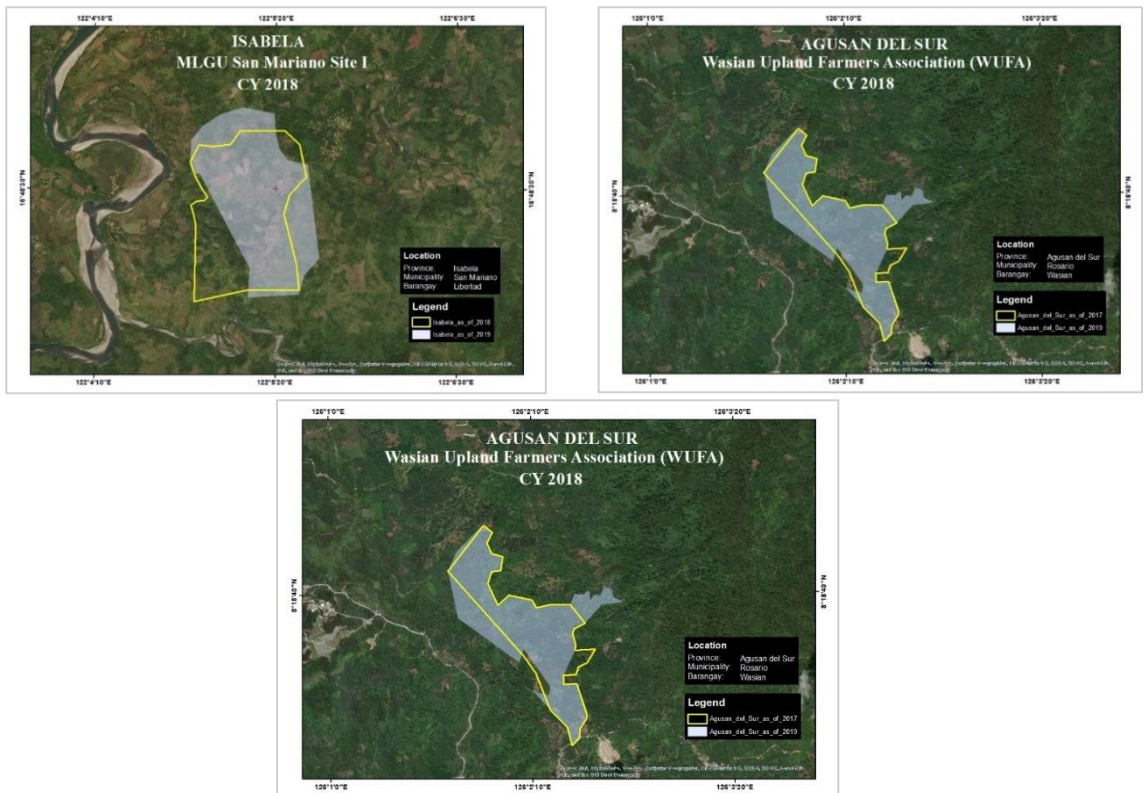
Source: DENR data

The original polygon—when the NGP sites were established—are the outlines in color yellow. The rectified polygons are in light blue or pink color.

As discussed in the early portions of this report, costing is based on the number of hectares of the identified NGP sites. This means that the budget allocated for the establishment of these sites included payments for areas that should have not been covered in the first place.

***SMP still with errors.*** Despite lessons learned from previous years' implementation and issuance of a revised Technical Bulletin, errors are still present in the SMPs submitted by the field offices. Figure 14 shows samples of rectified polygons for plantations established in CY 2018.

Figure 14: Samples of Rectified Shapefiles/Polygons (CY 2018)



Source: DENR data

**No soil analysis during the entire implementation of the NGP.** Through our interviews with program officials and field officers, we discovered that soil analysis was not a formal part of SMP. Also, based on the DENR budget documents, we found that there was no budget allocation for soil analysis until CY 2019.

Despite the absence of budget and guidelines, there are some PENROs, which took the initiative to conduct soil analysis. They partnered with their local counterparts from the DA since the latter has the instruments to conduct the same.

Soil Analysis became part of the SMP after the Ecosystems Research and Development Bureau (ERDB) issued Technical Bulletin No. 2018-01 on Soil Sampling and Analysis. ERDB elaborates that the most important pre-requisite for increased land productivity is proper soil management.

In the Technical Bulletin, the ERDB pointed out that soil analysis has been used as a tool to assess soil fertility and plant nutrient requirement. (N.C Extension, 2012).<sup>44</sup> Soil analysis can provide important information about physical conditions, fertility or nutrient status, and chemical properties that affect soil suitability for growing plants. Some of the steps associated with soil testing include: 1) soil sample collection; 2) laboratory analysis; 3) interpretation of results; and 4) fertilizer or other management recommendations (Johnston, 2011).<sup>45</sup>

*Mitigations introduced by the DENR.*

**PENRO Plan.** As a result of the prevailing problems with SMP, the DENR Central Office prescribes the preparation of the Provincial Medium Term ENR Plan.

The Provincial Medium Term ENR Plan, or simply referred to as “PENRO Plan” aims to provide offices with reliable basis in target setting and a tool to have in depth analysis of proposals.<sup>46</sup> The PENRO Plan will be formulated through bottom up process involving all offices (CENRO, PENRO, Regional and National Office) to include all sectoral programs/project including management and support services (top-bottom). The formulation of the PENRO Plan shall utilize a spatial planning platform wherein interventions/projects in response to current local ENR-related issues/problems shall be identified and developed.<sup>47</sup>

However, during our site visits, many of the PENROs and CENROs were not yet aware of the PENRO Plan.

**Drone.** Another mitigation discussed by the DENR is the acquisition of drones per municipality. Through drones, the DENR can generate a more accurate image of the NGP sites; complete with information on the slopes and non-plantable areas. Furthermore, the EOs will not have

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<sup>44</sup> Department of Environment and Natural Resources, Soil Sampling and Analysis, ERDB Technical Bulletin No. 2018-01 [ERDBTB1] (March 2, 2018).

<sup>45</sup> ERDBTB1, at 1.

<sup>46</sup> Draft Department of Environment and Natural Resources Memorandum Circular, Guidelines on the Formulation of Medium Term Environment and Natural Resources (ENR) Plan using Geospatial Platform [Draft DMC of Medium Term ENR], at 1.

<sup>47</sup> Draft DMC of Medium Term ENR, at 2.

to put themselves in danger by traversing the entire NGP site for the conduct of SMP. The only risk would be the loss of the drone itself.

However, when we checked the DENR's Information Systems Strategic Plan (ISSP) for CYs 2018-2020, there is no provision for the acquisition of drones.

DENR included perennial crops, which do not contribute to the increase of forest cover

**Inclusion of perennial crops in NGP Commodity Roadmap design.** Approximately 448,050 hectares or 28.51 percent of the total areas covered by NGP contain perennial crops, which will not be considered in the computation of forest cover. In CY 2013, DENR established NGP Commodity Roadmap, which provides area targets by kind of tree for CY 2011 and CY 2012, and by region and by kind of tree for CY 2013 to CY 2016. Based on NGP Commodity Roadmap<sup>48</sup>, approximately 448,050 hectares or 28.51 percent of the target NGP sites will be planted with fruit trees and other high-value crops such as commodities of several agroforestry species like coffee, cacao, rubber, etc. (Figure 15).

Figure 15: NGP CYs 2013-2016 Commodity Roadmap

Region	Timber	Fuelwood	Coffee	Cacao	Rubber	Bamboo	Rattan	Other Fruit trees	Indigenous Species		Mangrove		Total
									Protection Forest	Protected Area (PA)	within PA	Outside PA	
NCR													8
CAR	44,000	20,000	9,000	5,000	800	2,600	1,000	14,000	1,300	1,435			99,135
Region 1	8,000	20,000	1,000	2,000		5,000		4,000		850	510		41,360
Region 2	10,000	10,000	12,000	12,000	4,000	500	400	12,000		5,414	40	100	66,454
Region 3	10,000	15,000	5,000	5,000	4,000	10,000	5,000	10,000	10,000	18,004	75		92,079
Region 4A	20,000	10,000	5,000	5,000	5,000	10,000	10,000	10,000		23,794	266	3,500	102,560
Region 4B	20,000	15,000	5,000	5,000	5,000	1,000	1,000	20,000	13,000	3,399	14,119	5,000	107,518
Region 5	20,000	10,000	4,000	4,000		4,000	500	20,000	1,500	2,490	500	5,000	71,990
Region 6	20,000	5,000	1,000	1,000	800	1,000	2,000	8,000		6,000	600		45,400
Region 7	30,000	14,000	4,000	3,000	2,000	2,000	1,000	8,000	6,000	1,100	700	1,200	73,000
Region 8	15,000	15,000	5,000	5,000		4,000	5,000	15,000	4,000	50,400	500	4,000	122,900
Region 9	25,000	10,000	5,000	1,000	30,000	1,000	1,000	5,000	1,500	1,265	240	500	81,505
Region 10	20,000	5,087	2,000	2,000	8,200	2,000	1,000	5,000		5,844	31	300	51,462
Region 11	50,000	10,000	5,000	5,000	10,000			15,000		2,300	140		97,440
Region 12	25,000	20,000	10,000	2,000	25,000	10,000		15,000		3,735	189	300	111,224
CARAGA	29,314	1,489	14,903	3,725	16,394	745		7,786		4,205		593	79,152
Subtotal	346,314	180,576	87,903	60,725	111,194	53,845	27,900	168,786	41,505	126,030	17,910	20,501	1,243,187
2011	47,507	1,542	2,554	1,477	5,670	571	78	9,741	56,726	1,377		1,315	128,558
2012													200,000
Total	393,821	182,118	90,457	62,202	116,864	54,416	27,978	178,527	98,231	127,407	17,910	21,816	1,571,745

Recommended by:

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Staff Bureaus

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Undersecretary  
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MANUEL D. GEROCI  
Undersecretary  
Policy and Planning

Approved by:

RAMON J. PAJE  
Secretary

Source: DENR data

However, NAMRIA has categorized fruit trees and other high-value crops under Perennial Crops category and will

<sup>48</sup> In 2012, 0.2 million hectares or 12.7% of NGP sites have no identification which commodities will be planted.

not contribute to the increase in the Philippines' forest cover. As defined by FAO, perennial crops are cultivated long-term crops that do not have to be replanted for several years after each harvest, e.g. orchards, vineyards, plantations of palm, coffee, tea, sisal, banana, abaca, etc.<sup>49</sup>

DENR explained that, aside from reforestation, NGP also aims to promote the economic development and livelihood of the upland farmers. As such various wood requirements were considered in the NGP Commodity Roadmap, such as, timber to cater to the wood demand for the future, fuel wood species for the households, and high value crops like coffee, cacao, rubber, bamboo, fruit trees, mangrove and endemic or native species.<sup>50</sup>

Members of the POs leave the NGP sites to look for other means to make a living after the NGP contract term expires

**Length and amount of the Contract.** When we conducted our focus group discussions with the POs, one of the consistent requests among the respondents is the extension of the duration of the NGP contract, and the increase in the amount of payments, specifically for maintenance and protection.

The POs admitted that they are dependent on the program payments. Once the NGP contract expires, many of them will have to look for other means to make a living.

The POs argued that if the NGP contract term is extended to five (5) years, at least the seedlings are big enough to survive on its own.

When we clarified with the DENR, the program officials informed us that they already extended the contract term to five (5) years<sup>51</sup>, and adjusted the amount for maintenance and protection to ₱5,000/hectare per year<sup>52</sup>. The extension and adjustments took effect in CY 2019.

On the other hand, we also observed that there are a few POs, which are not concerned with the length of the contract and the amount of the payments. In Agusan del

<sup>49</sup> NAMRIA, 2015 Land Cover Mapping Project Report, at 8.

<sup>50</sup> Pia Ranada, Is the gov't reforestation program planting the right trees? *available at* <https://www.rappler.com/nation/51200> [February 28, 2014] (last accessed October 29, 2019).

<sup>51</sup> DENR Administrative Order 2019-03 dated January 8, 2019.

<sup>52</sup> DENR Unnumbered Memorandum dated March 7, 2019.

Sur, the POs are more interested on the issuance of the guidelines on harvesting. Since these POs are CBFMA holders, they can apply for harvesting permits from the DENR.<sup>53</sup> Under this set-up, we observed that the expected profits from harvesting was enough for these POs to stay and take care of the NGP sites even beyond the expiration of the maintenance and protection contract.

We could not say the same for POs, which are PACBRMA holders. PACBRMA holders are only allowed to plant indigenous trees<sup>54</sup>, which they are not allowed to cut<sup>55</sup>. As a concession, they are allowed to plant agroforestry trees/ fruit trees<sup>56</sup>. In some areas, POs were able to earn extra income from the produce. But many POs, even with the fruit trees, expressed that the payments were not enough for their daily needs.

Realizing this, some PENROs suggest that the adjustments should have limited application. Since CBFMA holders earn significant income from harvesting, the adjustments should only be applicable to POs managing protected areas.

As soon as the NGP contract expires, untenured areas are left with minimal supervision and care

**Increasing number of untenured areas with no caretakers.** As discussed in the “How NGP works” portion, NGP sites are managed by the following: 1) POs, which are CBFMA/ PACBRMA holders, 2) POs with no tenurial instruments, or 3) LGUs.

For the NGP sites managed by POs with tenurial instruments and LGUs, management of the NGP sites are merely retained by the respective POs or LGUs after the maintenance and protection contract expires.

However, for untenured NGP sites, these are turned over to the jurisdiction of the DENR until the site management contract gets bidded out to qualified bidders. This means that the POs, which took care of the NGP site might not be the same organization which will continue the management contract of the site.

<sup>53</sup> DENR Administrative Order No. 2004-29, Article II § 7, at 5.

<sup>54</sup> NGP Manual 2012 § 3, at 6.

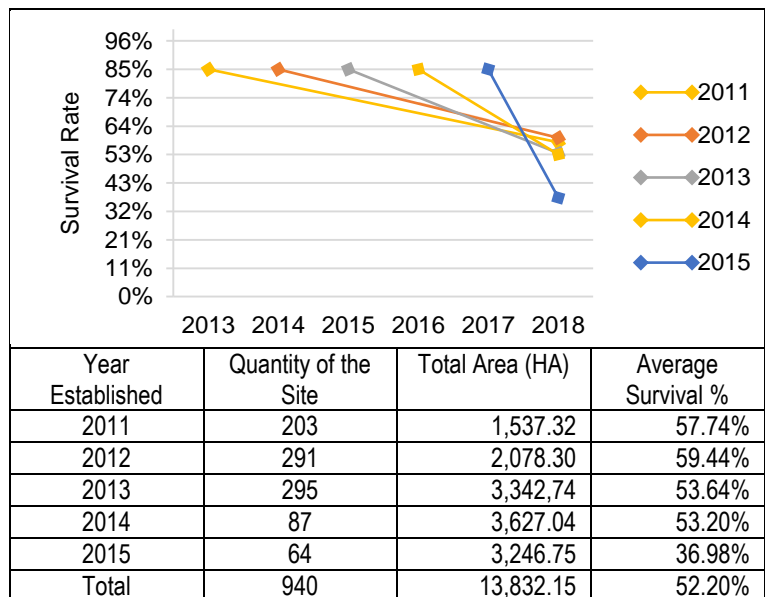
<sup>55</sup> Republic Act No. 11038 § 20(c), at 32.

<sup>56</sup> NGP Manual 2012 § 3, at 6.

While under the jurisdiction of the DENR, the NGP sites are supervised mainly under its Forest Protection Program, which is being implemented by the hired forest rangers of the DENR called “Task Force Lawin”. We asked the program officials and field officers on the monitoring of these sites, and they informed us that the current forest ranger per area ratio is 1:3000; one forest ranger monitors 3,000 hectares of forestlands.

To confirm what happened to the NGP sites, we looked at the survival rate trend of untenured NGP sites (Figure 16). We used the data from the FMB Technical Monitoring and Evaluation of CYs 2011-2015 NGP sites.

**Figure 16: Survival Rate Trend of Untenured CYs 2011-2015 NGP sites**



Source: COA Analysis of DENR data

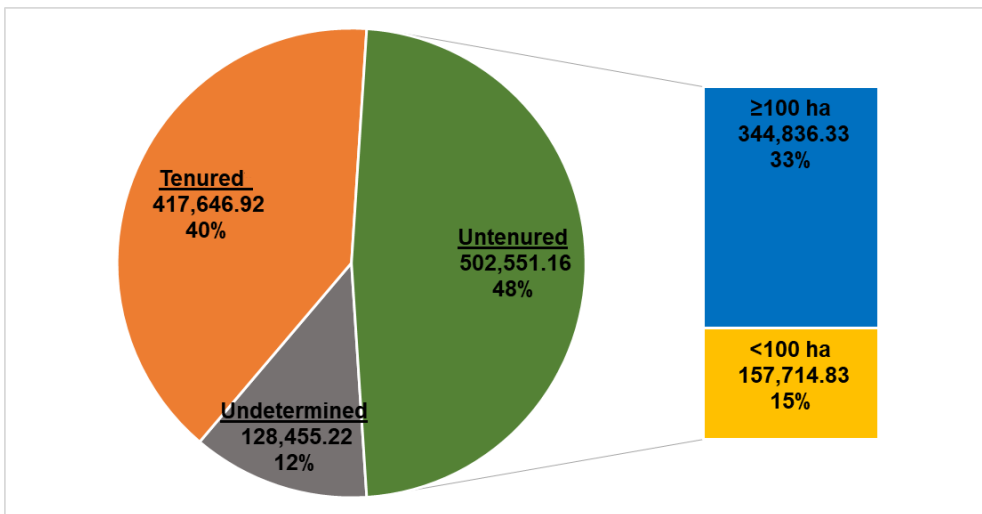
Given that all these NGP sites have been issued with CSDs then it means that at the end of the maintenance and protection contract, the DENR has certified that these NGP sites have attained 85 percent survival rate at the end of the 3rd year. However, as shown in Figure 16, the survival rate of these NGP sites declined by CY 2018. While the data does not represent the situation of all untenured site, it shows a common trend among untenured NGP sites.

The POs explained that the cutting of cogon grass, or weeding, is an essential part of maintaining and protecting the trees. If wild grass grows higher than the seedlings, the latter will not survive.

With only the forest rangers supervising the NGP site, there is a high possibility that the grass will grow taller than the seedlings; thereby decreasing chances of survival of the seedlings.

As the NGP becomes bigger, the number of untenured areas grow bigger as well. The number of POs with tenurial instruments is insufficient to cover all denuded forestlands. So, as the program progresses, the number of untenured NGP sites will increase. Figure 17 shows the ratio of tenured and untenured areas at a given point of the NGP.

**Figure 17: Tenured v. Untenured (CYs 2013-2016)**



Source: COA Analysis of DENR data

The DENR gave us access to their attribute table, which covers data from CYs 2011-2018. The attribute table is a portion of the software that the DENR purchased called the "ArcMap". The ArcMap is the application, which serves as the database of NGP. The Geographic Information System (GIS) Division handles this database. Due to some data encoding inconsistencies in the DENR database, we selected data with clear attributes taking also into consideration NGP sites that requires third-party

evaluation<sup>57</sup>. We were able to select the CYs 2013-2016 data set. The data set represent 1,048,653 hectares of forestlands covered by the program.

Based on our analysis, in CYs 2013-2016, the ratio of tenured to untenured is 40:48. About 502,551 hectares are untenured NGP sites. We expect that this number will grow even bigger in the future, if the program continues to expand.

As a mitigation, PENROs and CENROs are encouraging the POs to continue taking care of the NGP sites, while also encouraging the same to apply for a tenurial instrument. However, with no payment and no assurance that the NGP site will be awarded to them, POs do not have enough motivation to continue to take care of the NGP sites, especially if the trees planted do not yield additional profits.

However, a different scenario happens when the NGP site is planted with trees that provide additional income to the POs. For example, in the case of NGP sites planted with Falcata trees, the POs continue to maintain and protect the trees because they expect to profit from harvesting the timber.

To promote continuity, some innovative PENROs introduced a provision in the contracts that requires POs to apply for a tenurial instrument. However, the field officials admitted that the process of approving tenurial instruments takes time.

**Problems with untenured areas above 100 hectares.**

Another issue arises if the untenured NGP site is beyond 100 hectares; and that is the third party validation. Before it can be bidded out, the NGP sites should first be subjected to a third party validation before it can be turned-over to the DENR for the bid posting.<sup>58</sup>

The problem is that there is not much interest in doing the third party validation; and to those that took the challenge, none of them has finished the process yet.

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<sup>57</sup> Department of Environment and Natural Resources, Third-Party Performance Evaluation of NGP Plantations Established From 2013 - 2016, FMB Technical Bulletin No. 23 [FMBTB23] (March 2018).

<sup>58</sup> DENR MC No. 2013-06 § 6, at 3.

During our focus group discussions, POs raised the issue on the delay of the results of the third party validations. Because of this delay, the POs were not able to receive their 10 percent retention fee.<sup>59</sup> The field officials explained that there are no takers of the contract. Furthermore, those that have taken the contract have not finished the reports yet. Inaccessibility and the harshness of the terrain are the key reasons for the delay.

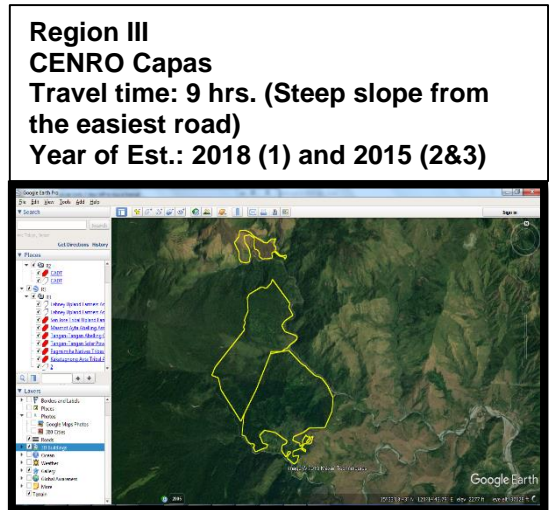
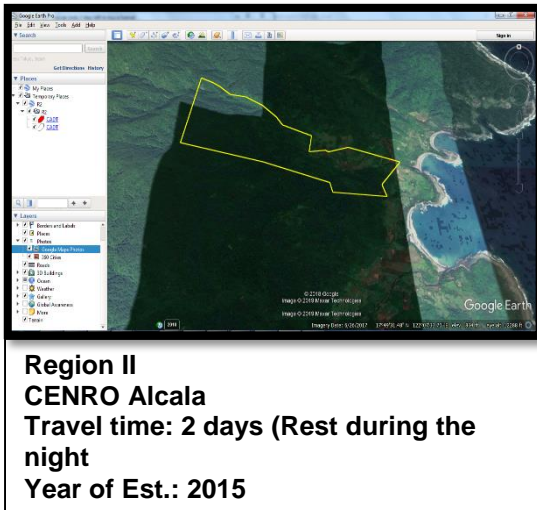
As of this writing, no validation report for untenured NGP sites above 100 hectares have been issued yet. The status of the third-party validations is shown in Appendix II.

NGP sites in farther portions of the forests are harder to establish and maintain

**Distance of Areas.** The POs mentioned that the distance of the areas made it difficult for them to attain the 85 percent survival rate.

Program officials and field officers admitted that as the program expands, the NGP sites become farther and farther away from the main roads; thereby increasing the hours needed to trek the site. Figure 18 shows some examples of NGP sites, which take hours or days to reach. Appendix III shows a list of distant NGP sites, many of which are untenured.

**Figure 18: Sample NGP sites with long travel period**



Source: DENR data

<sup>59</sup> DENR MC No. 2013-06 § 6, at 3.

According to the POs, the distance of the NGP sites affects the following:

1. Seedling hauling;
2. Site preparation;
3. Plantation Establishment; and
4. Maintenance and Protection.

Based on our focus group discussions with the POs, distance and accessibility of NGP sites increase the cost of hauling of seedlings from nursery to plantation. The POs explained that some NGP sites are inaccessible to any mode of transport, including carabaos. Hence, they are forced to haul the seedlings on foot. The upper left corner of Figure 19 shows the bag used by POs in Isabela in hauling the seedlings to the NGP sites. According to the POs, this bag carries about 20-30 seedlings depending on the species. As a result, POs needed to hire additional help in hauling the seedlings, which entails additional costs.

**Figure 19: Images showing the road conditions of some NGP sites**



**Bag for hauling seedlings**



**Road condition on the way to an NGP site in Isabela**



**Road condition on the way to an NGP site in Isabela**

Source: Photos taken by the COA Performance Audit Team and DENR

Distance of the areas also affects site preparation and plantation establishment. The POs explained that they had to set-up camp in the NGP sites for more than a week to finish work. With 9 hours to 2-days of trek time, it is their way of maximizing their efforts before going home.

Maintenance and protection is also an issue. Because of the difficulty to reach the site, the POs admitted that they are unable to visit the site as often.

The POs raised the issue that the formulation of the maintenance and protection payments does not take into account the distance of the NGP sites. The payments are the same regardless of the location of the NGP site. As discussed in the previous subsection, the DENR has adjusted the amount for maintenance and protection. But the payments are still the same across the board.

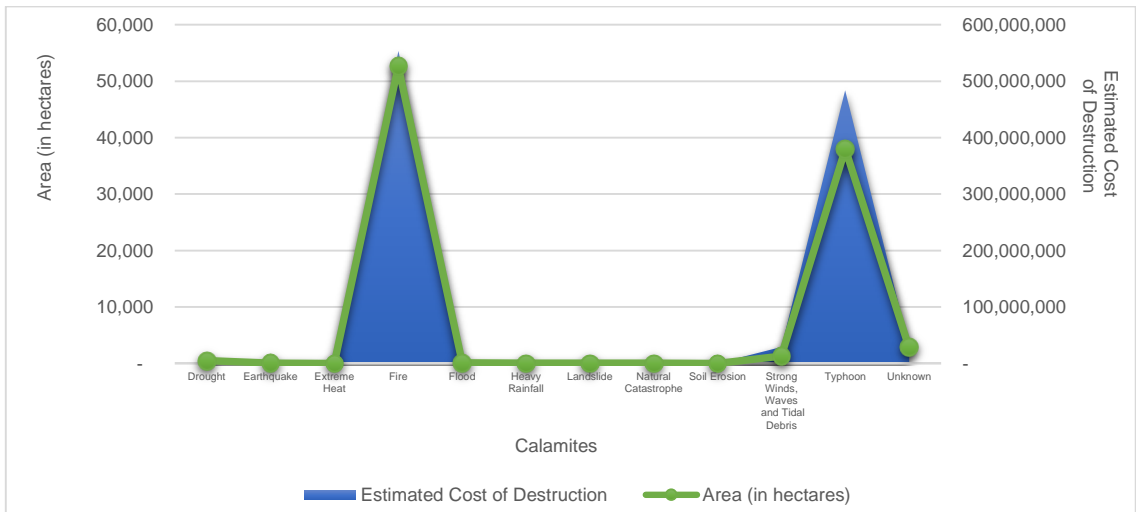
With difficulty and the uncertainty of their rights over the land, it is understandable that POs will leave the site, especially after the maintenance and protection contract expires. Additional examples of distant NGP sites is shown in Appendix III, many of which are untenured.

DENR Management commented that they cannot be selective in choosing the remaining hectares of degraded and denuded forestlands to reforest. And in order to address this issue, they are now employing technology like drones to assist in the conduct of survey and monitoring. Moreover, on areas not governed or covered by fully-organized POs, the NGP shall adopt Reforestation by Administration as a workable solution which is already incorporated in DENR Administrative Order No. 2019-03.

## Calamities

**Calamities.** The POs also mentioned calamities as one of the major causes for the low survival rates of the seedlings. The FMB, in its list of disturbances in NGP sites, found a number of occurrences, natural or man-made, which adversely affected the survival of the seedlings and ultimately the Philippines' forest cover (Figure 20).

**Figure 20: Number of hectares of NGP sites affected by calamities and its corresponding estimated cost of destruction\***



\*There are 4,352 entries in the list of disturbances in NGP sites, 178 entries of which the size of the area affected is not known and 90 entries have corresponding damages amounting to ₱53,245,823. Also, there are 813 entries in the list that size of the area affected is known (18,355 hectares) but the estimated damages are not known.

Source: COA Analysis of DENR data

**Fire.** Fire incidences tops the list of calamities that destroyed NGP sites as shown above. The POs attested to this during our focus group discussions. According to the POs, forest and grass fires are common due to the extreme heat especially during dry season. In addition, there are other factors which increases the likelihood of forest fires happening, such as: the cultural practice of *kaingin* (slash and burn) and abundance of cogon, which is highly flammable. More than 50,000 hectares of NGP sites were directly destroyed by fire and cost of destruction amounted to more than half a billion pesos.

There have been serious allegations in the news that the POs themselves burn the seedlings to receive fresh funds from the program. To confirm, we asked details on the program processes involving forest fires. The program

officials explained that in cases of fire, the POs are mainly responsible for replanting. This is the reason why the maintenance and protection contract also requires POs to produce buffer stock of seedlings aside from the seedling requirement of the site. Program officials explained that after the maintenance and protection contracts, the NGP site will no longer receive any money from the government. Furthermore, non-attainment of the 85 percent survival rate will disqualify POs from receiving payments. Under this system, we do not see any incentive for POs to deliberately burn their NGP sites.

If the buffer stock of seedlings is not enough, the field officials find ways to acquire seedlings for free. Regions with mechanized nurseries in their area have a steady source of free seedlings for replanting.<sup>60</sup> Other regions innovate. For example, in Region 2, the DENR requires all employees to produce seedlings in their backyards for replanting.<sup>61</sup> Other regions include the production of seedlings as a requirement for the issuance of licenses.

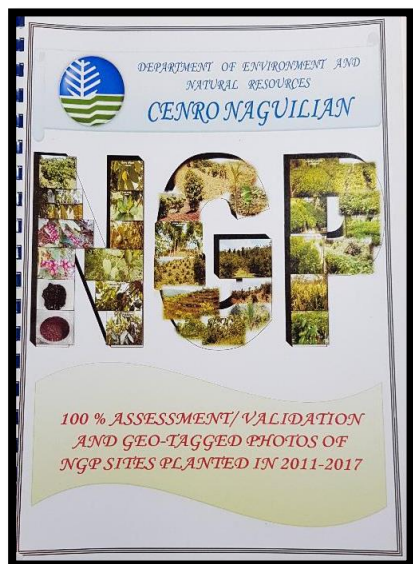
**Typhoon.** Destruction from typhoons ranked 2<sup>nd</sup> on the FMB's list of destructions of NGP sites. In Region 2, PENROs/ CENROs were required to validate all NGP sites in their jurisdiction in CY 2018. We were able to acquire a copy of the report of one of the CENROs. Figure 21 shows the cover page and the summary of the report.

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<sup>60</sup> MetroPost. ₱90M Mechanized Nursery Fully Operational, *available at* <http://dumaguetemetropost.com/pm-mechanized-nursery-fully-operational-₱7585-667.htm> [June 19, 2016] (last accessed October 9, 2019).

<sup>61</sup> Regional Memorandum Circular No. 2014-01, Individual Employee's Commitment to the National Greening Program (NGP).

**Figure 21: Report on the 100% assessment/validation and geo-tagged photos of NGP sites planted in CYs 2011-2017**



Year	Area (Ha)	Survival Rate
2017	2,434.0	40%
2016	900.0	47%
	100.0	50%
2015	1,777.0	35%
	731.0	34%
2014	1,150.0	40%
	209.0	45%
2013	950.0	27%
	229.0	20%
2012	274.0	33%
	782.0	30%
2011	244.7	56%
	35.8	50%
<b>Total</b>	<b>9,816.5</b>	

Source: CENRO Naguilian

CENRO Naguilian reported that the average survival rate of all its NGP sites from CYs 2011-2017 is between 20-50 percent. The CENRO noted in the report that the major cause for the low survival rate is due to the destruction brought by typhoons Ompong and Rosita. During our focus group discussions, the other CENROs also mentioned that the NGP sites in their respective areas suffered the same losses. CENRO Cabagan provided a photo of one of their site validation to illustrate the destruction. (Figure 22)

**Figure 22: Established Plantation in CY 2015 covering an area of 251 hectares located at Masipi West, Cabagan, Isabela**



Source: CENRO Cabagan

The same with the municipality of Naguilian, Isabela, the municipality of Cabagan was also heavily devastated by the typhoons. Figure 22 is just one among the many sites that registered low survival rates.

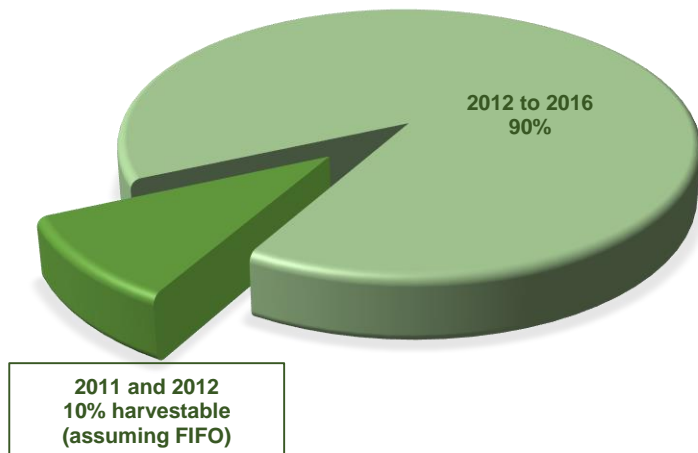
We asked other regions for the same reports, but they could not produce it. Apparently, this is not the standard for all regions. We recommend that all regions should be required to replicate this practice, especially that the FMB only has the capacity to do a 5 percent sample of the program.

After the calamities, it is again the POs, which are mainly responsible for the replanting of trees within their areas. This will work if the area is still covered by the contract term or if it is under an existing CBFMA or PACBRMA and the POs have extra funds to do the planting activities again. But for untenured NGP sites, no one will be in-charged of conducting the replanting activities.

## Harvesting

**Harvesting.** Based on technical monitoring conducted by FMB in CY 2018, some of the POs already started harvesting timber despite the absence of guidelines.<sup>62</sup> We expect that these incidences would increase as the trees mature. Based on DENR estimates, about 150 million seedlings or 10 percent of the 1.50 billion seedlings planted from CY 2011 to CY 2016 would be harvestable starting year 10.

**Figure 23: Projected harvestable trees after 10 years in plantation**



Source: DENR data

In our site visits, especially in NGP sites with Falcata trees, the POs are really interested to know the date of issuance of the harvesting guidelines. Upon its issuance, the POs will be able to benefit from their years of planting trees. The DENR Central Office provided their projection of the potential income of the POs from harvesting timber. (Figure 24)

<sup>62</sup> Forest Management Bureau, Technical Monitoring and Evaluation of 2011-2015 NGP sites.

**Figure 24: DENR projection of the POs income from harvesting timber from Falcata plantations**

**Projected income for 79 has Falcata Plantation:**

Current Fair Market Value = ₱4,000/m<sup>3</sup>

If 1 ha = 100 m<sup>3</sup> of timber

Then, 79 has x 100 m<sup>3</sup>/ha = 7,900 m<sup>3</sup>

And 7,900 m<sup>3</sup> x ₱4,000 = **₱31,600,000**

Source: DENR data

Based on the DENR projection, it is estimated that the POs will be earning approximately ₱31,600,000 from a 79-hectare (ha) Falcata Plantation.

While this will solve the socio-economic needs of the POs, harvesting will have direct negative effects on the attainment of forest cover and its environmental benefits. Furthermore, from our site visits, we observed that the NGP sites that registered high survival rates are those with timber species, such as Falcata trees. Hence, the forest cover increase will only be temporary because the trees that contributed to it will eventually be harvested.

In terms of environmental impact, Management commented that based on studies, younger seedlings tend to absorb more carbon dioxide than matured trees. Moreover, program officials and field officers explained that there is also a need to meet the timber needs of the country. To balance both needs, FMB is crafting the harvesting guidelines that would promote sustainable forest management, which will impose a rotation system to avoid the massive decline of forest cover. In order to do this, DENR will require the POs to set aside certain amount from the income to be used for replanting of the same site.

The Government is also a cause for the marginal increase of the forest cover

**Government sanctioned projects, which require the cutting of trees.** The government itself is one of the causes, which led to the marginal increase of the forest cover. COA has repeatedly reported this matter in its previous annual audit reports. An example would be the establishment of plantation on the side of the road, which was later destroyed due to road widening.

Here is another example of a government-sanctioned project, which had an adverse effect on the reforestation efforts.

On the way towards an NGP site, we came across an area with piles of logs. We asked the extension officers accompanying us about it. They explained that there is an on-going construction of a solar farm adjacent to the NGP site. Below is an image of the piles of logs we found in the area.

**Figure 25: Image of the piles of logs found in Burgos, Ilocos Norte**



Source: Photo taken by the COA Performance Audit Team

We asked for details but the DENR field officers were hesitant to give further information. Hence, we looked for alternative sources of information and found this: an article from the Philippine News Agency discussing the establishment of a solar farm in Burgos, Ilocos Norte. According to the article, a private corporation is developing another solar farm located at the boundary of

Burgos and Bangui towns in Ilocos Norte province, covering more than a thousand hectares of forestlands.<sup>63</sup>

The article further stated that the officer-in-charge of the DENR-Ilocos Norte confirmed that the DENR Central Office has issued the firm a Special Tree Cutting Permit R1-19-2018 on December 12, 2018, allowing them to cut about 8,129 trees. Most of these trees were planted in the past by POs under the Philippine Forestry Development Project in Ilocos Norte.<sup>64</sup>

The Philippine Forestry Development Project is a 9-year reforestation project in Ilocos Norte funded by the Asian Development Bank (ADB). The DENR implemented the program from 1984-1993. The project covered 13,000 hectares and it cost \$43.09 million.<sup>65</sup>

We searched for satellite images of the area using our geo-tagged pictures of the NGP site, and found the solar farm. Figure 26 shows the images of the area; one captured on October 14, 2018 and another, captured on September 23, 2019.

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<sup>63</sup> Leilanie Adriano, Another solar farm to rise in Burgos, Ilocos Norte, *available at* <https://www.pna.gov.ph/articles/1060490> [January 30, 2019] (last accessed October 25, 2019).

<sup>64</sup> *Id.*

<sup>65</sup> Project Completion Report of the Philippine Forestry Development Project in Ilocos Norte, *available at* <http://faspselib.denr.gov.ph/node/1438> [1993] (last accessed October 25, 2019).

**Figure 26: Satellite images of the Solar Farm****October 14, 2018****September 23, 2019**

Source: sentinel-hub.com

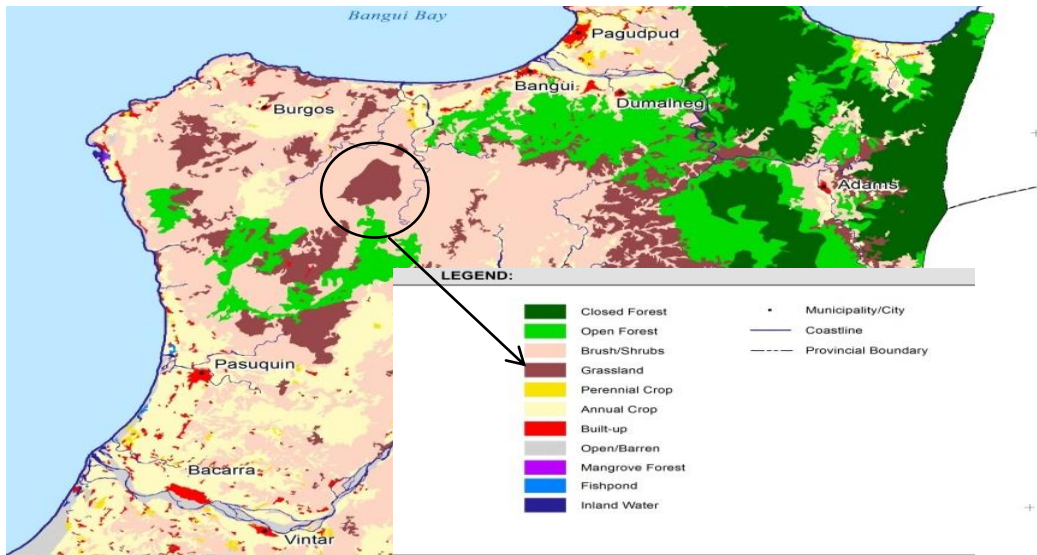
In less than a year, the solar farm covered a fourth of the patch of denuded and degraded forestlands. Using google earth, we measured the area. The size of the construction is approximately 275 hectares. The construction could still grow bigger because, based on the article, the construction would cover more than a thousand hectares of forestlands.

Apart from the cutting of trees, since the use of the land has been repurposed, it will not anymore contribute to the achievement of the target under E.O. No. 193, the expanded NGP, which is to cover all denuded and degraded forestlands.

Based on the land cover map of NAMRIA, the entire patch of land is classified as grasslands, therefore, it is considered denuded and degraded forestlands. Hence, it should have been identified as a potential NGP site, like the adjacent areas we visited, which were established in CY 2015. As a mitigation, the DENR included a provision

in the agreement with the company, requiring the latter to replace every tree that was cut with 100 seedlings.<sup>66</sup>

**Figure 27: Land Cover Map of Ilocos Norte**



Source: NAMRIA

DENR commented that the solar farm has a direct benefit to the people because it supplies power to the community, and it is renewable energy. However, as of report date, DENR has yet to conduct a study on whether the solar farm is more beneficial than reforestation.

Because the DENR is focused on meeting the planting targets, there are POs which missed the opportunity to earn from seedling production

**POs missed financial opportunities.** As discussed, the POs are allowed to produce their own seedlings through Community-Managed Procurement in Locally-Funded Projects. But due to the insufficiency of time to produce the seedlings, the POs have no choice but to procure the seedlings from private suppliers. The POs explained that six (6) months is not enough to develop the seedlings. According to them, it usually takes at least a year to produce great quality seedlings. However, since they have to deliver their targets for the year, they will have to source the seedlings from private suppliers.

A typical scenario is the case of Pampanga. PENRO Pampanga procured 5,177,207 seedlings amounting to ₱43,504,499 from private nurseries and other

<sup>66</sup> ADRIANO, *supra* note 63.

organizations in CYs 2011-2016, except CY 2013. This amount could have been earned by the POs if they were the ones who produced the seedlings. Instead, it was the private suppliers who benefitted from the program. We checked some of the individual contracts. Some suppliers came all the way from the far end of Nueva Ecija and Batangas, even though, the plantation site is in Pampanga.

**Figure 28: Distance of the NGP site and the Seedling Supplier**



Source: DENR and Google Maps

The transportation and travel period would stress the seedlings; thereby, decreasing its chance of survival. In the early years of the program, there have been numerous allegations of anomalies regarding seedling production, such as favoring of certain commercial seedlings suppliers.<sup>67</sup> Accelerating the implementation further fans this risk because procurement from private sources becomes inevitable. We believe that the program will be able to avoid all that by ensuring that only the POs will produce the seedlings.

The DENR needs to shift its focus from the targets to the welfare of the beneficiaries. By doing this, they will not have to hurry the POs in producing the seedlings. Instead, the POs will be given the time and training to learn proper cultivation of seedlings. The POs will be given sufficient time to produce the seedlings. Two goals will be achieved in implementing this, 1) the POs will be able to maximize socio-economic benefits of the program and 2) the DENR will be able to lessen the risk of fraud and corruption.

**How to earn from seedling production.** We interviewed the POs that produced their own seedlings on how they were able to work with DENR's timeframe. The POs answered that they developed the seedlings one (1) year before the contract was approved by the DENR. An example is the Holy Trinity Agro-forestry Multipurpose Cooperative (HTAMC) in Isabela.

The Chairperson narrated that since there was no contract yet with the DENR, they do not have an initial fund to start their seedling nursery. To resolve this, they secured a loan from the provincial government. They used that loan to develop the seedling nursery. According to the Chairperson, it was crucial that they were registered as a cooperative, otherwise they will not be able to secure that loan.

It was a gamble on their part to prepare the seedling nursery before the approval of the contract, but their gamble paid off. According to the Chairperson, their cost of production is about ₱5 per seedling. Due to their

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<sup>67</sup> Pia Ranada, DENR chief grilled on reforestation program, *available at* <https://www.rappler.com/science-nature/environment/59550-denr-chief-grilled-reforestation-program> [June 3, 2014] (last accessed October 27, 2019).

strategy, HTAMC was able to secure a profit of ₱3 per seedling at billing price of ₱8 per seedling. Currently, the HTAMC manages a total of 1,520 hectares and planted 1,623,130 seedlings. According to the CENRO Isabela, the density per hectare increases from 500 to 1,000 to 1,667 seedlings to attain the set target. At ₱3 per seedling, they generated approximately ₱4,869,390 in net income from seedling production. Table 10 presents the computation.

**Table 10: Computation of the estimated income of the HTAMC from CYs 2014-2018**

Year	Total Area	Total Seedlings	Savings	Amount
2014	100	50,000	3	₱ 150,000
2015	150	128,750	3	386,250
2016	300	499,800	3	1,499,400
2017	870	836,280	3	2,508,840
2018	100	108,300	3	324,900
<b>TOTAL</b>	<b>1,520</b>	<b>1,623,130</b>		<b>₱ 4,869,390</b>

Source: COA Analysis of Holy Trinity Agro-forestry Multipurpose Cooperative's data and DENR data

Based on the HTAMC's books, the cooperative started in CY 2014 with just a ₱15,000 share capital, they were able to accumulate an asset worth ₱11.47 million by the end of CY 2018. The bulk of the income and savings came from seedling production.

The extra income enabled them to construct a building. It also allowed them to purchase land, land improvement, vehicles and other assets which are used by the cooperative in managing the NGP sites. These assets generate additional income for the PO.

However, not all who gambled won. There were 24 POs in Agusan del Sur, which did the same, started producing seedlings on the potential areas of NGP before the approval of the contract. Unexpectedly the budget of the DENR was cut in CY 2019. As of our interview with program officials, the POs were not able to proceed with the establishment of new plantations. We believe that there could be more cases like this since we were only able to visit a limited number of NGP sites.

To address this, as discussed in the earlier portion of this subsection, the DENR should adjust the timeframe for seedling production.

We would like to emphasize that seedling production must be reserved to the POs. By doing this, the program augments the POs' capacity to manage the NGP sites. As seen in the case of the HTAMC, the extra income gave them the opportunity to invest on assets that could help them better manage the NGP sites, such as, vehicles for hauling seedlings. Also since they have resources, when typhoons hit Isabela, they are one of the POs, which were able to replant seedlings on the NGP sites.

It has been established that DENR fast-tracked the NGP process, especially in the early years of implementation, and it has led to waste

In their comment to the draft Performance Audit Report, DENR expressed reservation with the conclusion that fast-tracking the NGP process led to waste. They cited the clamor of NGP beneficiaries for the continuation of the Program, as justification, because of the empowerment, and the positive change to the environment and the socio-economic status of the beneficiaries.

We agree with the DENR that there is clamor from the NGP beneficiaries for the continuation of the program. In fact we can attest to this since we heard it personally from the beneficiaries during our FGDs. We also agree that the program has brought positive change to the environment and the socio-economic status of the beneficiaries as discussed in the entire report.

However, this does not negate our findings which support our conclusion that the DENR fast-tracked the implementation of the program. We found gaps in the implementation during the early years of the program and these gaps resulted from the fast-tracking of the NGP implementation. Moreover, these gaps resulted to wastage of resources and lost income opportunities. The PENROs/CENROs and POs themselves admitted this fact and is exhaustively discussed in this chapter.

We would like to note that this report supports the continuation of the program in order to address the urgent concern for reforestation. However, to ensure the economy, efficiency and effectiveness of implementation, NGP is subject to administrative and policy amendments. These administrative and policy amendments are summarized in the recommendation portion of this report.

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## **NGP will not be able to meet its environmental targets without first addressing the capacity and socio-economic needs of its beneficiaries**

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We observed that the socio-economic concerns of the POs significantly affect the development of NGP sites, specifically on the attainment of environmental targets, such as:

1. promotion of indigenous species of trees; and
2. attainment and maintenance of the 85 percent survival rate.

However, we also observed that when these socio-economic concerns have been addressed, significant improvements happen on the NGP sites. We believe that the following are the key elements in addressing the socio-economic concerns of the POs:

1. Ensuring that the POs benefit from seedling production;
2. Community organizing;
3. Convergence initiative; and
4. Promotion of Public-Private Partnership

## **POs prefer exotic species of trees over indigenous species of trees**

Despite the policies issued in support of indigenous species, exotic species have continuously been the predominant species planted in NGP sites. Based on our focus group discussions, POs strongly emphasized that they prefer exotic species of trees because these grow faster, and also because of the higher income opportunity from planting these trees.

Since the beginning of the program, various issuances mandate the planting of indigenous species of trees.

In CY 2011, Section 5.3 of DENR Memorandum Circular No. 2011-01 dated March 8, 2011 prescribes that premium and indigenous tree species shall be planted primarily to rehabilitate or restore degraded forestlands and protected areas/zones while fast-growing and

production/protection forest tree species and fruit trees shall be planted in agroforestry and production areas and multiple use zones.<sup>68</sup>

In CY 2012, DENR Memorandum Circular No. 2012-01 dated May 2, 2012 requires all regional executive directors to, among others, implement a phased approach to shift from use of exotic to indigenous species.<sup>69</sup>

The 2012 NGP Implementation Manual even stated that to all extent possible, indigenous species should be used for planting.<sup>70</sup>

However, data shows that approximately 235,000 hectares or 14.14 percent of the NGP sites were planted with indigenous trees from CYs 2011-2016. Figure 28 presents the commodities planted in NGP sites from CYs 2011-2016.

**Figure 28: NGP CYs 2011-2016 Commodity Roadmap**

Region	Timber	Fuelwood	Bamboo	Cacao	Coffee	Rubber	Rattan	Mangrove	Other Fruit Trees	Protected Area	Protection Forest	Urban Greening	Mix Commodities	Grand Total
CAR	51,948	3,914	969	1,176	13,809	658	1,289	-	4,672	181	5,621	40	7,672	91,948
NCR	-	-	-	-	-	-	-	1	-	53	11	1,185	1,288	2,539
R-1	24,019	27,225	954	1,115	2,591	-	72	207	6,790	381	218	475	5	64,052
R-2	34,615	1,794	361	4,095	9,500	141	1,114	190	11,386	904	472	180	4,937	69,688
R-3	34,137	8,278	4,765	6,253	6,417	224	8,380	349	10,133	4,983	3,988	310	1,487	89,704
R-4A	23,750	13,520	2,592	1,945	6,222	2,610	14,126	4,536	6,175	7,890	9,001	1,623	6,294	100,282
R-4B	47,085	1,426	63	924	1,841	110	256	1,548	4,816	1,356	6,068	75	18,959	84,527
R-5	29,127	5,362	1,631	3,718	3,886	38	1,741	3,195	23,408	2,421	6,953	922	2,511	84,912
R-6	20,721	6,484	468	1,119	3,698	16	1,282	1,226	5,228	7,032	6,599	543	4,492	58,908
R-7	32,487	6,719	1,912	3,540	8,077	1,826	2,902	2,241	6,989	1,270	2,563	302	5,643	76,470
R-8	32,879	5,270	1,592	276	854	10	11,948	4,702	6,874	2,687	7,993	111	6,681	81,877
R-9	6,429	755	145	891	862	22,557	130	2,331	671	-	923	225	60,376	96,295
R-10	39,697	710	815	1,018	1,458	8,098	148	269	1,527	3,243	10,253	241	6,964	74,441
R-11	16,377	4,113	81	6,425	5,347	6,492	-	77	5,232	456	4,728	609	27,410	77,347
R-12	40,889	1,700	1,000	3,214	15,515	15,455	-	464	3,146	641	4,494	1,026	8,395	95,939
R-13	54,928	949	724	3,034	3,576	10,048	-	1,568	2,858	2,181	7,881	144	377	88,268
NIR	-	-	-	-	-	-	-	-	-	-	-	-	-	14,000
ARMM	-	-	-	-	-	-	-	-	-	-	-	-	-	1,145
ERDB	-	-	-	-	-	-	-	50,418	-	-	-	-	-	1,741
Other Accomplishments	9,070	-	457	624	1,649	894	-	3,974	662	400	1,432	424	338,141	357,727
<b>TOTAL</b>	<b>498,156</b>	<b>88,219</b>	<b>18,530</b>	<b>39,366</b>	<b>85,303</b>	<b>69,178</b>	<b>43,389</b>	<b>77,295</b>	<b>100,564</b>	<b>36,078</b>	<b>79,196</b>	<b>8,434</b>	<b>518,520</b>	<b>1,662,229</b>
%	30%	5%	1%	2%	5%	4%	3%	5%	6%	2%	5%	1%	31%	100%

Source: DENR data

<sup>68</sup> D.M.C. No. 2011-01 § 5.3.

<sup>69</sup> Department of Environment and Natural Resources, Implementation of the National Greening Program, DENR Memorandum Circular No. 2012-01 [D.M.C. No. 2012-01] (May 2, 2012) § 4, at 1.

<sup>70</sup> NGP Manual 2012, at 4.

The program officials explained that the POs are also involved in the preparation of the SMP, which also contains the species of trees that will be planted on the potential NGP sites. Most of the POs express preference to plant exotic trees, agroforestry trees, or high-value crops.

We asked the POs regarding this matter, and they confirmed that they prefer planting exotic trees over indigenous trees. We even asked them if the program implementers require them to exclusively plant indigenous trees, will they remain in the program. Most of the POs replied that they will not participate in the program with that condition. However, there were POs that tried to bargain by asking for indigenous to exotic species ratio of 25:75. These POs explained that they need the extra income from planting exotic trees.

What is the effect of having more exotic trees than indigenous trees? Studies have indicated that exotic trees will cause the following:

1. Reduction in range, quality and quantity of goods and services supplied to local people by new plantation;
2. Reduction in ecosystem services, especially for water regulation, nutrient cycling and wildlife habitat;
3. Increased susceptibility to climate and other environmental changes;
4. Limited opportunities for collaborative management;
5. Loss of biodiversity and of opportunities to restore it;
6. More frequent outbreaks of pests and diseases; and
7. Problems with alien species becoming invasive.<sup>71</sup>

Furthermore, this has been the criticism of environment experts against the NGP. According to Philippine environment experts, propagating exotic species will destroy biodiversity. They explained that “exotics,

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<sup>71</sup> David Lamb and Don Gilmour. (2003). Rehabilitation and Restoration of Degraded Forests. IUCN, Gland, Switzerland and Cambridge, UK and WWF, Gland, Switzerland, at 19.

particularly alien invasive species, enfeeble our already endangered biodiversity, and weaken our food web.”<sup>72</sup>

What should the DENR do? The DENR could always impose the planting of indigenous species. As in the case of NGP sites in Protected Areas, the DENR have strictly implemented the policy that only indigenous trees are to be planted there. But, on the other hand, the POs are the main engine of this program. Without the POs, the program would not be implemented at all. The DENR may start implementing the prescribed proportion under the 2012 NGP Implementation Manual wherein it is stated that for production forest, a 60:40 ratio of forest trees to fruit trees may be adopted. If the ratio is still too much for the POs, consider amending it to 25:75 ratio. Then, gradually increase the percentage of indigenous species as the program progresses.

The quality of Maintenance and Protection heavily depend on the capacity of the PO

As exhaustively discussed in the previous sections, the quality of maintenance and protection is also affected by the socio-economic concerns of the POs. With limited resources, the POs will not be able to acquire assets, such as vehicles and tractors, to help them in managing the NGP site. For untenured NGP sites, the risk of abandonment is high, especially after the termination of the maintenance and protection contract. With no income and no assurance that the POs will be awarded with tenurial instruments over the NGP site, the members of the POs will have to leave and look for other means to make a living. Ultimately, all this issues will have significant impact on the ability of the POs to attain and maintain the 85 percent survival rate target.

All the environmental benefits of reforestation depends on the survival of the seedlings. The Philippine Institute of Development Studies (PIDS) compared NGP sites and non-NGP sites to check the environmental benefits of the program. According to the study, “the environmental impacts were gaining positive momentum through reduced temperature, soil build up, soil fertility, soil moisture, wildlife, stumpage build-up, and carbon

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<sup>72</sup> Judith Torres, Using mahogany in our reforestation programs may be ecological suicide, *available at* <https://blueprint.onemega.com/mahogany-national-greening-program/> [September 17, 2018] (last accessed October 27, 2019).

NGP contributed to the reduction of poverty, however, we could not conclude as to its scale due to insufficiency of data

sequestration.”<sup>73</sup> As long as the seedlings survive, we can expect this environmental results from the NGP sites.

Based on our focus group discussions, the POs generally confirmed that the program has helped them send their children to school and attain college degrees. Others also confirmed that the program has become their primary means of making a living. Every region that we visited has stories of successes. While many DENR regional offices have compiled their respective stories, there is no document yet that would quantify the collective benefits that the program has brought to the lives of its beneficiaries. This report will also not be able to quantify the collective benefits of the program due to resource and time constraints. Instead, this report will analyze the possible factors which have led to these successes.

To do this, we would like to highlight some of the most notable stories of successes that we encountered during our site visits.

We would like to start with the story of the Manobo, Banwaon Talaandig United for Peace (MBTUPI). This story highlights how the NGP helped literally built a community. Figure 30 shows images of the MBTUPI NGP site in CY 2014 and in CY 2018.

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<sup>73</sup> Toni O. Balangue, National Greening Program Assessment Project: Environmental Component – Process Evaluation Phase, Discussion Paper Series No. 2016-11 [pidsdps1611], at 1, *available at* <https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps1611.pdf> [April 2016] (last accessed October 27, 2019).

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**Figure 30: Satellite images of the MBTUPI in CY 2014 and CY 2018**
**2014****2018**

Source: Google Earth

The Google Earth application allows its users to view historical images of an area. The image on the left is the CY 2014 image of the MBTUPI NGP site. The image clearly shows the denuded and degraded areas. The image on the right is a CY 2018 image of the NGP Site. The latter image shows that in a span of four (4) years, the area already recovered its forest cover. The trees planted on the area are Falcata trees.

The more important noticeable change in the CY 2018 image are the little white spots on the lower left corner of the image. Those are the new homes built by the Manobo tribe. They were able to build those homes using the payments that they received from the program. Figure 31 shows a closer image of the structures.

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**Figure 31: Closer images of the structures in the MBTUPI NGP Site**


Source: Photos taken during site visit in the MBTUPI site

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Apart from the houses, the area now has an accessible road, a church, a school, and a basketball court. Electricity and water was also made available in the area.

During our focus groups discussions, the *Datu* or the Chieftain remarked:

*“DENR lang ang ahensya na nakaabot ng tulong sa amin.”* (DENR is the only government agency that extended assistance to our community.)

The DENR is the only government agency, which was able to help them. The DENR, through the NGP, made this possible.

With resources, community organizing, and trainings, POs were able to create additional and sustainable income streams

The next stories we would like to highlight are the stories of the following POs:

1. Dibboa Upland Farmers Association (DUFA) in Ilocos Norte;
2. Mabilag Mountaineers Association (MMA) in Ilocos Norte;
3. Rang-ayan Nature Spring Farmers Multi-Purpose Cooperative (RNSFMC) in Isabela; and
4. Holy Trinity Agro-forestry Multipurpose Cooperative (HTAMC) in Isabela.

By telling their stories we aim to highlight the importance of community organizing, training, and earning from the seedling production. All these POs were allowed to produce their own seedlings. Because they have additional funds, they were able to invest on equipment that would help better manage their NGP sites. Others were able to establish other sources of income using the profits from the seedling production as capital.

**Dibboa Upland Farmers Association (DUFA) in Ilocos Norte.** DUFA bought a house and lot, which was used as an office for their association. They were able to provide ₱2,000 dividend to encourage more memberships. It is through NGP that they were able to invest in farming equipment like rice mill and harvester. Members are provided funeral aid, honoraria of ₱250 and a 25 percent rebate on rental income from PO's facilities.

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**Figure 32: Photo of DUFA's Office and Rice Harvester**


Source: Photos taken during site visit

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**Mabilag Mountaineers Association (MMA) in Ilocos Norte.** MMA was able to invest in equipment as rice mill, truck, tractor and thresher. Presently, they are able to lend money to its members and provide dividend sharing up to ₱200,000.

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**Figure 33: Machineries and Equipment acquired by MMA**


Source: Photos taken during site visit

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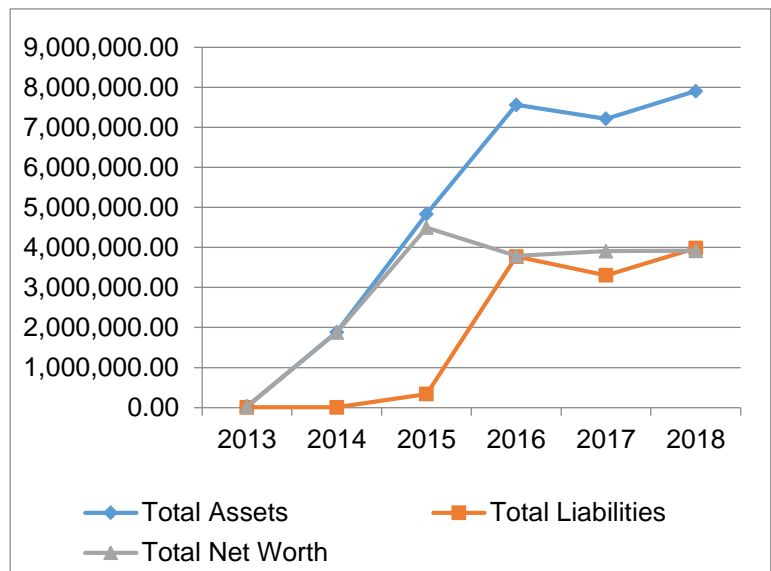
**Rang-ayan Nature Spring Farmers Multi-Purpose Cooperative (RNSFMC) in Isabela.** This is a PO composed of self-confessed former illegal loggers. They organized themselves as a multi-purpose cooperative. They used the profit from the seedling production as capital to venture on different lines of business

opportunities such as lending services (business loan, agricultural loan, and emergency loan), feeds/farm inputs, grocery store, glassware, motor parts, restaurant, and transport business (jeepney).

The site assigned to them is classified as agroforestry (i.e. *manga*, *rambutan*), they also earn income from the fruits.

RNSFMC opened their books and showed us that their total assets have reached about ₱8,000,000. Figure 34 shows a chart of the financial performance of RNSFMC in five (5) years.

**Figure 34: RNSFMC's Financial Performance from CY 2013 to CY 2018**



Source: RNSFMC

Figure 35 are images of RNSMC's main office and the property where the grocery store, glassware, and motor parts shops are located.

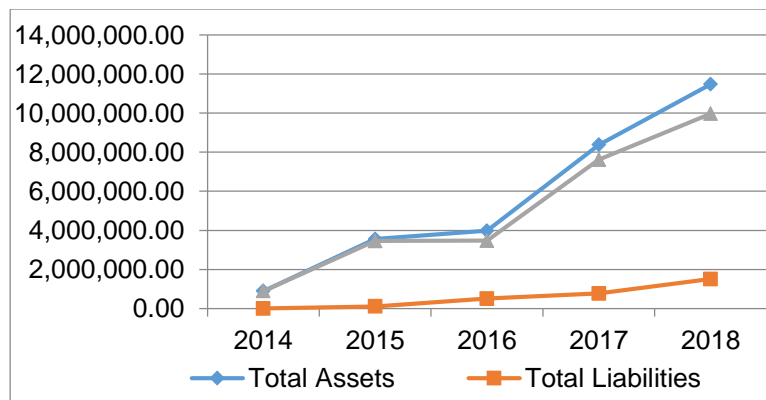
**Figure 35: Images of the business venture locations of the RNSFMC**



Source: RNSFMC

***Holy Trinity Agro-forestry Multipurpose Cooperative (HTAMC) in Isabela.*** The details of HTAMC's success have been exhaustively discussed in the previous sections (See page 54). Below is a chart of the financial performance of the HTAMC in four (4) years.

**Figure 36: HTAMC's Financial Performance from CYs 2014-2018**



Source: HTAMC

The last two POs are exceptional groups, which were able to transform into cooperatives thereby gaining access to finance, equipment, and technical assistance from other government agencies. Cooperatives gain a lot of privileges as provided by in Republic Act Nos. 9520 and 7607 that could contribute to their success. Cooperatives'

privileges include tax exemption<sup>74</sup> and low cost machinery acquisition<sup>75</sup>.

Opportunities opened to these POs when they were given the opportunity to benefit from seedling production. They used the extra income to augment their capacities. Another critical component of their success is financial literacy. The two latter POs were able to take their efforts a notch further when they became cooperatives. They knew what they need to become to create other income streams. The DENR can open the same doors to other POs by incorporating community organizing and financial literacy trainings in the program. Further, the DENR could provide all POs a checklist of all the requirements of all government services that may be related to NGP, such as loans, acquisition of trucks, and training support, among others.

By implementing the convergence initiative, the POs will gain access to a variety of government services, which will help them in managing the sites

There are various government benefits and services available to the POs. The problem is that not all beneficiaries are aware of such services. But there is one Local Government Unit (LGU), which made it its mission to bring in as much government agencies to its jurisdiction to help in the implementation of the program.

Through its efforts, the beneficiaries were able to establish coffee plantations and processing plants. The LGU is the municipality of Piddig and its story highlights the power and importance of the implementation of the convergence initiative.

The LGU of Piddig, Ilocos Norte manages a total of 1,430 hectares of forestlands under the NGP. The entire area is used for the following: coffee plantation — 1,130 hectares, timber plantation — 100 hectares; and fuel plantation — 200 hectares.<sup>76</sup>

Here is a list of some of the agencies that the LGU of Piddig has tapped to help in the management of its NGP sites.

<sup>74</sup> Republic Act No. 9520 Section 5, Chapter V: Articles 60 and 61.

<sup>75</sup> Republic Act No. 7607 Chapter II: Section 5.

<sup>76</sup> Memorandum of Agreement dated July 9, 2014 between DENR Region I and LGU Piddig, Ilocos Norte.

**Department of Social Welfare and Development (DSWD).** DSWD allocated funds to start vermicompost production. This has become the POs primary source of their fertilizers for the coffee plantations.

**Figure 37: Vermicompost Facility in Piddig**



Source: Municipality of Piddig, Ilocos Norte

**Department of Agriculture (DA).** DA provided machineries and equipment.

**Figure 38: Tractors from the DA**



Source: Municipality of Piddig, Ilocos Norte

**Department of Tourism (DOT).** DOT shared in the construction of farm-to-market roads and development of ecotourism site in Piddig.

**Figure 39: Image of the Coffee Processing Plant of the Municipality of Piddig, which is also an eco-tourism spot.**



Source: Municipality of Piddig, Ilocos Norte

**Department of Public Works and Highways (DPWH).** DPWH provided funds for the construction of water impounding dam. This is where the POs source their water for the coffee plantation.

**Figure 40: Water Impounding Dam in Piddig**



Source: Municipality of Piddig, Ilocos Norte

**Department of Trade and Industry (DTI).** DTI provided the Municipality of Piddig a coffee processing facility.

**Figure 41: Coffee Processing Facility in Piddig**



Source: Municipality of Piddig, Ilocos Norte

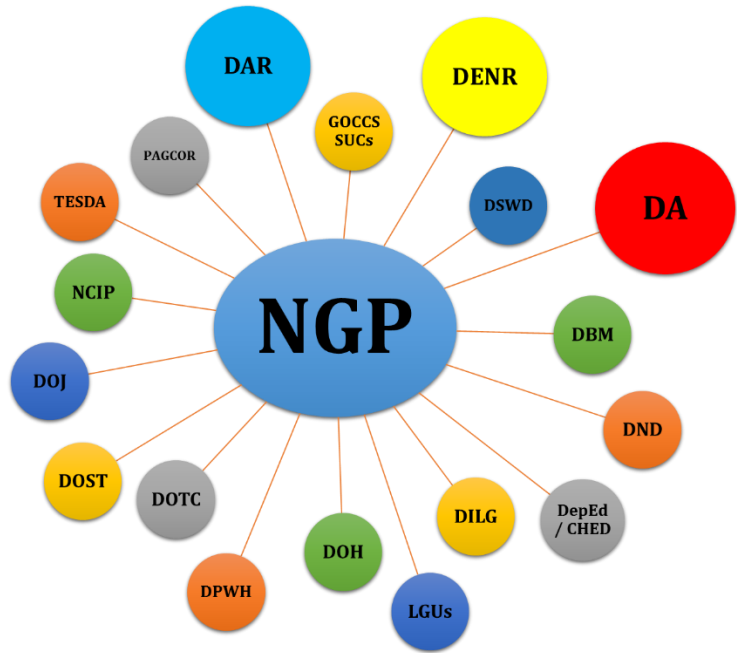
We believe that awareness and access to these government services are crucial elements in making the convergence initiative work, and that is what the LGU of Piddig did for the POs. According to the Mayor, his office sent invitations to all relevant government agencies to partner with them in managing the NGP sites. Also, his office took time to study all the available grants from various government agencies and the respective requirements for each. He then created a unit that would aid the POs in complying with the documentary requirements of the various agencies.

We also believe that the last portion is crucial. Providing a unit that would assist the POs in complying with the documentary requirements is a crucial service that would make many government grants accessible to the POs. And the practical side of this approach is that the LGU of Piddig did not ask for anything from the agencies other than what they are already providing. They worked with what is already there.

Convergence has not been implemented in the national level but there are pockets of successes on the local level

Convergence is a requirement of E.O. No. 26. Almost all government agencies are involved in this, as shown below.

**Figure 42: NGP Stakeholders**



Source: COA Analysis of E.O. No. 26

Program officials admitted that they have not been doing much at the National Level because of the difference of priorities between National Agencies. According to DENR officials, the agencies, including them, have been doing “way forward” meetings but nothing really is concretized.

However, at the local level, we found sporadic implementation of the convergence initiative. In Zamboanga City and Kabasalan, Province of Zamboanga Sibugay, POs received trainings on how to cut and tap rubbers from the DA. Kennemer Foods International, Inc. provided trainings on how to process and convert cacao into final products like chocolates. The DTI provided trainings on rubber tapping, budding and price monitoring. It also provided the POs weighing scales, budding tools, tapping knife and *banyera* or containers; as well as helped in marketing and packaging of the harvested/produced products. We also found that DTI also provided trainings on sustainable livelihood in Agusan del Sur.

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## Gaps in the planning, implementation, and monitoring of the program

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We found issues on the following matters:

1. Performance indicators;
2. Prioritization of Watersheds;
3. Mechanized Nurseries;
4. Extension Officers;
5. Social Mobilization;
6. Public-Private Partnership;
7. Data Reliability.

NGP has five (5) objectives but not all of them has performance indicators

NGP has five (5) objectives, which are:

1. Poverty Reduction
2. Food Security
3. Environmental Stability
4. Biodiversity Conservation
5. Climate Change Mitigation and Adaptation.

Based on our desk review, we found that the NGP's outputs, outcomes, targets, and indicators are contained in various documents and sources. We mapped these outputs, outcomes, targets and indicators and determined whether all the objectives have been covered (Appendix IV). However, we found that not all objectives have performance indicators.

Performance indicators (PIs) are measures of project impacts, outcome, outputs and inputs that are monitored during project implementation to assess progress towards attainment of project objectives. They are used to evaluate project's success.<sup>77</sup>

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<sup>77</sup> The International Bank for Reconstruction and Development/ The World Bank, World Bank Technical Paper No. 334, Performance Monitoring Indicators Handbook, at 1 (1996).

To ensure consistency, accuracy, relevance and usefulness of data collected for monitoring and evaluation, the indicators must have the SMART attributes.

- a. Specific – focused and clear
- b. Measurable – quantifiable and reflecting change
- c. Attainable – reasonable in scope and achievable within set time-frame
- d. Relevant – pertinent to the review of performance
- e. Time-bound/Track able – progress can be charted chronologically.

Furthermore, the Organization Performance Indicator Framework (OPIF) has required the establishment of indicators by which the performance of department/agencies could be monitored and evaluated. It also provided guidance on how to specify performance indicators for Major Final Outputs (MFOs) and set performance targets. Accordingly, the MFO PIs should reflect the key measures used by the department's/ agency's management to assess department/agency performance. They should be defined to reflect the intended relationship between the MFO and associated organizational outcome.

For each MFO, it is important to select a range or interrelated set of performance indicators that reflect how well resources were used to deliver the MFO. There are four (4) classes of PIs: quantity, quality, timeliness, and cost.

1. Quantity – A quantity PI indicates the number of units or volume of output delivered during a given period of time. (How much did we do?)
2. Quality – A quality PI indicates how well the output is delivered and how they are perceived by clients. (How well did we do it?) Common quality performance indicators include accuracy or completeness, safety, and client satisfaction.
3. Timeliness – A timeliness PI indicates a measure of the availability of the output as and when required by the client. Timeliness indicators may include turnaround time, average waiting time, distance/time travelled by clients to receive a service, etc.

4. Cost – A cost PI refers to the amount of input or funds used to produce an output, e.g., budget allocation for an MFO, or average cost per patient to provide immunization services. Measures may also include revenue ratios, such as percentage of production costs that are recovered from end-consumers.<sup>78</sup>

Without defined performance indicators as prescribed by OPIF and performance indicators that demonstrate SMART attributes, DENR will not be able to effectively demonstrate that it is achieving the intended impact and/or outcome of the Program. Even if DENR supplies information on these indicators, it will be insufficient to attribute any impact to the NGP.

**DENR efforts.** DENR, in collaboration with ERDB, has started establishing baselines and benchmarks through DENR Memorandum Circular No. 2014-06 dated November 13, 2014. In the said DMC, DENR's Baseline/ Benchmarking Protocol has the following interrelated components:

1. Biological Component – provides the scientific assessment of the composition/ configuration/ landscape of the NGP site prior to the introduction of tree planting activities in terms of its biological diversity using indices of diversity, evenness, dominance and community coefficient.
2. Physical Component – focuses on using the physical features, such as soil cover, geology, contours, elevations and land use, among others, in assessing the stability, nutrient cycling, and hydrological function/ status of the landscape where NGP activities will be implemented.
3. Socio-economic Component – assesses the existing socio-economic conditions of the target NGP beneficiaries prior to the implementation of the program to include the social conditions, economic characteristics, and awareness of the NGP as a national program of the government.
4. Spatial Component – describes the procedure for making Geographic Information System (GIS)-

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<sup>78</sup> Organizational Performance Indicator Framework (OPIF) Reference Guide: A Guide to Results-Based Budgeting in the Philippines, Department of Budget and Management, at 41-42 (April 2012).

based maps and other spatial information necessary to support baselining/benchmarking activity for the NGP site. It will produce maps and generate spatial information needed in the characterization of biological, physical and socio-economic conditions of an NGP site where the planting activity will take place.<sup>79</sup>

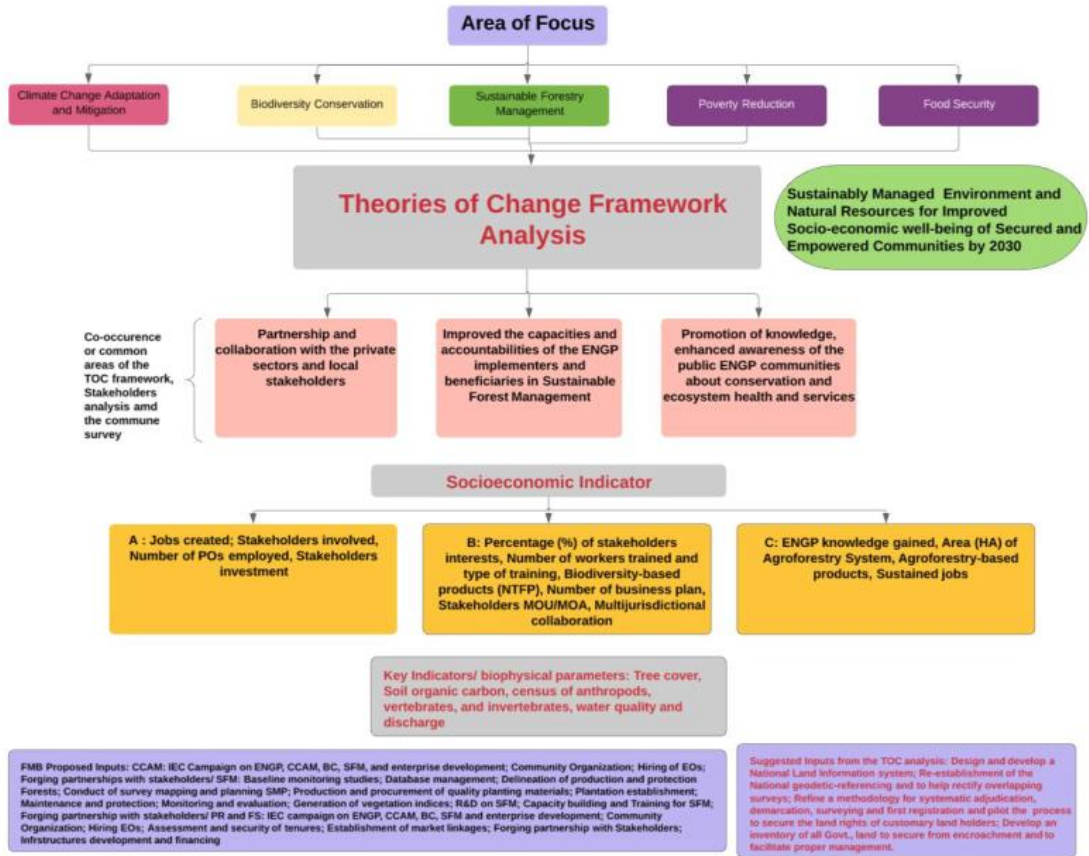
Also, the DENR is currently developing a comprehensive Monitoring and Evaluation Framework (MEF) in partnership with the United Nations Development Programme (UNDP) and the World Agroforestry Centre (ICRAF).<sup>80</sup> The MEF is designed through theories of change framework analysis. As seen in Figure 43, all five (5) objectives will be covered by the new MEF. So far, ICRAF reports that a total of 87-90 indicators have been developed.

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<sup>79</sup> Department of Environment and Natural Resources, Adoption of Baselining/Benchmarking Protocol for the National Greening Program, DENR Memorandum Circular No. 2014-06 [D.M.C. No. 2014-06] (November 13, 2014).

<sup>80</sup> Mohd Noor, F, Ureta J, Rosas A.J, Tiburan, C.J, Celeridad, R.L and Lasco R. 2018. Proceedings for Theory of Change Development Workshop for Enhanced National Greening Program. Los Baños, Philippines: World Agroforestry Centre, at 6.

Figure 43: MEF Development Process



Source: Development of the M&E Framework for the Enhanced National Greening Program, The World Agroforestry Centre, 2018

We asked the program officials about the target date of release of this Framework, as of report date, there is still no exact date communicated to the team.

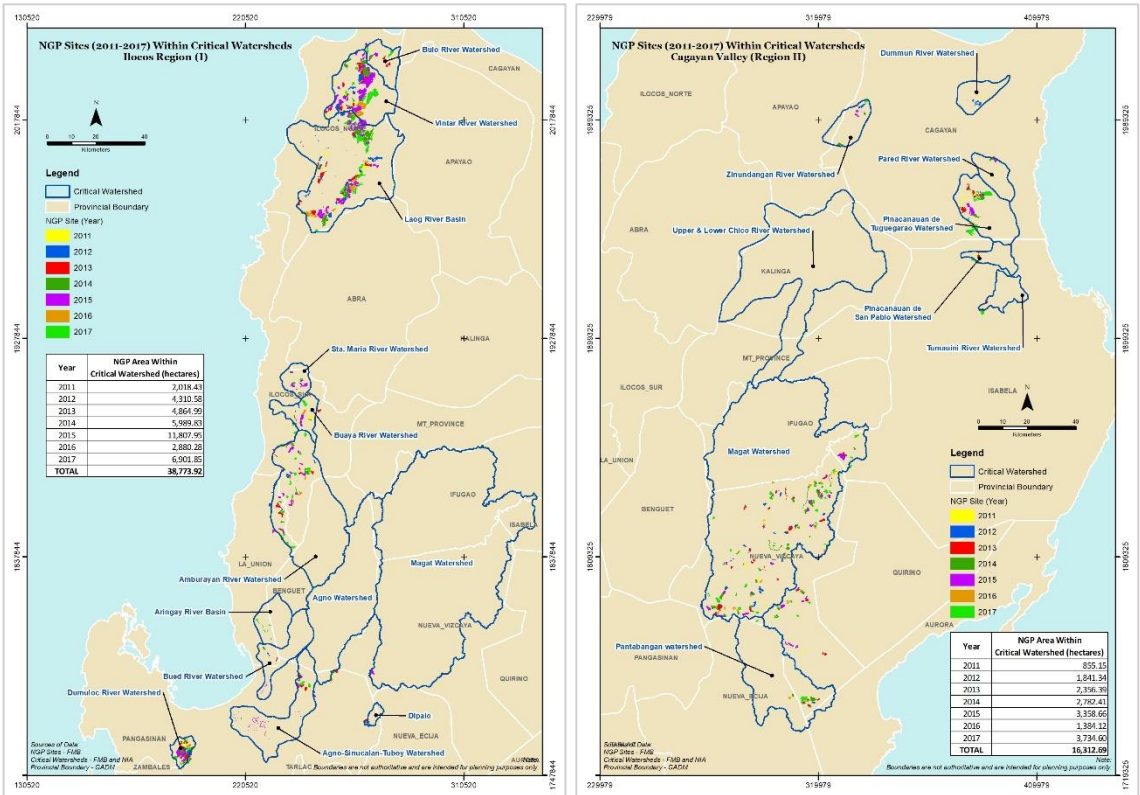
Prioritization of watersheds also not met

Another priority target of the NGP is the establishment of planting sites within the 143 Priority Critical Watersheds supporting NIA Irrigation System, of which 92 critical watersheds (2.80 million hectares) are within the 18 major river basins.

Under Presidential Decree No. 705, otherwise known as the Revised Forestry Code of the Philippines, a critical watershed is defined as a drainage area of a river system supporting existing and proposed hydro-electric power and irrigation works.

Almost a decade into the program, the DENR has not covered all of the critical watersheds. Program officials explained that they selected areas where they can easily mobilize communities/ individuals to engage in plantation establishment. They started with areas with tenurial instruments because there are POs there that can manage the NGP sites.

**Figure 44: NGP Areas within the Priority Critical Watershed in Regions I and II**



Source: Forest Management Bureau - DENR

According to program officials, establishment of planting sites within the 143 Priority Critical Watersheds is again included in the priority activities of the program.

POs reject the seedlings produced by the mechanized nurseries for its inferior quality, which was a result of its long transport period

The Mechanized and Modernized Forest Nursery (MMFN) is established to support the implementation of NGP in the production of high-quality planting materials. The nursery is equipped with imported and modern technology facilities, and latest methods of seeding, germination, and propagation<sup>81</sup> that will enable them to disperse seedlings at a faster rate<sup>82</sup>. And to ensure the production of quality forest and fruit-bearing seedlings, seeds will come from genetically superior sources.<sup>83</sup> Despite all these, POs experienced a high mortality rate from seedlings produced from the nurseries. Long and stress-induced transport from the nursery to the NGP site and inappropriate soil mixture account for the high mortality rate of seedlings.

A total of 11 MMFN sites were established nationwide (Table 11). Each nursery has an annual maintenance cost of ₱5,000,000 and has a seedling production capacity of 5 to 40 million seedlings in a year.

**Table 11: Established Modern and Mechanized Forest Nurseries**

Region	Location	Total Cost
NCR	Bicutan, Taguig	₱ 39,299,627
2	Solana, Cagayan	57,788,627
3	San Jose, Tarlac	45,892,297
4A	Los Baños, Laguna	45,892,297
5	Lupi, Camarines Sur	58,982,627
5	Guinobatan, Albay	45,892,297
6	Tangalan, Aklan	45,892,297
7	Ayungon, Negros Oriental	115,064,627
9	Tukuran, Zamboanga del Sur	45,892,297
12	Kidapawan, North Cotabato	45,892,297
13	Bislig, Surigao del Sur	73,912,627
<b>Total</b>		<b>₱620,401,917</b>

Source: DENR Data

<sup>81</sup> DENR Region 2 Press Release. State-of-the-art forest nursery to boost NGP, *available at* <http://r2.denr.gov.ph/index.php/component/content/article/89-webpage/354-state-of-the-art-forest-nursery-to-boost-ngp> (last accessed October 9, 2019).

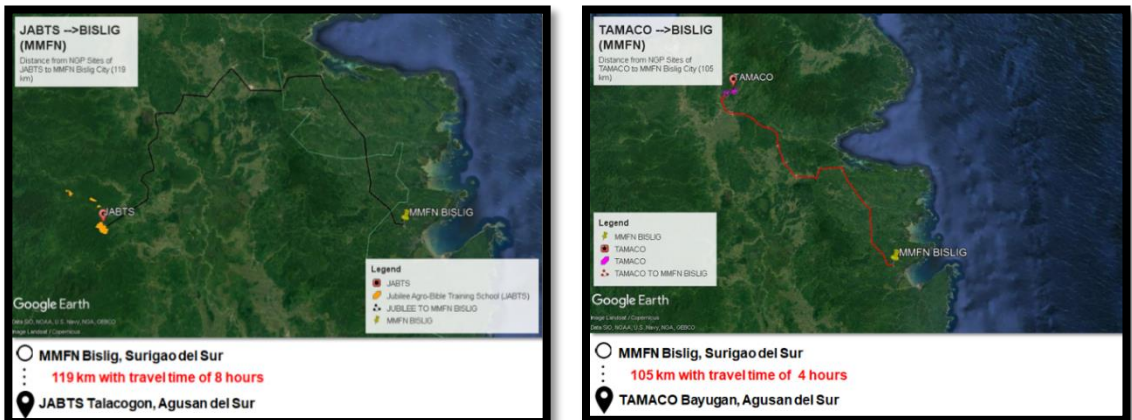
<sup>82</sup> MetroPost, *supra* note 60.

<sup>83</sup> DENR Region 2, *supra* note 81.

POs can request seedlings from these nurseries at no cost, pick up the seedlings from the nursery or have them delivered to their sites.<sup>84</sup>

However, FGD with POs disclosed that stress due to transport from the nursery to NGP sites affected the survival rate of the seedlings planted. As illustrated in Figure 45, the nearest MMFN in Agusan del Sur is located in Bislig, Surigao del Sur. The seedlings from this MMFN will travel approximately 105 to 119 kms for 4 to 8 hours. From a “Baby” setting to a harsh environment outside the nursery, the mortality rate of the seedlings increases. Moreover, POs also noted that the soil mixture used for seedlings from the nursery was not suitable for all lands.

**Figure 45: Distance between NGP sites and nearest Modern and Mechanized Forest Nursery**



Source: DENR data

POs, in some areas, request that the mechanized nurseries should not supply seedlings to them anymore. Other POs, on the other hand, praised the mechanized nursery for being helpful in supplying the seedlings for replanting.

Lastly, review of seedlings produced by the mechanized nurseries revealed that most of the species are exotic and fruit trees. Interview with management confirmed the same, that most of the seedlings produced in the nursery are exotic species. This equates to mass production of

<sup>84</sup> MetroPost, *supra* note 60.

exotic species which most are meant for harvesting upon maturity, and forest cover gained upon planting this species will be temporary and will cease upon harvest.

Management commented that DENR, through the FMB and ERDB, is currently assessing the status and productivity of these facilities, including production of seed sources and mechanized nurseries in order to address the issues raised by the POs.

Overwhelming work of Extension Officers affect the reliability of data and delivery of services to the PO

Apart from the POs, another key component of the program is the Extension Officers. EOs are not only responsible for supervision and monitoring of the sites, they are also in-charge of assisting the NGP Coordinators in implementing the program and providing technical assistance to POs and upland communities through extension services.<sup>85</sup>

Extension services provided are:

1. information, education and communication;
2. technical assistance to POs from seedling production to maintenance and protection;
3. site assessment and survey, mapping and planning;
4. regular monitoring and reporting of accomplishment;
5. geo-tagged photos of NGP sites; and
6. regular update socio-demographic-economic profile of the community organization/PO.

Despite the importance of the role of EOs in the implementation of the program, there are not enough of them in it. As shown in Table 12, the ratio of EO to NGP sites ranges from 1:443 to 1:736.

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<sup>85</sup> NGP Manual 2012, at 14.

**Table 12: Ratio and Salary of Hired EOs**

YEAR	ACTUAL				Salary		
	EOs Hired	Area Coverage		Ratio	Annually	Monthly	
Plantation	w/ M&P	Total					
2012	526	221,763	165,433	387,196	736	₱120,000.00	₱10,000.00
2013	1,112	333,160	350,321	683,481	615	150,000.00	12,500.00
2014	1,555	334,302	554,923	889,225	572	150,000.00	12,500.00
2015	2,321	360,357	667,462	1,027,819	443	180,000.00	15,000.00
2016	2,146	284,089	694,659	978,748	456	180,063.30	15,005.28
2017	1,714	202,488	644,446	846,934	494	180,000.00	15,000.00
2018	1,363	133,336	486,577	619,913	455	222,593.29	18,549.44

Source: COA Analysis of DENR Data

In the early years of the program, DENR has set the standard ratio at 1:500. In CY 2019, the DENR readjusted this ratio to 1:300 realizing that 1:500 is unmanageable.

During our focus group discussions, the EOs confirmed that the 1:500 ratio is too big for them to manage. The ratio does not account the altitude and terrain. This is the reason why EOs are having a hard time reaching all NGP sites. As a result, there is delay in the validation of NGP sites, which affects the release of payments to POs.

Furthermore, the EOs admitted that they are merely doing an estimate of the area during site visits because of the difficulty of covering the entire area. This affects the reliability of the SMP and validation reports. Hence, as discussed in the earlier portions of this report, there have been many cases where non-plantable areas were included in the program.

Despite being an important stakeholder in the implementation of NGP, EOs do not have security of tenure, which could impact the continuity of the program

In order to beef up the lean manpower complement of the DENR, they requested from the DBM clearance for hiring EOs to augment the manpower needed to implement NGP. However, EOs are Job Orders (JO) or contractual workers who have to renew their contracts every six (6) months. Moreover, JO workers do not have an employee-employer relationship with the DENR. Hence, EOs do not receive the same benefits as the regular employees, such as Government Service Insurance System benefits. And the unfortunate part is that their work exposes them to various kinds of dangers, such as:

1. There have been reports that there are EOs who have been injured, harassed and threatened while patrolling and monitoring the site.
2. In Talacogon, Agusan del Sur, an EO narrated that she and her partner almost drowned while crossing a river on the way to the site.
3. Another EO narrated that they were once caught in between crossfires while on their way to the site. The encounter traumatized her partner, as a result, he resigned.
4. Some experienced having a gun pointed at them.
5. An EO died because a tree branch had fallen on her head during site visit.
6. An EO got bitten by a snake.
7. There were also reports of threats from POs who do not want to be surveyed since assigned EO is not from that area.
8. And the most recent incident: a forest ranger was brutally killed last September 4 by a suspected illegal logger during the conduct of forest patrol with another EO and a park ranger. They discovered illegal cutting of trees in the area but was chased home by six (6) men armed with bolos. Unfortunately, the forest ranger was cornered and hacked to death while the EO and park ranger seek for help of barangay and police.<sup>86</sup>

Social mobilization has been a helpful strategy in attaining the NGP's annual target during its early years; however, its implementation has not been effective

With the danger and lack of security of tenure, there is not much reason for EOs to stay in the program. As of September 2017, there are already 23 EOs who have died on duty, and 89 injured.

In the early years of NGP, social mobilization was one of the strategies implemented by DENR.<sup>87</sup> Here, volunteer planters from partner organizations, students and government employees undertake outplanting activities.<sup>88</sup>

In 2012 NGP Implementation Manual, it has been a standard activity for NGP tree planting to have a school/ agency visit to orient the volunteers on NGP, brief them on the proper attire and conduct on-site, proper planting or nursery operations and the Dos and Don'ts.<sup>89</sup>

Likewise, FMB Technical Bulletin No. 10 provided that to support or strengthen activities on the ground, complementary Information, Education, and Communication (IEC) initiatives will be done, along with advocacy and social mobilization as appropriate. The IEC campaign should be localized at the PENRO/CENRO level. Funding allocation should be utilized for community meetings and consultations with NGP partners, local government units and CBFM POs engaged in NGP implementation. This is to increase local awareness and encourage community support to the NGP.<sup>90</sup>

The DENR Public Affairs Office, now Strategic Communication and Initiatives (SCIS) and its counterparts at the regional level is in charge in implementing the advocacy, communication and social mobilization (ACSM) in their areas and in disseminating/distributing the relevant ACSM materials.<sup>91</sup>

In the conduct of tree planting activities, CENRO schedules the outplanting activities based on the planting

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<sup>86</sup> Cimatu Vows To 'Do Everything' To Protect DENR Workers From Environmental Criminals, *available at* <https://www.denr.gov.ph/index.php/news-events/press-releases/1238-cimatu-vows-to-do-everything-to-protect-denr-workers-from-environmental-criminals> (last accessed October 29, 2019).

<sup>87</sup> E.O. No. 26 § 3.

<sup>88</sup> NGP Manual 2012, at 11.

<sup>89</sup> *Id.* at 12.

<sup>90</sup> FMBTB10, at 1.

<sup>91</sup> NGP Manual 2012, at 15.

calendar and in coordination with the partners. Likewise, CENRO coordinates and makes arrangements to ensure that the logistic support is available at the time of need. On the other hand, designated NGP tree planting coordinator must follow the standard activity and briefing procedures for NGP tree planting. Immediately after tree planting activities, concerned DENR field offices, host communities and extension offices conduct inspection of seedlings planted by the volunteers to determine if planting was done properly or not, and replanting should be done when appropriate.<sup>92</sup>

Based on the focus group discussions with various POs conducted in selected cities/ municipalities in several regions, volunteers have been very helpful in the outplanting activities and also in providing seedlings. However, POs' inspection of the accomplishments of the volunteers revealed that there were instances that planting materials were in the sidewalks and left unplanted, and/or seedlings were improperly planted, e.g. plastics pots of seedlings were not removed before placing it to the hole, and/or planted the seedling but the proper spacing was not followed. These resulted to reperformance by POs of the planting of seedlings correctly, and worse some of the seedlings did not survive. There was also an instance when students and families helped in planting of CY 2011 NGP sites, but after a year they observed that planting was not correct in terms of spacing and stripping. There were even volunteers disgusted in handling soil, and some volunteers participated just to take pictures. There were also POs who made the site preparation part so the volunteer will just have to put the seedlings in the hole in the soil. For some POs, no social mobilization was conducted.

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<sup>92</sup> NGP Manual 2012, at 11.

**Figure 46: Tree planting activities of students in Catanduanes**



Source: DENR Catanduanes<sup>93</sup>

Likewise, in CY 2014 to CY 2018, the NGP sites are getting farther and farther making it inaccessible, difficult and not practical for students and other volunteers to go to and do tree planting activity. We visited sample NGP sites and found that some sites were very far from the nearest accessible road, there were no access roads going to the sites, the slope going to the sites was steep, and the weather condition was very hot.

Furthermore, focus group discussions with PENROs and CENROs revealed that social mobilization has not been an effective strategy because not all participants handle or plant the seedlings with care and also it is costly as it entails providing the logistic support, tools and necessary supplies (trowels, first aid kit, spine board, braces, splint, qualified first aid personnel, and ambulance), and food of the participants. Likewise, volunteers participate for fun and there are instances when PO needs to revisit the plantation and replant some seedling.

<sup>93</sup> DENR Catanduanes, Synchronize Tree Planting Activity, *available at* <http://denrcatanduanes.weebly.com/ngp-catanduanes.html> (last accessed October 29, 2019).

As such, starting CY 2014, DENR has modified its strategy by heavily relying to POs by entering to a Memorandum of Agreement (MOA) of comprehensive site development (where the contract is good for a period of three years) giving them the primary responsibility of site preparation, seedling production, plantation establishment, and maintenance and protection of established plantations.

Due to inadequate IEC initiatives and training to educate the people about the NGP and its importance, and the Program's processes, social mobilization strategy has not been very effective. Likewise, deficiency in the supervision and inspection during the outplanting activities contributed to its ineffectiveness.

Promotion of Public and Private Partnership in managing NGP sites still has room for growth.

Public-Private Partnership for the management of NGP still has a lot of room to grow. From CYs 2011-2017, the private sector helped manage 50,278 hectares of forestlands; contributing 30,047,410 seedlings. This roughly accounts to 2.70 percent of the total area covered by the program as of CY 2017, which is 1,864,717 hectares; and 1.94 percent of the total number of seedlings planted, which is 1,547,905,566.

**Table 13: Contribution of Private Sector from CYs 2011-2017**

Year	Total Area Planted	Total Seedlings Planted
2011	9,530	14,324,464
2012	14,633	4,829,149
2013	7,054	2,617,452
2014	18,639	7,647,730
2015	378	562,470
2017	44	66,145
<b>Total</b>	<b>50,278</b>	<b>30,047,410</b>
<b>Total Accomplishment</b>	<b>1,864,717</b>	<b>1,547,905,566</b>
<b>Ratio</b>	<b>2.70%</b>	<b>1.94%</b>

Source: DENR data

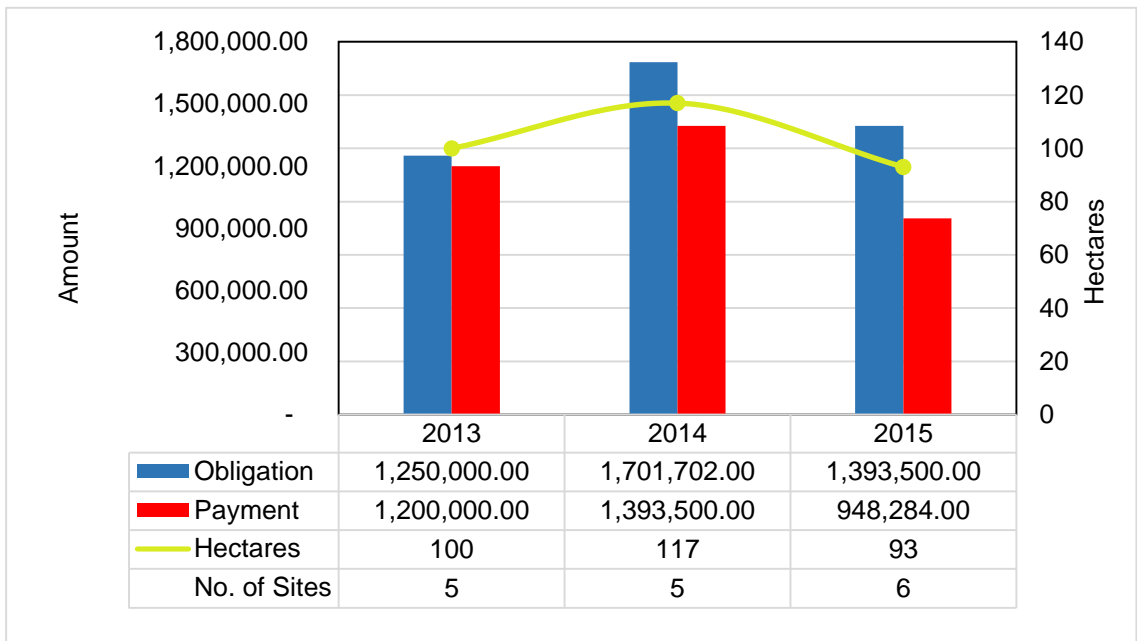
There are various ways to help in the program. To illustrate some of the existing set-ups, we interviewed officials from the SM Foundation, Inc. (SMFI) and Aboitiz Equity Ventures, Inc. (AEV) regarding their involvement in NGP.

**SM Foundation, Inc.** SMFI entered into a 3-year contract with DENR to establish new plantations in line with their “Grow a Million Trees Project”. This project aims to help communities by planting trees in city parks and nearby forest.

Under this contract, SMFI pays all the expenses of establishing a new plantation, which includes: nursery operation, site preparation, and maintenance and protection. On the other hand, the DENR is in-charge of the operations, which includes: site selection, PO accreditation, and monitoring.

From CYs 2013-2015, SMFI planted about 155,077 trees on 16 NGP sites covering 310 hectares. This cost them about ₱4,345,220.

**Figure 47: SMFI Accomplishment as of January 15, 2017**



Source: DENR Data

Apart from shouldering the payments, SMFI also engages in other activities such as: 1) providing hands-on trainings to farmers, 2) organizing tree planting activities among its employees, and 3) helping POs sell their produce through the SM malls.

**Figure 48: Sample Photos of SM Foundation, Inc.'s Activities**



**Sitio San Ysidro Barangay San Jose,  
Antipolo, Rizal**



**Barangay San Juan Baño,  
Arayat, Pampanga**

Source: SMFI Report

During our interview, SMFI's representative expressed disappointment regarding the lack of clear turnover when there is a reshuffling in DENR. They felt that they were left hanging. SMFI reported that out of the 16 sites they helped, four (4) failed.

Despite the issues, SMFI continued its involvement in NGP. DENR and SMFI renewed their contract in CY 2019. It has a 5-year contract period. This time, SMFI aims to plant 60,000 seedlings in 120 hectares amounting to ₱5,069,568.

**Aboitiz Equity Ventures, Inc (AEV).** AEV entered into a 3-year contract with DENR to implement that A-Park Project, the consolidated group-wide tree planting project of AEV.<sup>94</sup> Under the contract, AEV pays for the survey, mapping and planning, seedling production, site

<sup>94</sup> Memorandum of Agreement with DENR and AEV dated July 22, 2015.

preparation, plantation establishment, and maintenance and protection.

Based on the reports from CYs 2015-2017, AEV spent about ₱15,056,384 to plant a total of 254,574 seedlings, broken down as follows: 1) 63,775 seedlings in 20 sites, 2) 76,492 seedlings in 21 sites with 2,649 volunteers<sup>95</sup>, and 3) 114,307 seedlings in 24 sites with 4,068 volunteers<sup>96</sup>.

Upon the request of AEV, DENR validated 8 out of 20 sites reported in CY 2015. It found out that 3 sites have equal or more than 85 percent survival while the remaining 4 sites ranges from 6.13-80 percent survival rate and the remaining 1 site is not indicated. The reasons for mortality are due to too close spacing of planted in some portions, irregular spacing, no maintenance, seedling overtopped by weeds and portion of site affected by fire.

Despite the issues, the AEV including Aboitiz Foundation, Inc. renewed its partnership with DENR for three (3) years from June 2019 to June 2022.

Absence of established centralized database, and weakness in input control and data management cast doubt to data accuracy and reliability

After examining the electronic records of the program, we observed the following issues:

1. There are no established database and monitoring tool designed for the program.
2. DENR Central Office manually encodes the data gathered from the Regions through excel or word.
3. The data gathered is only based on a sample.
4. The validation made in field offices are not identical.
5. There are deficiencies in the data produced from the ArcMap software.

According to Internal Control Standards for the Philippine Public Sector, information and communication relating to the agency's performance will create the possibility to evaluate the orderliness, ethicality, economy, efficiency, and effectiveness of operations. In many cases, certain

<sup>95</sup> Aboitiz Eyes: Building Human Capital the Aboitiz Way, at 61.

<sup>96</sup> Aboitiz Eyes, Aboitiz team members find their 'Purpose' at the Groupwide Simultaneous Tree Planting *available at* <http://aboitizeyes.aboitiz.com/team-members-share-thoughts-tree-planting-purpose/> (last accessed November 20, 2019).

information has to be provided or communication has to take place in order to comply with laws and regulations. However, there are issues on data reliability and accuracy produced by the DENR.

The DENR does not have established database. A database is a collection of information that is organized so that it can be easily accessed, managed and updated. As stated in DMC No. 2011-01 dated March 08, 2011, DA, DAR and DENR shall develop centralized database and provide regular monitoring and timely report on the progress of NGP. But because the National Convergence between DA, DAR and DENR did not materialize, the monitoring and evaluation was assigned to Planning and Policy Office under the Undersecretary for Planning and Policy.

Manually encoding of data by DENR is highly vulnerable to human error

The information gathered is consolidated via encoding of hardcopy from different field offices. EOs are the source of information about the NGP sites such as species planted, hectares covered, number of planted and survived planted, and other related necessary data, but validation is not 100 percent due to broad area coverage of EOs. After the EOs gathered data, the CENRO will consolidate the report then forwarded to PENRO. The PENRO will submit the consolidated report to Regional Office, then the Regional Office will report to the Central Office. The Central Office consolidate the reports of all Regional Office and present it as the accomplishments of the program. However, all the information gathered about the program are manually encoded though excel, word or publisher subject to human errors. There are no centralized database to ascertain that the information forwarded is accurate, complete and reliable. DENR plan to develop NGP Web-based Monitoring System (NGPWMS) to record and retrieve data on NGP sites and corresponding survival rates, however, there is no proposed development of information systems in the CYs 2018-2020 ISSP.

No established monitoring tool

No established specific monitoring tool. Prior payments to POs, DENR field offices validate the accomplishments of every activities as stated in the contract. EOs usually validate the sites prior for billing to POs. The validation are not 100 percent and delay occurred because of wide assigned area coverage that resulted in inaccurate data gathered and delay of payment to POs. In addition,

validations made in field offices are not the same. There are field offices which verified 100 percent of NGP sites while others through 5-10 percent random sampling of sites. Based on FGD, 100 percent validation conducted by CENRO Cabagan from CYs 2011-2017 and PENRO Pampanga and Region IX from CYs 2011-2016. Other areas were not validated due to distance, heavy workload of EOs and security of sites. However, the actual progress/ survival of trees planted on these sites cannot be monitored. To monitor all the sites, DENR plan to purchase drone but was not included in the CYs 2018-2020 ISSP.

Based on FGD with PENRO/CENRO, Isabela, they informed the team that there was a case of overlapping of NGP site between Region 2 and the Cordillera Autonomous Region (CAR). During their validation, they identified one NGP site with no trees planted, however, during the presentation of each maps by all GIS Regional at the National Workshop held in Laguna, it was discovered that said NGP site was already adopted by CAR and located between the boundary of Region 2 and CAR. We also learned that Regional Offices and Central Office do not have access on each Region's map (NGP site) thus, overlapping will really occur.

## Data inconsistencies in the ArcMap

ArcMap software is used as a tool for making decisions on the available sites for new plantation establishment. The information generated is also used for future directives of NGP. The data input and generated in ArcMap is called attribute table. The shapefiles together with the attribute table are forwarded by CENRO, PENRO and Regional Office to Central Office for consolidation. As shown in Table 14, there was an accumulated overstatement of 431,659.03 hectares on the reported accomplishments from CYs 2011-2018. Some of the overstatement was due to unrecorded sites and outdated data since no centralized database is being maintained. There were unrecorded accomplishments from CYs 2011-2017 NGP sites in the selected provinces in Region IV-B, including the submitted accomplishment from "Grow a million Tree Project" by SM Foundation Inc.

**Table 14: Gaps in DENR Reported Accomplishments over Attribute Table from CYs 2011-2018**

Year	Accomplishments of Area Coverage		Discrepancies
	Attribute Table	DENR Report	
2011	77,407.39	128,558.00	(51,150.61)
2012	151,301.31	221,763.00	(70,461.69)
2013	279,361.62	333,160.00	(53,798.38)
2014	255,363.47	334,302.00	(78,938.53)
2015	277,658.59	360,357.00	(82,698.41)
2016	236,270.61	284,089.00	(47,818.39)
2017	160,146.16	202,488.00	(42,341.84)
2018	115,437.82	133,431.00	(17,993.18)
<blank>	13,542.00		13,542.00
<b>Total</b>	<b>1,566,488.97</b>	<b>1,998,148.00</b>	<b>(431,659.03)</b>
	<b>Ratio (431,659.03/1,566,488.97)</b>		<b>27.56</b>

Source: DENR Data

The team noted that data input in ArcMap were inconsistent. Based on Table 14, the consolidated attribute sent to Central Office did not have recorded year of establishments which resulted to difficulty in monitoring and evaluating the sites. The year of establishment is used to determine graduated sites that needs assistance from other government institution or other private sector for continuous maintenance or graduated protected areas need to be turned-over to Lawin Forest and Biodiversity Protection System. It is also the basis in creating unique site code that is used in identifying sites from one another.

Another identified gaps and deficiencies on the attribute table from CYs 2011-2018 are the following, to wit:

**(a) Sample Typo-Errors in Type of Organization**

Type of Organization	Count of TYPE_ORG
42073.1778721296	1
Academ	3
Acadene	1
Assciation	2
Assoaciation	21
Assocation	8
Barangay Coucncil	1
Cooperative\	1
P	1

Type of Organization	Count of TYPE_ORG
People's Organizatino	8
Peoples Organizatio	50

**(b) Sample Inconsistent and Different Labelling of NGP sites**

Tenure	Count of CENRO
2	1
A & D	1
A and D	21
A&D	60
CBFM, Untenured	2
CBFM/Untenure	1
CBFM/Untenured	1
CBFMA, SIFMA, Untenured	1
CBFMA, Untenured	36
CBFM-Untenured	12
N/A	12
None	237
P.O	1
P.O.	2
Untenured/CBFM	1
Untenured-CBFM	10
Within A & D	7
within A & D land	2
within A&D	7
Zone E	1

As seen in table (b), there are sample of different classification/ labelling in tenure. Based on DAO No. 96-29, Community-Based Forest Management Agreement (CBFMA) is an agreement between DENR and the local community represented by the POs, as forest managers, which has a term of 25 years and renewable for another 25 years. It shall provide tenurial security and incentives to develop, utilize and manage specific portions of forest lands. Thus, all POs with CBFMA are tenured, but based on the report, there are identified CBFMA-untenured sites.

**(c) Identified Negative Hectares Planted**

Region	Area
NCR	-0.87565206020
NCR	-2.53233697838
NCR	-0.01270335884
NCR	-0.21577456460
NCR	-0.18751871283
NCR	-0.19192295048
NCR	-0.91456507804
NCR	-0.92128498398
NCR	-0.26341410520
NCR	-2.08298342803
NCR	-0.33447698638
NCR	-0.02579814613
NCR	-0.45344397007
NCR	-0.64043671666
NCR	-0.16245621345
NCR	-0.52136989556
NCR	-0.18683086960
NCR	-0.09532974778
NCR	-0.13442422708

**(d) Other Identified Deficiencies out of 94,996 Sites**

Description	Number
Negative area covered	29
Zero area covered	3,219
Blank in the following fields:	
1. Type of Organization	2,701
2. Tenure	7,545
3. Year of establishment	3,219
4. Zone	5,421
5. Unique ID Code	10,390

Source: DENR data

Management commented that DENR, through the NGP Coordinating Office, shall institute measures to ensure quality and verifiable NGP data and information.

## Delay in the updating of shapefiles

Numerous deficiencies were identified because of the delay in update of shapefile from CENRO to Region and Central Office, lack of issuance of clear guidelines and input controls. FMB Technical Bulletin I-A was issued on the required data fields, however, the data fields were not properly defined that resulted in different labelling. An update/rectification in ArcMap is made only upon the request of the field offices. The required fields inputted in ArcMap is manually encoded e.g. "Name\_Org", "area", "species" since it is the default design of the software as presented in Table (a) to (d), sample of errors noted in the attribute table.

While data input can be manual or system interface-driven, errors and omissions can be minimized through good input from design, adequate segregation of duties regarding the origination and approval of input documents, and placing relevant authenticity, accuracy and completeness checks (with menu options or interactive messages). Control activities in Item 06.02 under the Deliver, Service and Support domain of COBIT 5 states that:

*"3. Input transactions in a timely manner. Verify that transactions are accurate, complete and valid. Validate input data and edit or where applicable, send back for correction as close to the point of origination as possible."*

The information generated from field offices are necessary for making appropriate decisions for the improvement of the program. But because of the noted deficiencies, some of the data produced were not accurate and reliable. Different information gathered, and lack of established centralized database and input controls affect the accuracy and reliability of data necessary in the formulation of policies/decisions by the DENR. As stated in Internal Control Standards for the Philippine Public Sector, reliable reporting is to provide management with accurate, complete, and appropriate information for the intended purpose. Without accurate and complete information, it is very difficult for management to make good decisions.

DENR can also make immediate decision on the data gathered to determine the possible NGP sites based on the maps to corroborate the reports of field offices

whether there are available NGP sites for plantation establishments in their Regions. The information gathered also present the progress of the program, site needs for improvement, protected areas need to be turned-over to Lawin Forest Biodiversity Protection System and assessment of the attainment of the program's objective.

DENR Management commented that they will consider the comments of COA on FMB Technical Bulletin I-A to provide for a greater accuracy and uniformity to the data.

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## Conclusions

DENR forced itself to meet the 1.50 million-hectare target. This led it to: 1) impose ambitious targets on its field officers even though the latter have been very vocal about not being able to handle the load; 2) proceed with the program without conducting proper survey, mapping and planning; and 3) include far untenured areas even though they have not found ready POs to manage it.

Instead of accelerating reforestation, fast-tracking only opened the program to waste. Forest cover yielded a marginal increase of 177,441 hectares after five (5) years of implementation, which is 88.17 percent below the target of 1.50 million hectares. It could not be expected that the forest cover would increase significantly because the seedlings are not surviving. About 50 percent of the NGP sites are untenured. Upon the end of term of the maintenance and protection contracts, POs tend to look for work elsewhere, leaving the NGP sites without caretakers. For seedlings that survive, chances are, these are timber, coffee, cacao, or any other agroforestry species. After maturity, timbers are harvested. As for coffee, cacao, or any other agroforestry species, these are not even considered species that contribute to forest cover.

DENR pointed out that these species of trees still contribute to carbon sequestration. However, there is no mechanism to gauge the positive contribution because the DENR has not developed a measurement framework yet.

DENR also commented that the program gave jobs to the upland farmers. We agree but fast-tracking its implementation caused the POs to miss the opportunity to benefit from seedling production. Because there is a

target to meet, POs had no time to produce the seedlings themselves. As a result, they have no choice but to have the contract bidded out to qualified private suppliers.

Based on the stories of successful POs, profits from seedling production has been the key ingredient in their success. These POs were able to use the profits as capital to build additional income streams. Had all POs benefitted from the opportunity from seedling production, there would be more successful POs and lesser beneficiaries that are solely dependent on the program.

On a good note, the program has the potential of lifting the beneficiaries out of poverty for good. Based on the success stories, the essential components are: 1) community organizing, and 2) convergence of different stakeholders. Through convergence, POs will have better access to crucial government services and opportunities. Through Community Organizing, the POs would gain knowledge to maximize these opportunities.

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## Recommendations

With forest cover at 7,014,154 hectares or 41.50 percent of what it was in CY 1934, reforestation remains an urgent concern. However, this does not mean that the government has to hurry implementing the program. DENR must pace the implementation of the program according to available resources. Furthermore, decisions must be made on the basis of the best interest of the beneficiaries. The DENR needs to shift its strategy from being “target-driven” to becoming “community-centered” because forcing the POs to deliver, when they are not yet ready, would only lead to waste. In order to do this, we recommend the following:

1. Adjust the targets based on the capacity of the field offices.
2. Make Community Organizing a pre-requisite before proceeding with the NGP contract.
  - a. Incorporate trainings on financial literacy to help the POs manage their funds; and
  - b. Orient the POs regarding the government grants and services that they can avail.

3. Ensure that the POs are the ones who will benefit from the seedling production by doing the following:
  - a. Conduct technical trainings on seedling production;
  - b. Do not proceed with the program in the areas until the POs are capable of producing the seedlings themselves; and
  - c. Adjust the timelines for seedling production to give POs time to produce the seedlings.
4. Increase efforts on forging private sector partnerships.
  - a. Issue clear guidelines on how to forge partnerships at the local level; and
  - b. Document all partnerships by having the field offices submit a list of their partners and their respective contributions.
5. Issue the harvesting guidelines, which centers on sustainable forest management.
6. Discuss with the DBM the possibility of creating permanent positions for extension officers.
7. Continue the “way forward” meetings between the members of the NCI but agree on deliverables which will form part of the official agency commitments for the year.
  - a. The NCI could start with the compilation of all the details on the government grants that the POs could avail from the various government agencies; and
  - b. Establish units that will aid in complying with the documentary requirements of the grants.
8. Issue the revised Monitoring and Evaluation Framework.
  - a. Make sure that all objectives have performance indicators; and
  - b. Include a system on how to measure carbon sequestration.
9. Improve data reliability
  - a. Provide input controls on the database;
  - b. Complete the database;
  - c. Acquire drones and a software that can render a clear image of the NGP sites;

- d. Direct all Field Offices to conduct 100 percent assessment and validation of the NGP sites; and
- e. Incorporate all IT related acquisition plans in the ISSP.

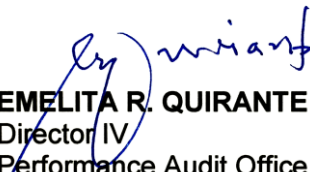
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## Agency Comments

The audit team provided a draft of this report to the Management of DENR for comment. DENR provided written responses which we incorporated as appropriate in this report.

Contact points for our Performance Audit Office may be found on the last page of this report. Major contributors to this report are listed in Appendix V.

In addition, the report will be available at no charge on the COA website at <https://www.coa.gov.ph>.



**EMELITA R. QUIRANTE**  
Director IV  
Performance Audit Office  
Special Services Sector

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## Appendix I: Objectives, Scope and Methodology

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COA has conducted performance audits to help government agencies better perform their mandates and achieve program goals and objectives more economically, efficiently and effectively. It identified the National Greening Program (NGP) of the Department of Environment and Natural Resources as one of the priority programs, which will be audited. The audit aimed to determine: (1) the extent to which the program made an impact on the environment; (2) the extent to which the program made an impact on the lives of its beneficiaries; and (3) the extent to which the DENR and other concerned agencies administer the program in accordance with established policies and procedures.

To determine the extent to which the program made an impact on the environment, we reviewed documentation related to NGP, such as Accomplishment, Validation and Inspection Reports covering program implementation from CYs 2011-2018. We also obtained and analyzed relevant documentation on the forest cover from the DENR and NAMRIA, and different scholarly articles and third-party evaluation reports. Moreover, we also conducted site visits to different NGP sites and took geo-tagged photographs.

To determine the extent to which the DENR and other concerned agencies administer the program in accordance with established policies and procedures, we reviewed applicable laws, rules and regulations related to NGP to determine the respective roles of the concerned government agencies and stakeholders. We also conducted interview with DENR Officials and Focus Group Discussions (FGD) with selected DENR Field Offices to determine the actions taken to implement the program according to the established guidelines.

Lastly, to determine the extent to which the program made an impact on the lives of its beneficiaries, we conducted FGD with selected People's Organizations. We selected the FGD-participants using a non-generalizable, non-probability sampling, thus the results indicate

**Appendix I: Objectives,  
Scope and Methodology**

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presence but not the extent of the condition in the population.

We have determined that the data used in this report were sufficiently reliable to assess the status and condition of the NGP implemented by the Department.

We conducted the audit from April to September 2019 in accordance with the Standard for Performance Auditing as embodied in the International Standards of Supreme Audit Institutions (ISSAI) 3000. The standard requires that we plan and perform the audit to obtain sufficient and appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Appendix II: Status of Third-Party Validation

Region	Contracted Third Party Validator	Status of Accomplishment
CAR	Center for Environmental Law and Advocacy, Inc. (CELPA, Inc.)	On-going (7 provinces)
I	National Economic and Development Authority (NEDA)	On-going (Completed 16 CY NGP sites on 3 provinces)
II	Emerson V. Barcellano	Waiting for the Final Report (4 provinces)
III	CELPA Inc.	Waiting for the Final Report (3 provinces)
	Bulacan Agricultural State College (BASC)	Waiting for the Final Report
	Pampanga State Agricultural University (PSAU)	Waiting for the Final Report
	Yakap Kalikasan Tungo sa Kaunlaran ng Pilipinas, Inc.	Waiting for the Final Report
	Zambales Rural Network for Community Enterprise Development Inc. (ZRNCEDI)	Waiting for the Final Report
IV-A	Samahan ng Magsasaka ng Canaway, Andrew A. Evangelista	486.40 hectares (has) out of 983 hectares target contracted. 206.25 has Under Clusters VIII and IX is for awarding this CY 2019.
IV-B	Forester Fernando A. Lacerona Consultancy Services	Remaining: 111 has
	Forester Fernando A. Lacerona Consultancy Services	Remaining: 113 has
	Forester Fernando A. Lacerona Consultancy Services	Waiting for the Final Report (2 province)
V	CELPA Inc.	Final Report will be presented to the Region (4 provinces) after validation of the 2 remaining provinces
VI	Western Visayas State University	On-going negotiations with WVSU (6 provinces)
VII	Cebu Technology University (CTU)	CY 2018 – 64% accomplishment (All PENROs)
VIII	CARAGA Consultancy, Training, Mgt. and Dev't Corporation	16.05% completed as of August, 2019 (3 PENROs)
IX	Xavier Agricultural Extension Service Foundation Incorporated	Region still waiting for the needed requirements (3 provinces)
X	Development Options & Social Entrepreneurship (DOSE), Inc.	On-going (CENRO Valencia City – 87.57%; CENRO Don Carlos 81.96%)
X	Misamis University Community Extension Program (MUCEP)	On-going
XI	AMC Consultancy Services	On-going
	Foundation for Rural Enterprise and Ecology Development of Mindanao (FREEDOM)	On-going
XII	FREEDOM	Initial report for review of Regional eNGP Operations Center (N. Cotabato)
	FREEDOM	On-going (3 provinces)
XIII	FREEDOM	Ongoing – requested for extension up to October

Source: DENR data

## Appendix III: Examples of Distant NGP Sites

Year Established	Region	PENRO	Site Code	Distance (km)	No. of Hours (hike)/ Travel Time	Tenure
2012	VII	Negros Oriental	12-074610-2154-0008	blank	45 minutes 4-wheel/motorcycle, 5 hours hike	Untenured
2013	VIII	Eastern Samar	13-082606-0393-0023	15	6 hours	Untenured
2013	XII	Sarangani	13-128000-0175-0004	5	6 hours	Untenured
2014	X	Misamis Occidental	14-104209-0366-0075	11	7 hours	Untenured
2014	XII	Cotabato	14-124709-0034-0050	9	1 day	Untenured
2015	III	PENRO Zambales	15-037106-0132-1870	25	7 hours	Untenured
2015	IX	Zamboanga del Norte	15-097219-0153-0100	15-18	1 day travel to bunkhouse 3 hrs motorcycle and 1 hr hike to site	Open Access
2016	IX	Zamboanga Sibugay	16-097332-0127-0050	36-37	2 hours motorcycle 2 hours habal-habal 5 hours hike	Untenured
2017	VII	Negros Oriental	17-074610-1004-0001	blank	1.5 hours 4-wheel/motorcycle, 3-3.5 hours hike	Untenured
2017	VII	Negros Oriental	17-074610-1012-0047	blank	1.5 hours 4-wheel drive/motorcycle, 2 hours hike	Untenured
2017	XII	Sarangani	17-128002-0079-0050	9	8 hours	Untenured
2018	III	PENRO Tarlac	18-036903-0060-0043	15	9 hours	Untenured
2018	XII	Sarangani	18-128002-0046-0050	12	10-11 hours	Untenured
2018	XII	Cotabato	18-124709-0035-0045	3	8 hours	Untenured
2018	IV-A	Rizal	18-045402-0079-0050	20	2 days	Protected Area

Source: COA Analysis of DENR data

## Appendix IV: Objectives vis-à-vis Output, Outcome, Target and Indicators

Objectives	Source	Output/Outcome/Target	Indicators
<b>Poverty Reduction</b>	ENGP Website	Self-sufficiency in wood and agroforestry products:  Timber – 750,000 ha Coffee – 60,000 ha Fuel Wood – 300,000 ha	None
	ENGP Website	Economic Security:  Increased and sustainable supply of forest-based raw materials  Increased economic activity in the uplands Optimized utilization of upland resources	None
<b>Food Security</b>	None	None	None
<b>Environmental Stability</b>	E.O. No. 26, s. 2011	1.5 billion trees covering 1.5 million hectares for a period of six (6) years from 2011 to 2016	None
	E.O. No. 193, s. 2015	Remaining 7.1 million hectares of unproductive, denuded and degraded forestlands from 2016 to 2028	None
	ENGP Website	12% increase in forest cover based on 2003 level (7.2M hectares) with 85% survival rate  8% increase in carbon sequestration from 36M tons/ year to 38.9M tons/ year  Increase water holding capacity  Reduced downstream flooding and soil erosion  Improved environmental services	None
	GAA 2014, 2016 and 2017	Ecosystem Management Services  2014: 300,000 2016: 246,524	Number of Hectares of Ecosystems under

**Appendix IV: Objectives vis-à-vis Output,  
Outcome, Target and Indicators**

Objectives	Source	Output/Outcome/Target	Indicators
		2017: 225,508	Management for Rehabilitation
		2014: 1,039,496 2016: 1,615,137 2017: 1,608,959	Number of hectares under management
	GAA 2014 2016 and 2017	Ecosystem Regulation Services  2014: 30 2016: 50 2017: 60  2014:85% 2016: 80% 2017: 80%  2014: 80% 2016: 80% 2017: 80%	Number of sites and facilities monitored and/or inspective with report issued  Percentage survival rate of planted seedlings  Percentage of sites that have been inspected more than twice in the last two (2) years
	GAA 2016 and 2017	Environment and Natural Resources Sustainably Managed  2016: Forest cover increased from 6.8M hectares to 8.3M hectares by 2016  2017: Forest cover increased from 6.8M hectares to 8.6M hectares by 2017 and transform into productive and stable NGP areas	Open and degraded/ denuded areas rehabilitated (Baseline: FY 2010: 6.8M hectares forest cover)
	GAA 2018	Natural Resources Conservation and Development Program  Increase by 12% by the end of 2022  124,220	Percentage increase in forest cover (Baseline: 8.2 million hectares)  Number of hectares of open and denuded forestland

**Appendix IV: Objectives vis-à-vis Output,  
Outcome, Target and Indicators**

Objectives	Source	Output/Outcome/Target	Indicators
		623,315	rehabilitated (Baseline: 7.1 million hectares)  Number of hectares planted area maintained and protected: Baseline: 1.62 million hectares)
<b>Biodiversity Conservation</b>	None	None	None
<b>Climate Change Mitigation &amp; Adaptation</b>	None	None	None

Source: COA Analysis of various laws, rules, and regulations

## Appendix V: COA Contact and Staff Acknowledgments

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### **COA Contact**

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