

# NATIONAL GREENING PROGRAM [NGP]



**RICARDO L. CALDERON, CESO III**

Director, Forest Management Bureau

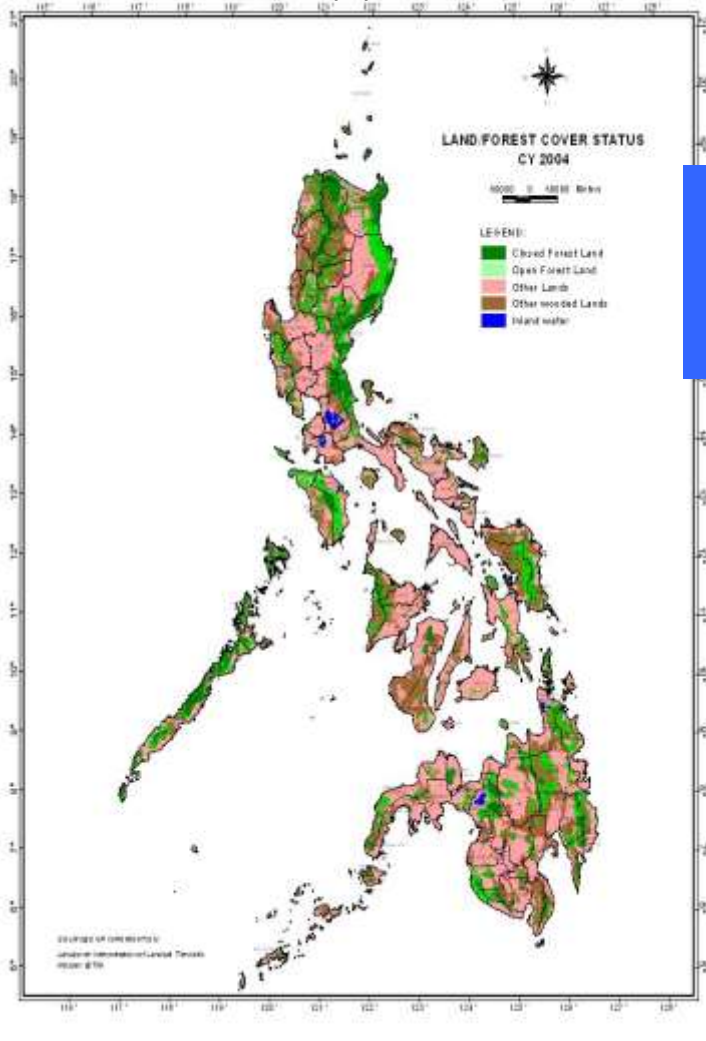
National Coordinator, National Greening Program (NGP)

# STATE OF THE FOREST

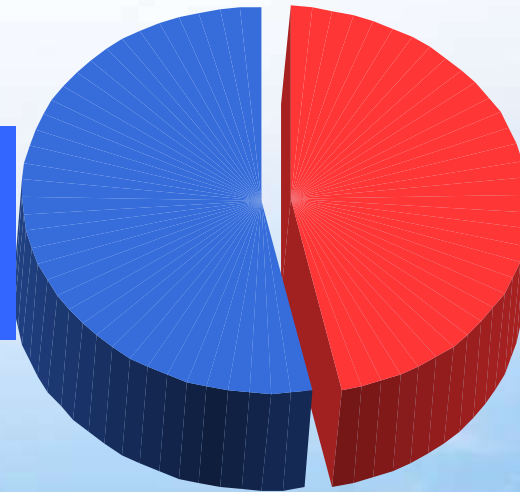


# LAND CLASSIFICATION

## Philippines



**15,792,333  
hectares  
(53%)**



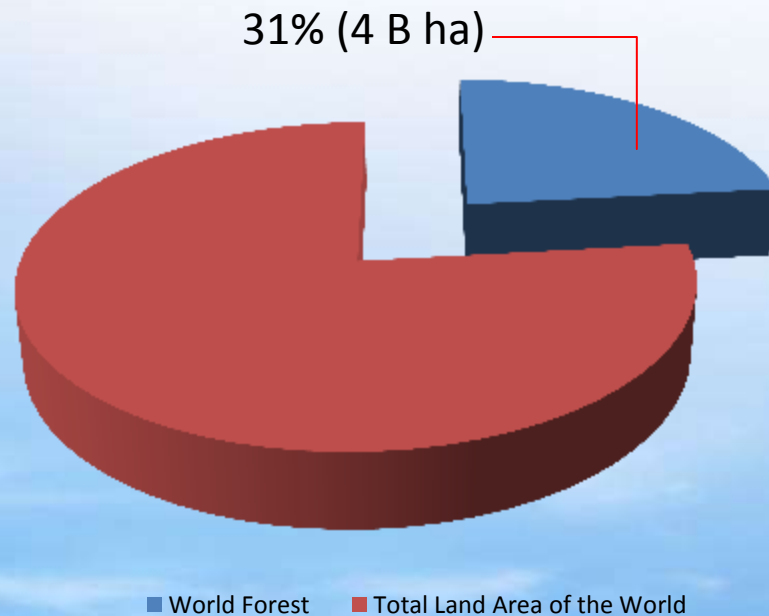
**14,194,675  
hectares  
(47%)**

- Forestland/Timberland
- Alienable & Disposable Land

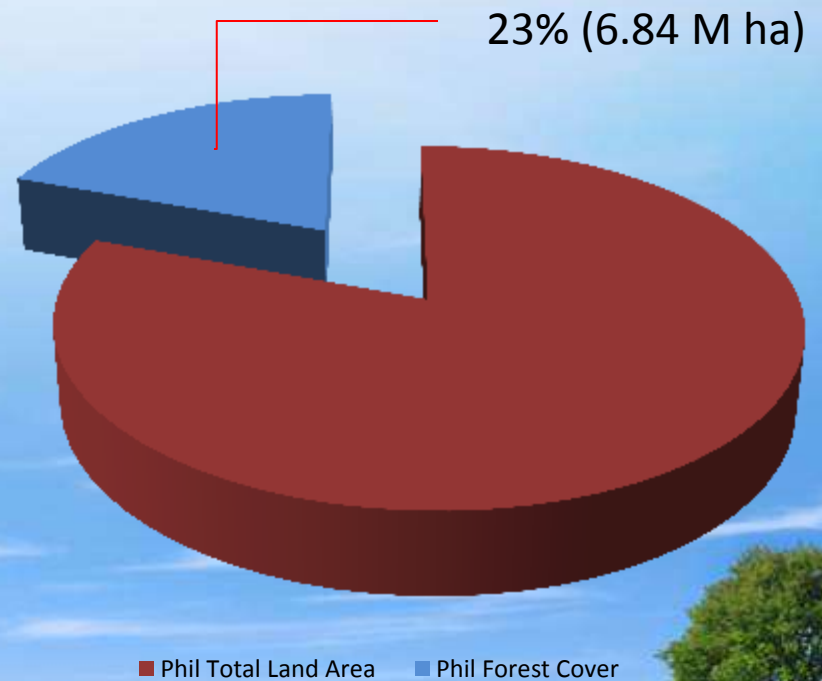
**Total Land Area - 29,987,008 ha**

# FOREST COVER

## World's Forest Cover (FRA 2010)

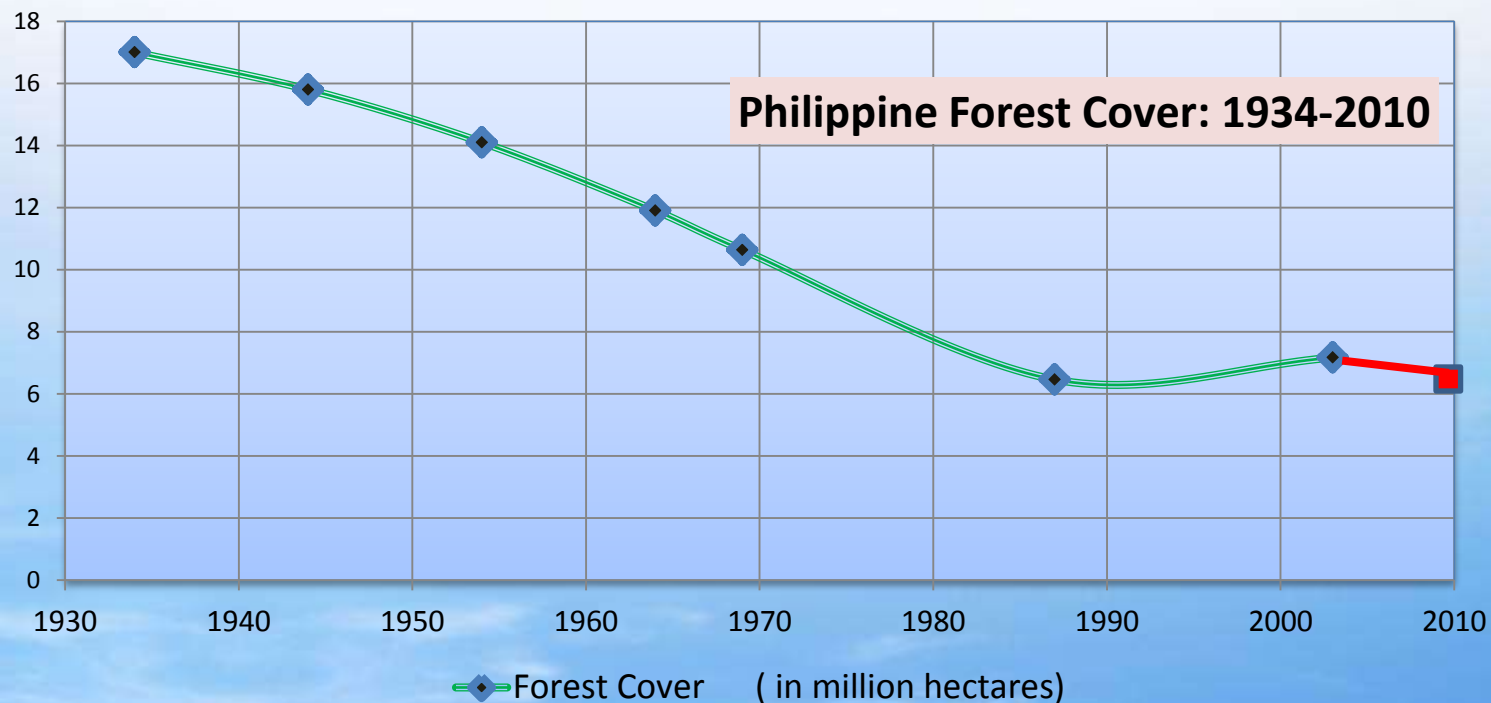


## Philippines' Forest Cover (2010)



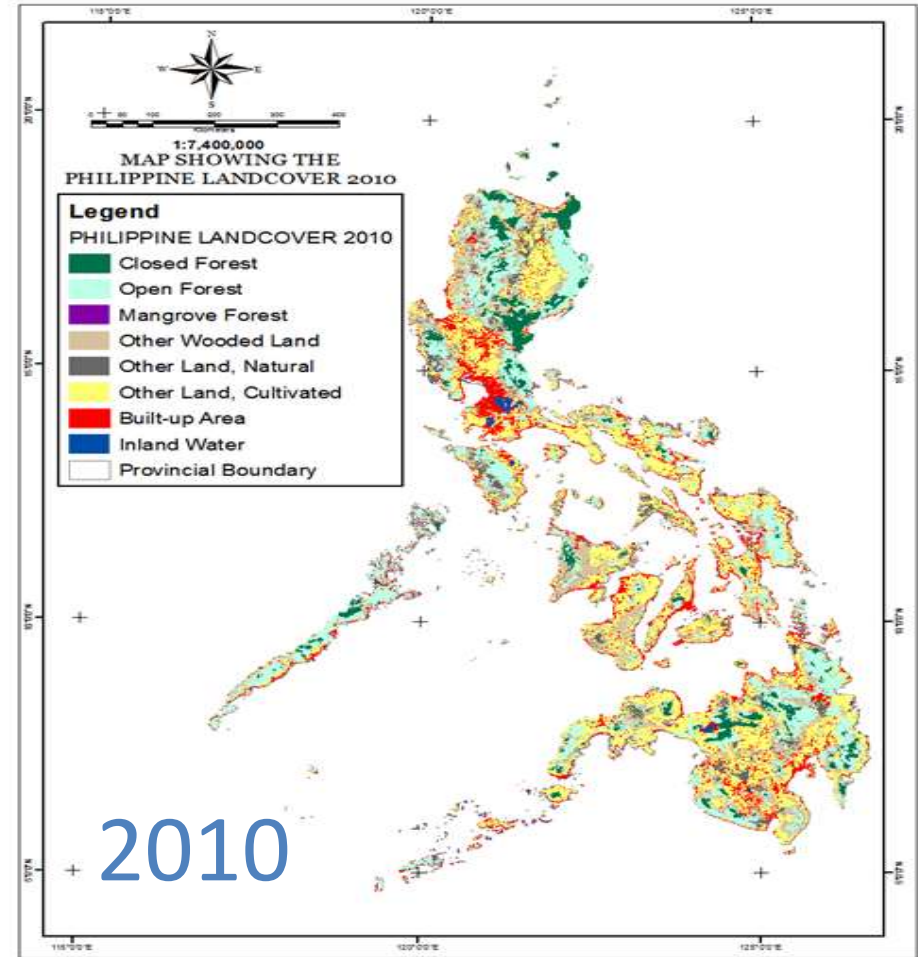
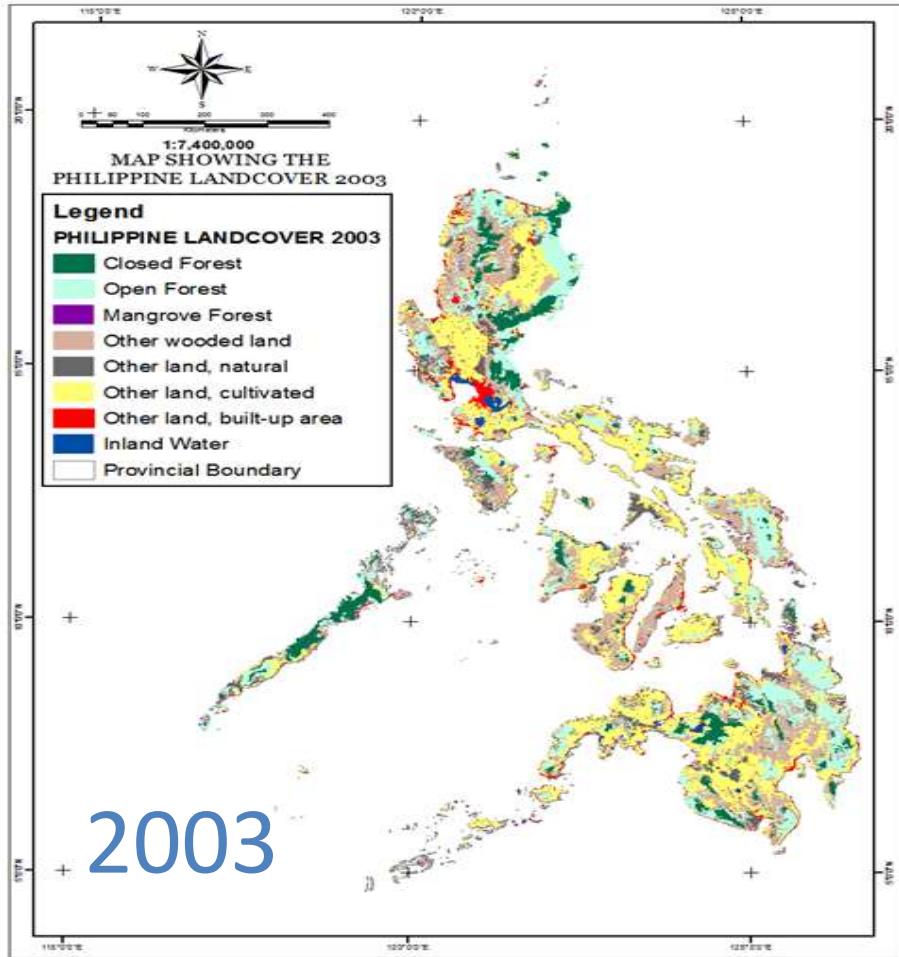
# CURRENT STATE OF THE FOREST

## Forest Cover change of the Philippines



- ❑ Forest cover decreased by 328,682 ha i.e. from 7,168,400 ha in 2003 to 6,839,718 ha in 2010 or an ANNUAL FOREST COVER LOSS of 46,954 ha.

# LAND COVER 2003 AND 2010



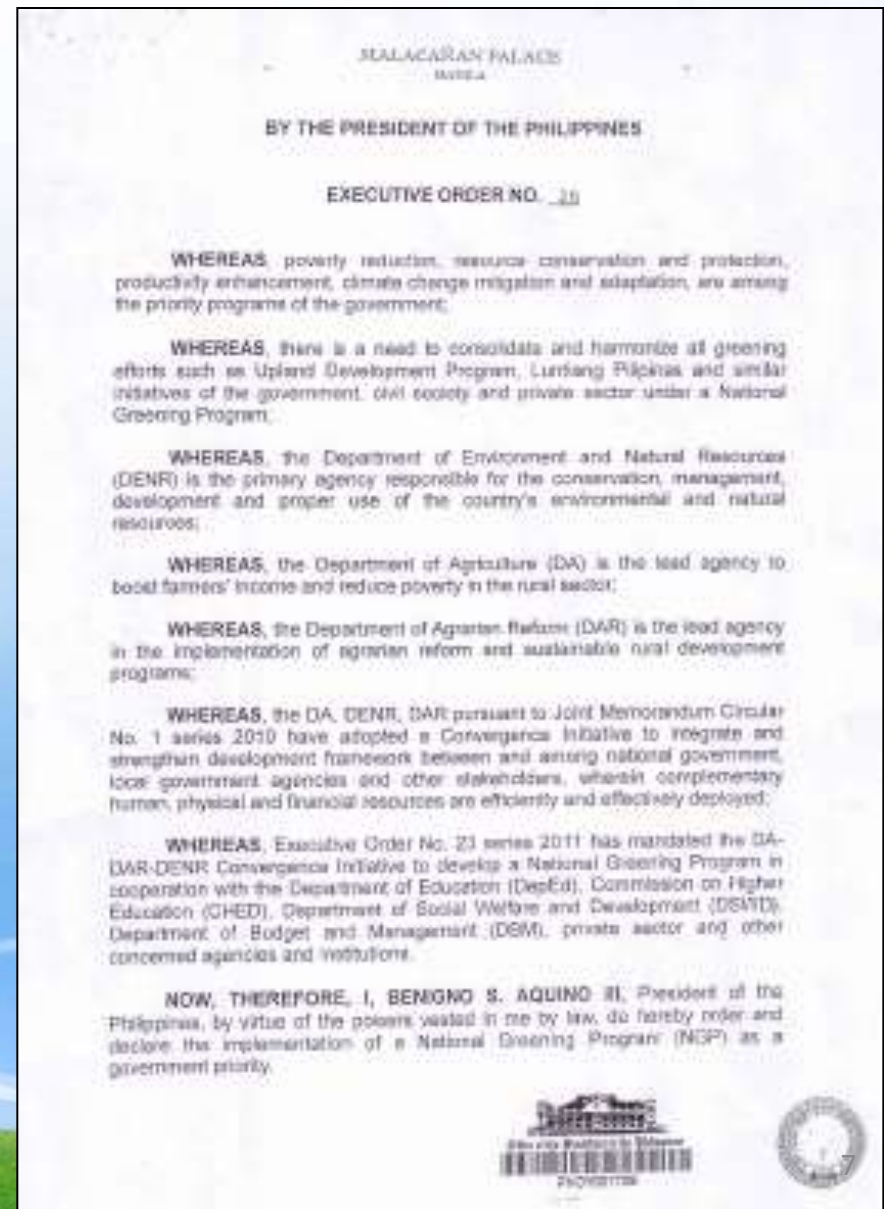
- ❑ Closed forest cover decreased (degraded) by 626, 840 ha (24.48%) from 2,560,872 ha in 2003 to 1,934,032 in 2010
- ❑ Open forest cover increased by 234,988 (5.39%) from 4,360,166 ha in 2003 to 4,595,154 ha in 2010

# NATIONAL GREENING PROGRAM



## Background

- Executive Order No. 26 signed on February 24, 2011
- Guidelines issued on March 8, 2011
- Launched on May 13, 2011





President Aquino Planting a Narra Tree during the NGP launching 2011 at DENR Compound in Quezon City



# NATIONAL GREENING PROGRAM



## Coverage

*The National Greening Program shall plant some 1.5 Billion trees covering about 1.5 Million hectares for a period of six (6) years from 2011 to 2016.*



# NATIONAL GREENING PROGRAM



## **NGP: BEYOND REFORESTATION**

### **OUR MISSION**

- Food Security
- Poverty Reduction
- Environmental Stability
- Biodiversity Conservation
- Climate Change Mitigation & Adaptation

**Bringing together agencies, efforts, people:**



# NATIONAL GREENING PROGRAM



## ■ ■ ■ NGP FRAMEWORK

### Species

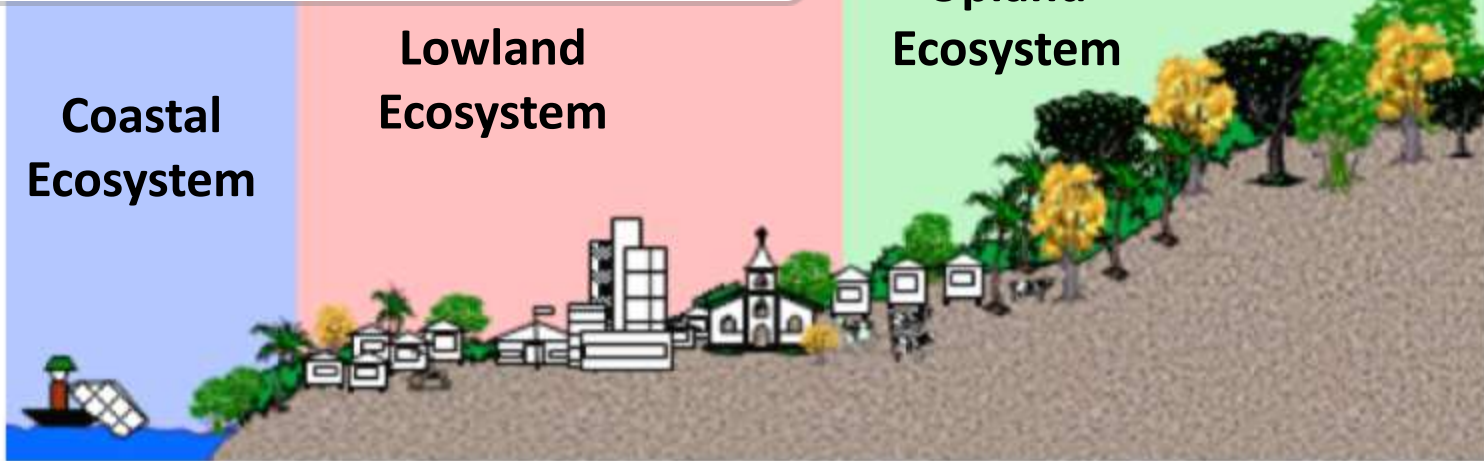
Species selection depends on objectives;  
preferably indigenous/native/endemic species;  
for the production zone: *Species- Site- Market Matching*  
for the protection zone: *Indigenous/native/endemic species*

### Planting Sites

Coastal  
Ecosystem

Lowland  
Ecosystem

Upland  
Ecosystem



# NGP AREAS FOR DEVELOPMENT



- **Forestlands**



Zamboanga



Bagac, Bataan

- **Mangrove & PAs**



Aurora Memorial National Park



Divilacan, Isabela

# NGP AREAS FOR DEVELOPMENT



- Ancestral domains



- Civil and military reservations



Port Magsaysay

# NGP AREAS FOR DEVELOPMENT



- Urban areas under the greening plan of LGUs



- Inactive and abandoned mine sites



Claver, Surigao del Norte



Zamboanga del Sur

# NGP STRATEGIES

## □ Social Mobilization



Bringing together agencies,  
efforts, people:  
**Convergence Works.**



**OUR PARTNERS**

 Department of Environment and Natural Resources <a href="http://www.denr.gov.ph">www.denr.gov.ph</a>	 Department of Agrarian Reform <a href="http://www.dar.gov.ph">www.dar.gov.ph</a>	 Department of Agriculture <a href="http://www.da.gov.ph">www.da.gov.ph</a>	 Department of Interior and Local Government <a href="http://www.dilg.gov.ph">www.dilg.gov.ph</a>
 Department of Education <a href="http://www.deped.gov.ph">www.deped.gov.ph</a>	 Commission on Higher Education <a href="http://www.ched.gov.ph">www.ched.gov.ph</a>	 Department of National Defense <a href="http://www.dnd.gov.ph">www.dnd.gov.ph</a>	 Department of Public Works and Highways <a href="http://www.dpwh.gov.ph">www.dpwh.gov.ph</a>
 Philippine Amusement and Gaming Corporation <a href="http://www.pagcor.ph">www.pagcor.ph</a>	 Technical Education and Skills Development Authority <a href="http://www.tesda.gov.ph">www.tesda.gov.ph</a>	 Department of Health <a href="http://www.doh.gov.ph">www.doh.gov.ph</a>	 National Commission on Indigenous People <a href="http://www.nicp.gov.ph">www.nicp.gov.ph</a>
 Department of Transportation and Communication <a href="http://www.dotc.gov.ph">www.dotc.gov.ph</a>	 Department of Science and Technology <a href="http://www.dost.gov.ph">www.dost.gov.ph</a>	 Department of Social Welfare & Development <a href="http://www.dssd.gov.ph">www.dssd.gov.ph</a>	 Department of Budget and Management <a href="http://www.dbm.gov.ph">www.dbm.gov.ph</a>

# NGP STRATEGIES



## □ Harmonization of Initiatives

### NGO

- FPE
- PTFCF



FPE





# NGP STRATEGIES

## ❑ Provision of Incentives

### People's Organization

- 651 POs were engaged in the NGP Activities



IEC, Social Preparation, joint planning & Site Identification



Seedling Production



Site Preparation



Planting



Maintenance and Protection

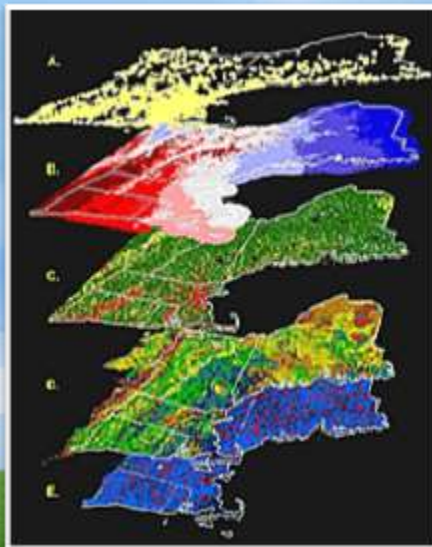


Harvesting, Utilization, Re-planting

# NGP STRATEGIES



- ❑ Maximization of available Science and Technology
  - CLONAL AND MECHANIZED NURSERY
  - BIO-FERTILIZERS /MYCHORRHIZA
  - GIS MAPPING and GEOTAGGING
  - ACTIVE NGP OFFICIAL WEBSITE ([www.ngp.denr.gov.ph](http://www.ngp.denr.gov.ph))



Usec. Adobo during a tour of the clonal facilities at the ERDB Jamboree Site.





# NGP COMMODITY ROADMAP CY 2013-2016



# NATIONAL GREENING PROGRAM



## NGP Commodity Roadmap CY 2013 - 2016

Region	Timber	Fuelwood	Coffee	Cacao	Rubber	Bamboo	Rattan	Other Fruit Trees	Indigenous Species		Mangrove		Urban	Mixed Commodities*	Total
									Protection Forest	Protected Area	within PA	outside PA			
NCR												8			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 4	20,000	10,000	5,000	5,000	5,000	10,000	10,000	10,000		23,794	266	3,500			102,560
Region 4	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
Region 13	29,314	1,489	14,903	3,725	16,394	745		7,786	4,205			593			79,154
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			1,243,189
2011	47,711	1,542	2,554	1,477	5,675	571	78	9,741	7,867	2,535		1,315	1,250	46,242	128,558
2012	33,887	2,875	2,100	768	3,930	1,461	902	3,367	5,100	8,300	144	711	2,009	156,209	221,763
Total	774,226	365,569	180,460	123,695	231,993	109,722	56,780	350,680	95,977	262,895	35,964	43,028	3,259	202,451	2,836,699

Recommended by:

**RICARDO L. CALDERON**

Director, Forest Management Bureau  
National Coordinator, NGP

**ERNESTO D. ADOBO, JR.**

Undersecretary  
Staff Bureau

**DEMETRIO L. IGNACIO**

Undersecretary  
Field Operations

**MANUEL D. GEROCI**

Undersecretary  
Policy and Planning

Approved by:

**RAMON J.P. FAJE**

Secretary

# Timber



**2011 Mahogany Plantation, Kimarayag, Pigcawayan**

Local demand based on Master Plan for Forestry Development (2003)

In 2010 – 3.73 M cu.m.

In 2021 – 5.0 M cu.m.

Wood and Paper Products (USD 900M)

Need 750,000 hectares to be sustainable

Higher consumption of wood as construction material instead of steel & concrete in the next decade in the light of climate change (Philippines Forestry Outlook Study, 2009)

# Fuelwood

- Among the major requirements of the country that has been overlooked in most area development plans is **wood energy**.
  - 9 million households or 46% of the 20.2 million households in the Philippines uses fuelwood (NSO 2012)



San Francisco, Agusan del Sur

- Fuelwood requirements – household and large scale industries (i. e. Tobacco flue curing, bakeries, potteries, brick making and sugar production amounts to 35.46 million cu.m/year with an estimated value of 11.34 Billion pesos

# Fuelwood

- 35.46 Million cu.m of Fuelwood

= 15 M. Tons oil equivalent  
to \$ 5.2s5 Billion

= 210 Billion pesos

= 50% of our oil imports in  
2012

*Source: Oil\_import.html*



Agusan del Sur



# Bamboo and Rattan



Executive Order 879 mandates the use of bamboo as planting material, at least 20% of reforestation species annually

MPFD projected demand for rattan for furniture by 2015 at 61.9 million lineal meters (low end) to 79.48 million lineal meters (high end)



# Industrial Crops

## Coffee



Coffee ranks as 2<sup>nd</sup> most consumed beverage in the world

Local demand per DA for coffee beans is pegged at 64,000 Metric tons, valued at PhP 2.5 Billion

Ninoy Aquino, Kalilangan, R10

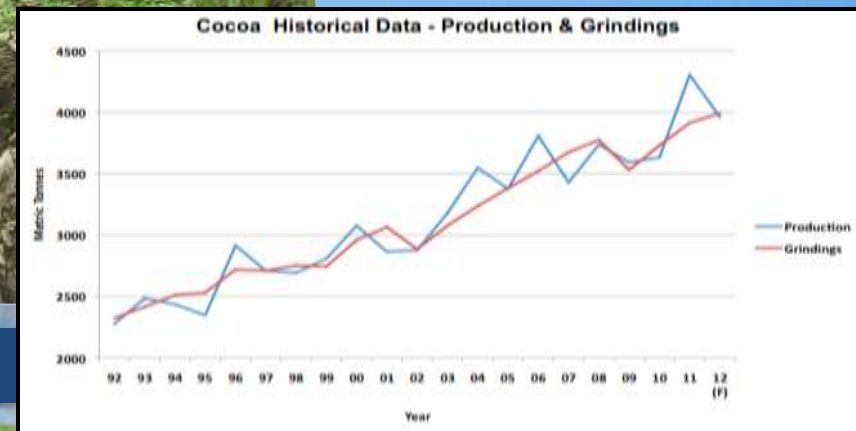
# Industrial Crops

## Cacao

Demand for Cocoa is expected to grow in coming decade between 2.5% - 3% p.a., or around 100,000 MT's p.a., following growth pattern of world-wide GDP.

Local demand for cacao exceeds production

In 2005, local consumption reached 50,000 metric tons



Culian, Mati City, Davao Oriental, 2012 Cacao

Over next 10 years the world will need additional 1 MT of Cocoa

# Rubber



Pamplona (2012)

By year 2020, the demand for natural rubber (NR) is expected to increase to 16.4 M metric tons (around 30%) from the current demand of 11.3 MMT

Production of NR is estimated at 14.3 MMT, **leaving a short fall of 2.1 MMT**



Rubber is a crop with high potential income above the poverty threshold level

A well manage 1-ha rubber plantation can derive an annual income from P79,200 to P231,300 per year.

# Fruit Bearing Trees

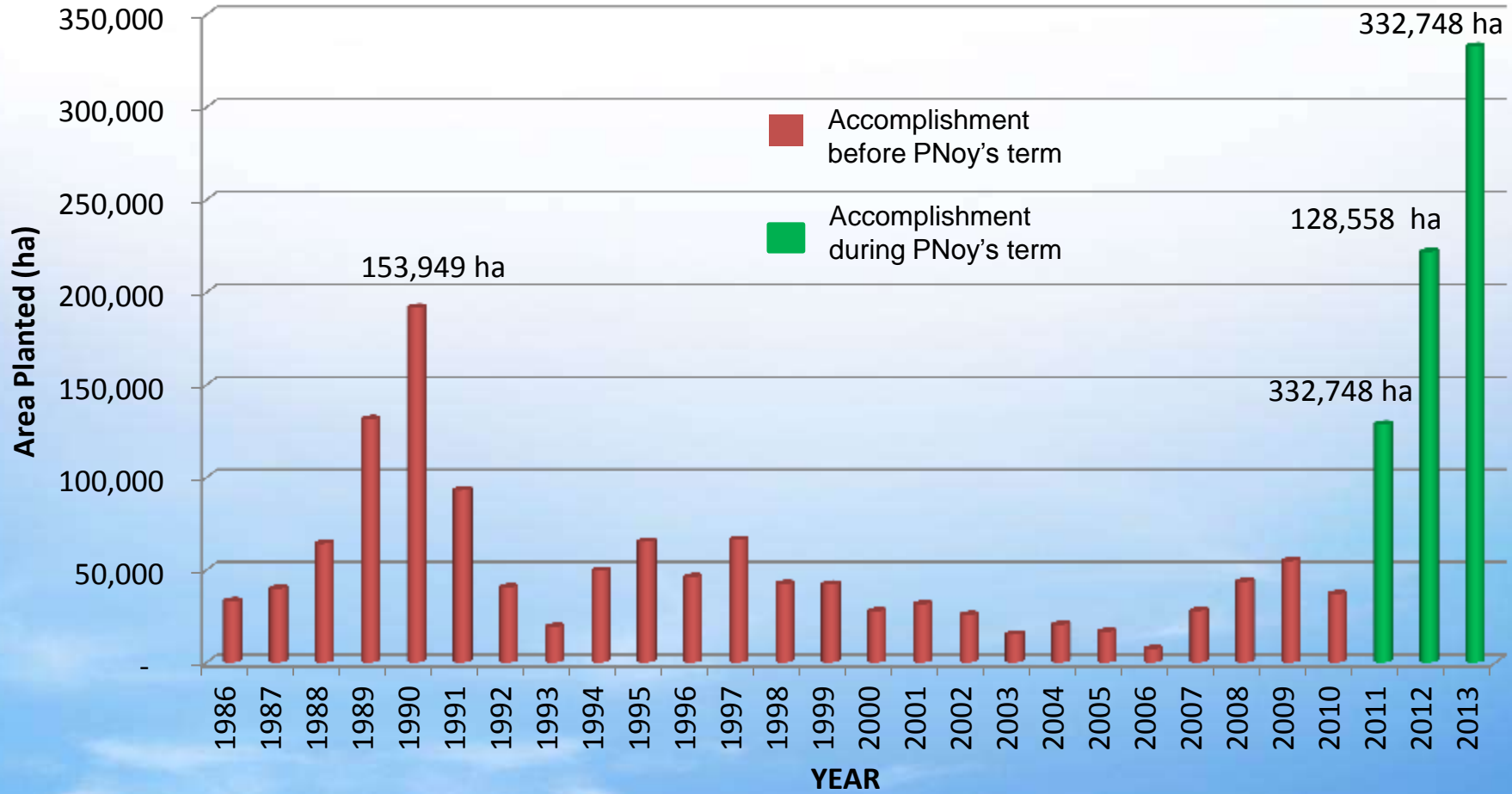
Assorted fruit trees considered to produce lucrative returns for the farmers as well as the industry are being recommended



# NGP MILESTONES

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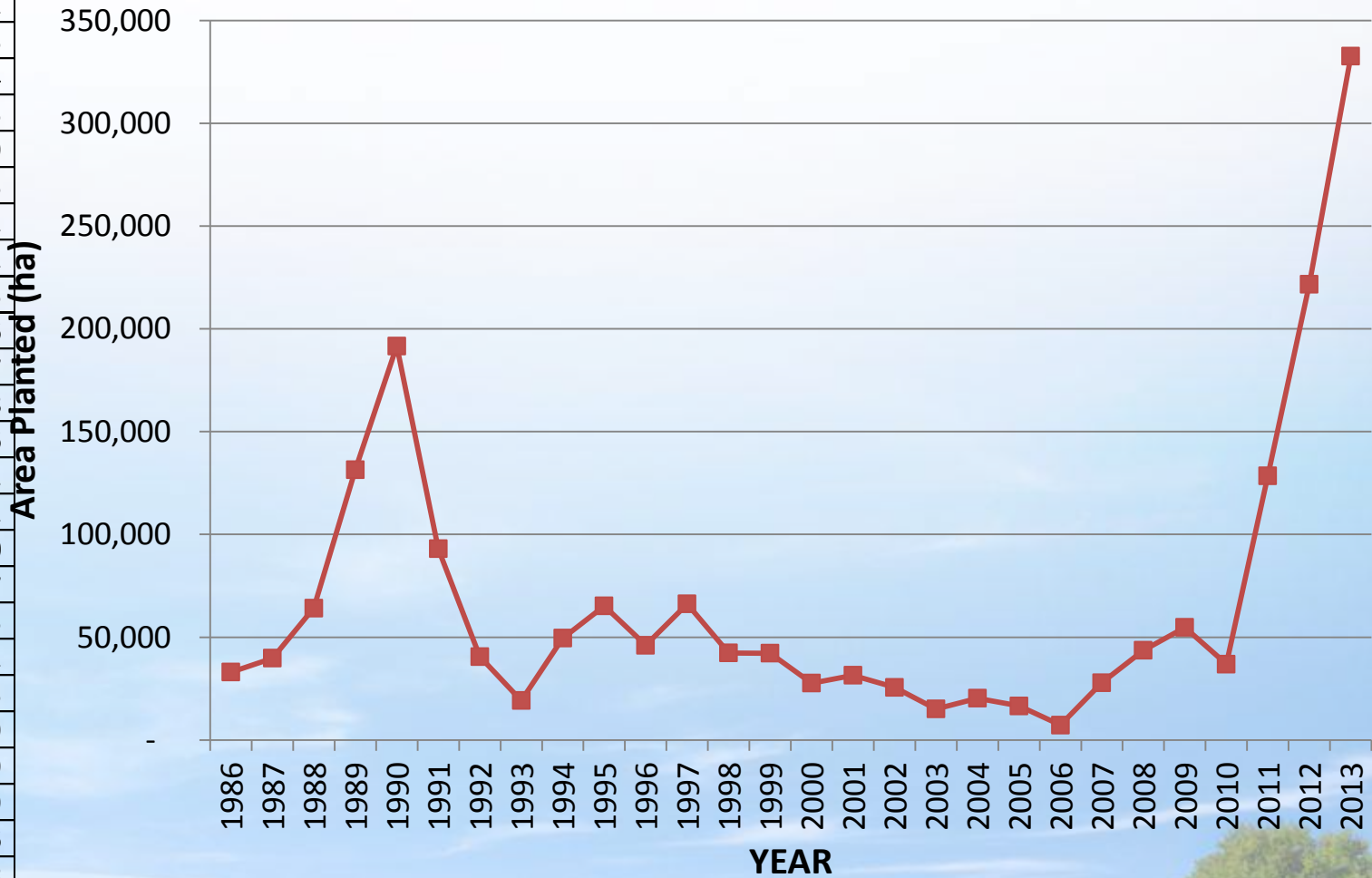
# ANNUAL REFORESTATION DATA (1986-2013)



**2011 Mangrove Plantation established in Baluno, Naga, Zamboanga Sibugay**

# NGP ACCOMPLISHMENT

Year	Area Reforested (ha)
1986	32,998
1987	39,811
1988	64,183
1989	131,404
1990	191,663
1991	93,039
1992	40,593
1993	19,211
1994	49,551
1995	65,233
1996	46,096
1997	66,237
1998	42,368
1999	42,166
2000	27,632
2001	31,441
2002	25,620
2003	15,087
2004	20,333
2005	16,561
2006	7,223
2007	27,839
2008	43,609
2009	54,789
2010	36,876
2011	128,558
2012	221,763
2013	332,748



# NGP ACCOMPLISHMENT

## Jobs Generations

YEAR	Target (ha)	Total Area Planted (ha)	% Accom	* <u>No. of Job Generated</u>	* <u>Persons Employed</u>
2011	100,000	128,558	129%	335,078	47,868
2012	200,000	221,763	111%	380,696	55,146
2013	300,000	332,748	111%	456,386	65,198
<b>Total</b>	<b>600,000</b>	<b>683,069</b>	<b>114%</b>	<b>1,172,160</b>	<b>168,212</b>

\*Source: Office of the Undersecretary for Policy & Planning



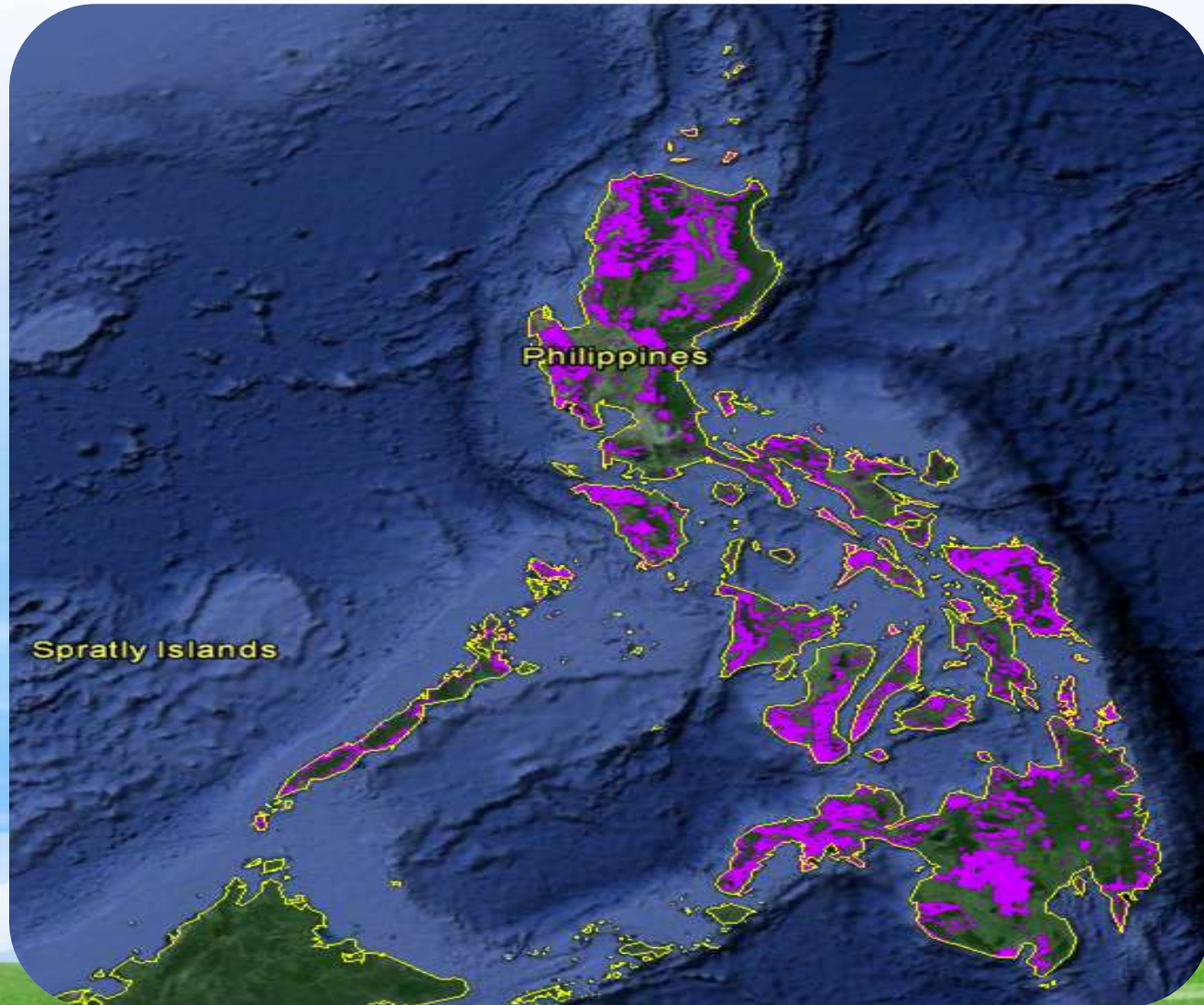


# GOOD GOVERNANCE

MEASURES FOR NGP

# NATIONAL GREENING PROGRAM

## 1. Mapping and Site Validation of NGP target area



# NATIONAL GREENING PROGRAM

## 2. PROGRAM SITES GEO-TAGGED



1379325011675



1379325056144



1379325064186



1379325081994



1379325271563



1379325376324



New Text



Geo-tagged photo  
taken using GEOCAM

Untitled - Notepad

File Edit Format View Help

Site Code:13-124709-0925-0050

Location: Brgy. Kimadzil, Carmen, Cotabato, R12

Coordinates:

    Northing: "N 7 19 59"

    Easting: "E 124 46 18"

Area Planted: 50 Hectares

Species Planted: Coffee, Narra, Molave, Toog

Survival Rate: 84% as of July 20,2012

Name of PO: Kimadzil farmers Rural workers Association

NGP Partners Beneficiary: People's Organization

DENR Responsible Person/Office: PENRO Cotabato

Year Planted: 2012

Remarks:

# NATIONAL GREENING PROGRAM

## 3. WEB BASED ACCESS TO NGP CODED MAPS AND GEOTAGGED PHOTOS



## Site Profile

**National Greening Program**  
1.5 billion trees covering 1.5 million hectares for a period of six years from 2011 to 2016

HOME ABOUT NGP PLANTING SITES REFERENCE MATERIALS REPORTS GALLERY NEWS CONTACT US

### LGU Uyugan

Site ID:	11-020900-0023-0003
Address:	Imnabui, Uyugan, Batanes
Area in hectares:	3.11 Has
Commodity/Species Planted:	Btaog
Year Planted:	2011
NGP Partner Beneficiaries:	LGU Uyugan

Photos

View in Google Earth

Image © 2013 DigitalGlobe  
© 2013 Google  
© 2013 Panaway Ltd  
Image Landsat

Installed Plugin Version: 7.6.0.0642

**LEGEND**  
• Geo-tagged photo • 2013 Planting site

[www.ngp.denr.gov.ph](http://www.ngp.denr.gov.ph)

## SAMPLE SITES

11-020900-0023-0003 PENRO Batanes

11-071242-0024-0010 PENRO Bohol

# NATIONAL GREENING PROGRAM

4. **Map coding** of all NGP Sites in accordance to PSGC accesible through the NGP Website ([www.ngp.denr.gov.ph](http://www.ngp.denr.gov.ph))

## NGP CODE FORMAT

YEAR	RESPONSIBLE DENR FIELD OFFICE	PLANTING SITE NUMBER	AREA
<b>YY</b>	<b>RRPPCC</b>	<b>NNNN</b>	<b>AAAA</b>

CODE	CODE NAME	DESCRIPTION
<b>YY</b>	Year	code based on the last two digit numbers of the year when the NGP plantation was established
<b>RRPPCC</b>	Responsible DENR Field Office	code based on the Philippine Standard Geographic Code (PSGC)* for each DENR Field Office responsible for the site
<b>NNNN</b>	Planting Site Number	code based on assigned numeral by continuously numbering all NGP Plantation Sites established for the specific year per Region
<b>AAAA</b>	Area	code based on the area of the NGP Planting Site in hectares rounded off to the nearest ones

# NGP PLANTING SITE CODING SYSTEM

Example:

12.4 hectares, NGP Plantation Site 342, established on June 6, 2011 in Jones, Isabela .

	YEAR	REGION	PENRO	CENRO	PLANTATION NUMBER	AREA
<b>SITE DETAILS</b>	2011	Cagayan Valley	Isabela	Jones is under CENRO San Isidro	342	12.4
<b>SITE CODE</b>	11	02	31	29	0342	0012

## NGP PLANTATION SITE CODE

# 11-023129-0342-0012

# RECENT DEVELOPMENTS

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# RECENT DEVELOPMENT

## Modern & Mechanized Forest Nursery

- ❑ Establishment of Modern and Mechanized Forest Nurseries (MMFN) in 16 regions for the 1 Million seedling production target per day by the end of 2014
  
- ❑ 5 initial sites with on-going construction
  1. Bicutan, Taguig City (NCR)
  2. Solana, Cagayan (Region 2)
  3. Sipocot, Camarines Sur (Region 5)
  4. Ayungon, Negros Oriental (Region 7)
  5. Bislig, Surigao del Sur (Region 13)



# Profile & Potential of the Initial Sites

Cont....Mechanized  
Nurseries

Nursery Site	Total Area (ha)	Production Area (ha)	Seedling Production Capacity (M)	Released SAA (M)	Development Cost (P)/ SQ.M.	Production Cost (P) / Seedling
<b>NCR</b> <b>Bicutan, Taguig</b>	<b>1.5</b>	<b>1.0</b>	<b>5.0</b>	<b>16.8</b>	<b>1,680.00</b>	<b>3.36</b>
<b>Region 2</b> <b>Solana, Cagayan</b>	<b>5.0</b>	<b>2.5</b>	<b>12.5</b>	<b>34.0</b>	<b>1,360.00</b>	<b>2.72</b>
<b>Region 5</b> <b>Sipocot,</b> <b>Camarines Sur</b>	<b>10.0</b>	<b>7.0</b>	<b>35.0</b>	<b>31.3</b>	<b>447.00</b>	<b>0.89</b>
<b>Region 7</b> <b>Ayungon, Negros</b> <b>Oriental</b>	<b>10.0</b>	<b>8.0</b>	<b>40.0</b>	<b>79.3</b>	<b>991.00</b>	<b>1.98</b>
<b>Region 13</b> <b>Bislig, Surigao del</b> <b>Sur</b>	<b>5.0</b>	<b>4.0</b>	<b>20.0</b>	<b>40.4</b>	<b>1,010.00</b>	<b>2.02</b>
<b>Total</b>	<b>31.5</b>	<b>22.5</b>	<b>112.5</b>	<b>201.8</b>		
<b>Average development &amp; seedling production cost/site</b>					<b>1,098.00</b>	<b>2.20</b>
<b>Average development &amp; seedling production cost/sq.m.</b>					<b>897.00</b>	<b>1.79</b>

## New Sites for Year 2014

Region	Location	Area (ha)		Seedling Capacity (M)
		Total	Production	
4A	Brgy. Llavac Real, Quezon	5.4	2.2	12.0
4B	Brgy. Pinagtuliran Sta. Cruz, Occidental Mindoro	13.0	5.2	26.0
9	Brgy. Baclay Tucuran, Zamboanga del Sur	5.0	2.5	12.5
10	Brgy. Sumpong Malaybalay, Bukidnon	2.5	2.0	10.0
12	Brgy. Amas Kidapawan, North Cotabato	10.0	5.0	25.0
	<b>TOTAL</b>	<b>35.9</b>	<b>16.9</b>	<b>85.5</b>

- ❑ Five (5) proposals were returned to the Regions for re-identification of new sites
- ❑ One (1) site for revalidation due to Typhoon Yolanda



# MMFN Establishment, Ayungon, Negros Oriental (Region 7)



Installation of Fabricated Construction Materials

# MMFN Establishment, Ayungon, Negros Oriental (Region 7)

Fabrication of Railings &  
Palettes



# MMFN Establishment, Solana, Cagayan (Region 2)

February 4, 2014



Seeder Building



Establishment of Bench Terracing & perimeter fencing



Green House Germination & Propagation Chambers

# MMFN Establishment, DOST Compound, Bicutan, Taguig City (NCR)



Panoramic View



Greenhouse (Propagation and Germination Building)



Seeder Machine Building

# MMFN Establishment, Bislig, Surigao del Sur (Region 13)



Seeder Machine Building



Growing Area



Greenhouse Building

# MMFN Establishment, Sipocot, Camarines Sur (Region 5)

51 P 493829 1533848  
accuracy: 24m



51 P 493877 1533930  
accuracy: 12m



51 P 493880 1533933  
accuracy: 12m



51 P 493863 1533861  
accuracy: 16m





# Support Activity to Mechanized Nurseries

- ❑ Total target of 75 Seed Production Areas (SPAs) for establishment or development
- ❑ 64 existing SPAs
- ❑ 31 of which are identified as potential SPAs
- ❑ Production capacity of 2.94B seeds/seedlings



Implementing Region

No. of Clonal Facility

# CLONAL NURSERY

Recent Development... continuation

22 DENR-managed clonal nurseries

TOTAL

22

NCR

1

CAR

1

R1

1

R2

2

R3

1

R4A

1

R4B

1

R5

1

R6

3

R7

1

R8

1

R9

1

R10

1

R11

2

R12

1

R13

2

ERDB

1



## 22 DENR–managed clonal nurseries

About **1.17M** clones are expected to be produced on a 3 cycle/yr-operation from the DENR facilities



Implementing Unit	Projected Clone Production
<b>TOTAL</b>	<b>1.17M/yr</b>
NCR	10,000
CAR	18,000
R1	22,500
R2	90,100
R3	22,230
R4A	16,380
R4B	6,750
R5	30,000
R6	118,402
R7	78,930
R8	119,808
R9	70,500
R10	47,280
R11	191,943
R12	173,622
R13	71,100
ERDB	1- 78,000

## Clonal Nurseries in SUCs (2011-2012)

- Fourteen (14) already completed
- Three (3) 90-95% completed
- About **1.1M-1.36M** clones are expected to be produced annually

Implementing Unit	No. Of Partner SUCs
<b>TOTAL</b>	<b>17 (2011-2012)</b>
NCR	
CAR	2
R1	2
R2	1
R3	3
R4A	1
R4B	1
R5	1
R6	
R7	2
R8	1
R9	
R10	
R11	1
R12	1
R13	1



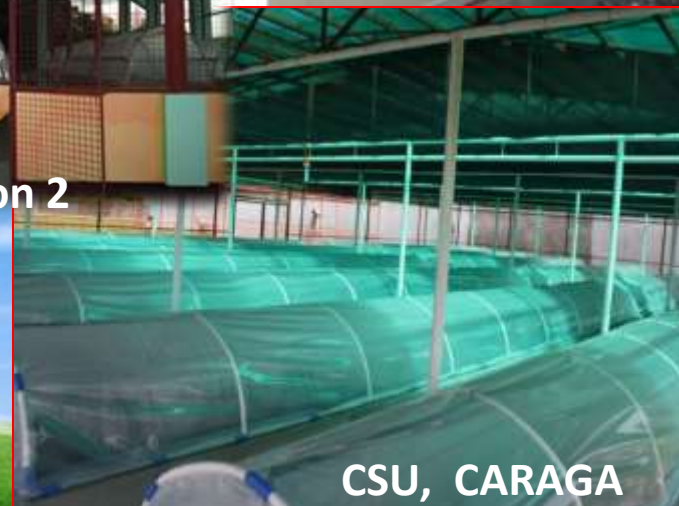
BISU, Region 7



PAC, Region 3



NORSU, Region 7



ISU, Region 2

CSU, CARAGA

# SUCs' CLONAL NURSERIES (2013)

Regions Involved	SUC	Status
	<b>TOTAL = 9</b>	<b>9 MOA signed 1 (VSU) for assessment</b>
6	Aklan State University (ASU)	
	West Visayas State University (WVSU)	
	Capiz State University (CAPSU)	
	Central Philippines State University (CPSU)	
	Guimaras State College (GSC)	
	University of Antique (UA)	
	Western Visayas College of Science and Technology (WVCST)	
8	<b>Visayas State University (VSU)</b>	
10	Central Mindanao University (CMU)	
3	Bulacan Agricultural State University	



MOA signing with various SUCs in R6

# SUCs Clone & Production of Quality Planting Materials (QPM)



**Cuttings of Molave (NORSU)**



**Seedlings of Narra (SLSU)**



**Seedlings of Banaba (KASC)**



**Seedlings of Kupang (PAC)**

# Support Activities to Clonal Nurseries

## ERDB's Developed Indigenous VA Mycorrhizal Technology Matures for Nationwide Utilization

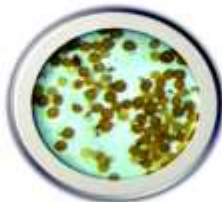


Ecosystems Research & Development Bureau, DENR

Earliest exploration works on the biodiversity of Philippine vesicular-arbuscular mycorrhiza in rhizosphere of pristine tropical forests, mangrove areas and in old plantations were conducted by ERDB researchers in 2000.



From 2003 to present, pure monospecies mycorrhizal local isolates were screened



Pilot tested different host plants in the nursery and in the field

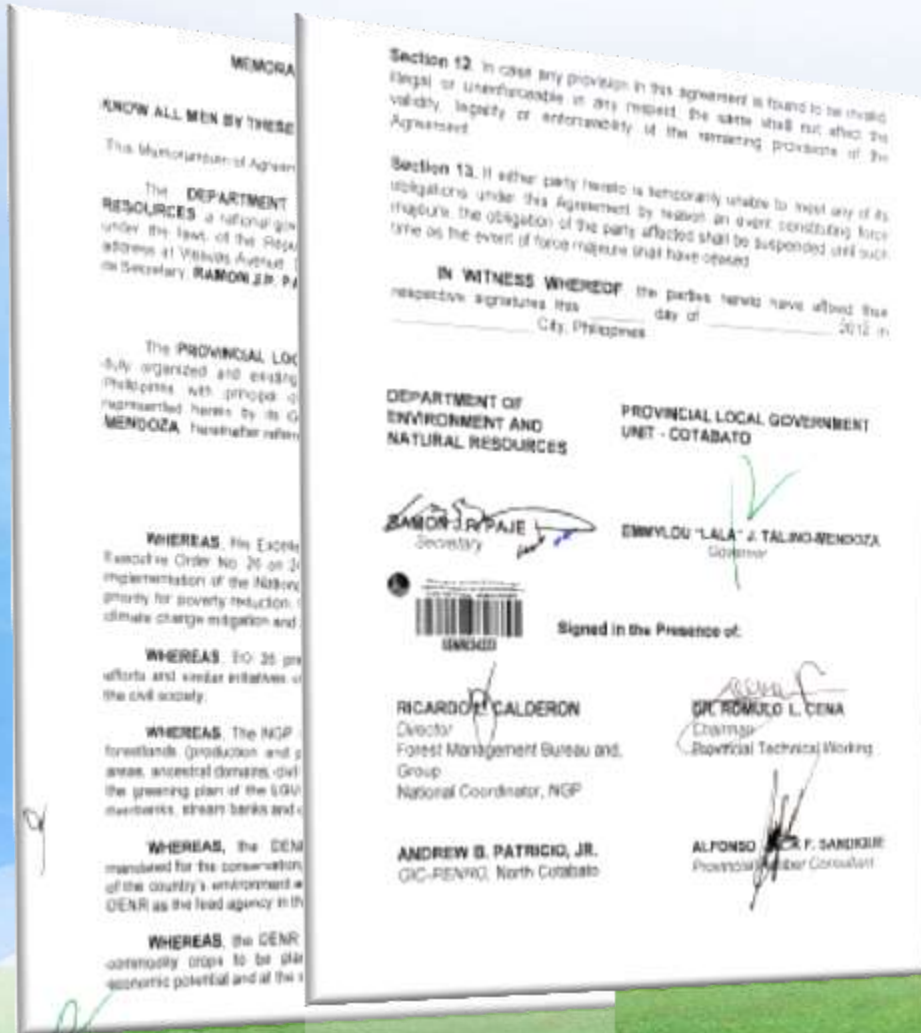


...developed into biofertilizer product



Mass Production of Mycorrhizal Inoculants at UPLB Science and Techno Park

# ESTABLISHMENT OF NATIONAL RUBBER BUDWOOD GARDEN IN PARTNERSHIP WITH THE PROVINCIAL GOVERNMENT OF NORTH COTABATO



- Source of bud eye for budding rubber stocks in the production of superior planting materials from recommended clones
- Will lead to an increase in yield and early tapping of rubber sap







Before the Project (May 22, 2013)



Jan 11, 2014

**NATIONAL RUBBER BUDWOOD GARDEN)  
AMAS, KIDAPAWAN CITY**

104°58'8"E

Accuracy: 6m



- Rubber Species Planted – Cloned PB 260 & PB 330
- 1 hill can produce 10 bud eyes
- No. of hills planted in 3-ha area is 13,335
- The garden can produce up to 880,100 bud eyes annually

05/21/2014

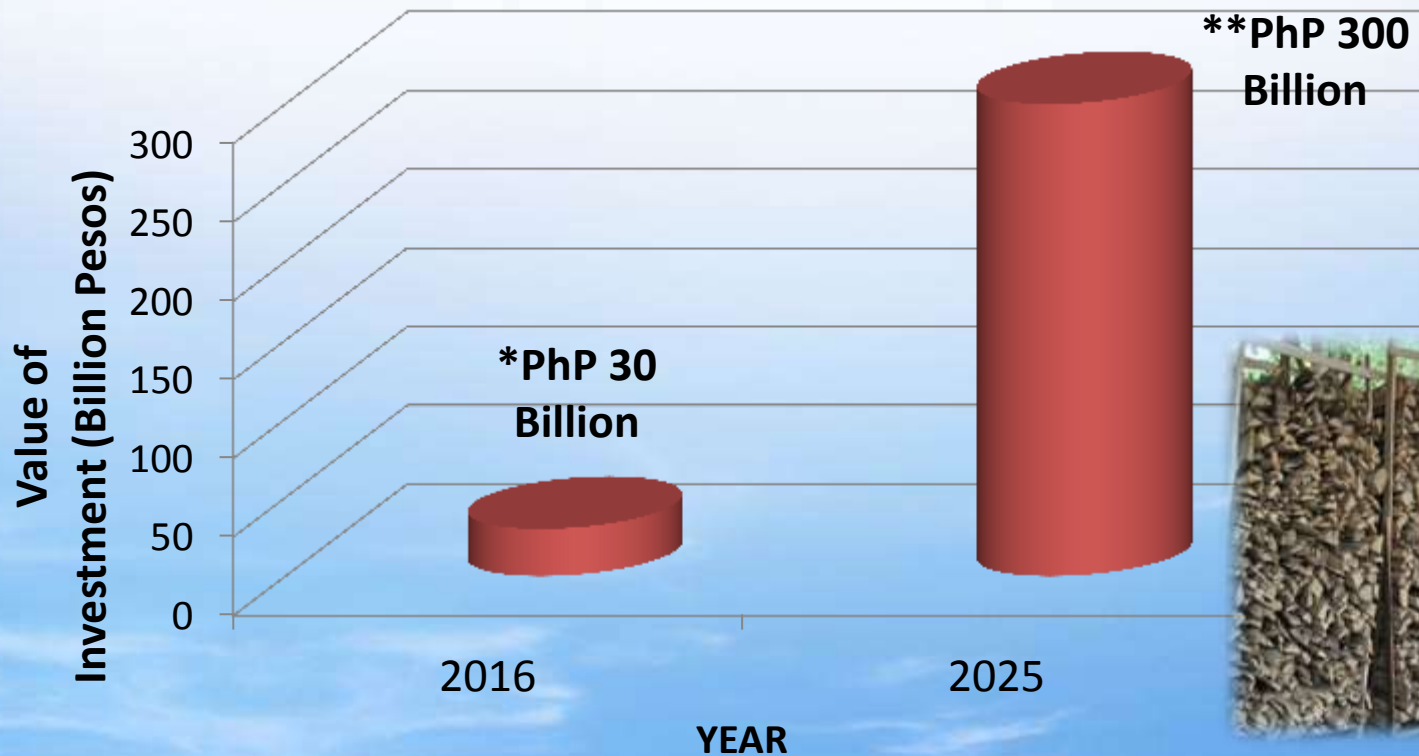
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# EXPECTED OUTCOME

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# EXPECTED PROGRAM OUTCOME

## 10-year Financial Return of Investment



\* 1.5 Billion seedlings in 1.5 Million ha.

\*\* 150 million seedlings (assuming 10% harvestable at year 10)

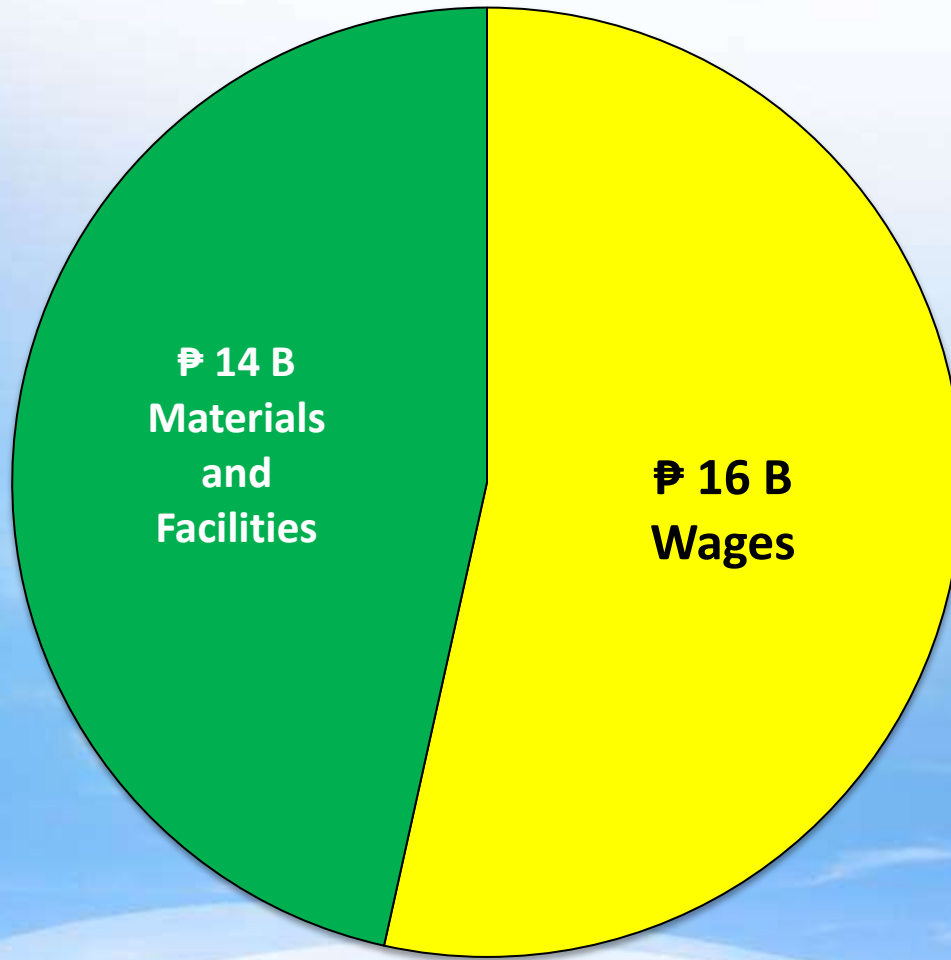
1 Tree = 1 cubic meter

1 cubic meter = Php 2,000 per cubic of Fuelwood

□ equal to P300 Billion in 10 years vs. P30 Billion investment

# NGP as a Vehicle for Inclusive Growth

(Based on the engagement of the Program)



- More than half of the 2011-2016 National Greening Program budget of 30 Billion directly benefits the upland communities/Peoples Organizations

**P30 Billion Investment**

# Thank You!



Department of Environment and Natural Resources

Visayas Avenue, Diliman, Quezon C

09/12/2013

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