



# SPECIAL RELEASE

## CAR Asset Accounts for Land: 1999-2015

Date of Release: November 17, 2017  
Reference No. 2017-34

Cordillera Administrative Region's (CAR) Asset Accounts for Land present estimates on physical and monetary valuation of land resource covering the period 1999 to 2015 under the Environment and Natural Resource Accounting (ENRA) Project which adopts the System of Environmental-Economic Accounting (SEEA) 2012 – Central Framework.

### Cordillera comprises 6.1% of the total land area of the Philippines

- The official total land area of CAR covers 1,829,368 hectares or 6.1 percent of the total land mass of the Philippines, where 275,769 hectares or 15.1 percent are Certified Alienable and Disposable Lands and 1,553,599 hectares or 84.9 percent are Forestlands.
- Almost 71.0 percent of CAR's land area has slopes of 30.0 percent and above. The region has a mountainous topography characterized by towering peaks, plateaus and intermittent patches of valleys.

**Table 1. Land Area of the Philippines and CAR: 2010**

	Area (in Hectares)	% to Total Land Area (Philippines)	% to Total Land Area (CAR)
Total Land Area (Philippines)	30,000,000	...	...
Total Land Area (CAR)	1,829,368	6.1	...
Certified Alienable and Disposable Lands	275,769	0.9	15.1
Forestlands	1,553,599	5.2	84.9

Source: NAMRIA/DENR-CAR

- Land cover is categorized into major land use groupings namely open, closed and plantation forest; inland water; other land uses which include built-up area, annual and perennial crop, barren land and grassland; and other wooded lands which include fallow, shrubs and wooded grassland.
- The land area of the region in 2010 based on cadastral map was adjusted to equal with the official total land area. The adjusted land cover is presented in Table 2.

**Table 2. Land Cover, CAR: 2010 (in Hectares)**

Land Cover	
Closed Forest	250,237.6
Open Forest	517,358.6
Plantation Forest	15,376.8
Built-up area	15,596.8
Annual Crop	225,401.6
Perennial Crop	2,302.1
Barren land	13,034.1
Grassland	137,557.4
Fallow	125.4
Shrubs	307,502.1
Wooden grassland	322,062.7
Inland Water	22,812.8
<b>Total</b>	<b>1,829,368</b>

Source: Philippine Statistics Authority

- In 2010, closed, open and plantation forests covered 782,973.0 hectares or 42.8 percent of the region's total land area. Built-up area was 15,596.8 hectares (0.9%), annual and perennial crop covered 227,703.6 hectares (12.4%), barren and grassland covered 150,591.6 hectares (8.2%), other wooded land was 629,690.2 hectares (34.4%) and inland water was 22,812.8 hectares (1.2%).

**Agricultural land decreased by a rate of 0.035% while tree-covered areas increased by 15% from 1999-2015**

**Table 3. Land Cover Estimates, CAR: 1999-2015 (in Hectares)**

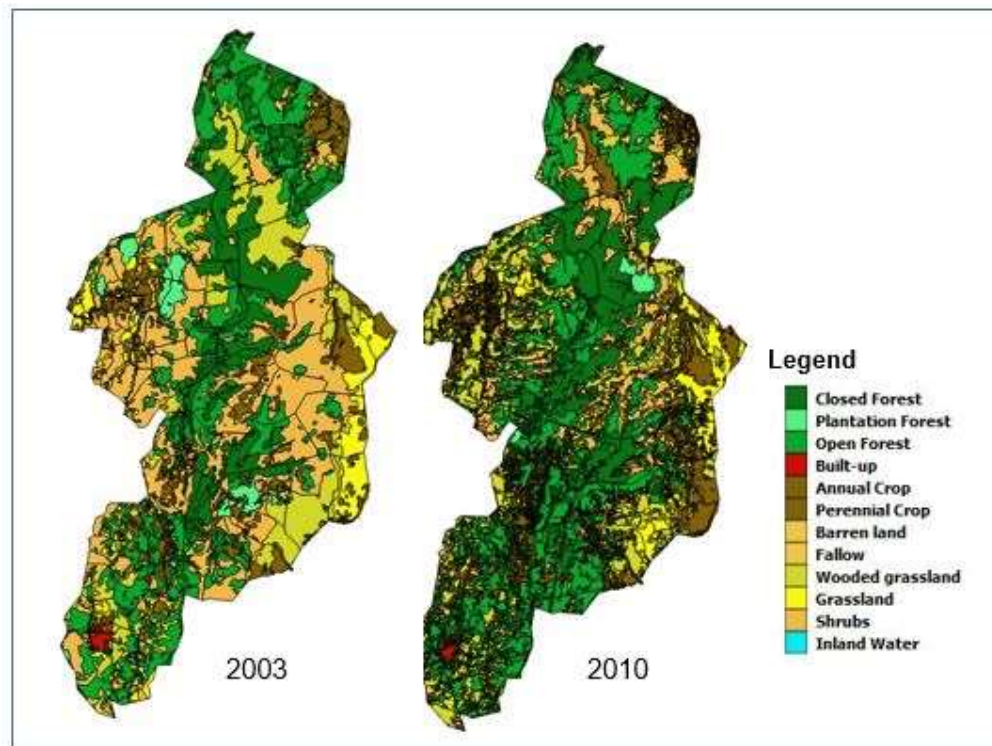
Year	Artificial Surfaces	Crops	Grassland	Tree-covered area	Shrub-covered area	Regularly flooded areas	Terrestrial barren land	Inland water bodies
1999	15,549.7	227,750.7	475,575.0	756,556.0	318,089.6	...	13,034.1	22,812.8
2000	15,552.7	227,747.7	473,543.6	759,946.1	316,730.9	...	13,034.1	22,812.8
2001	15,552.7	227,747.7	471,412.4	763,502.7	315,305.5	...	13,034.1	22,812.8
2002	15,560.7	227,739.7	470,138.8	765,628.2	314,453.6	...	13,034.1	22,812.8
2003	15,571.8	227,728.6	469,414.8	766,836.4	313,969.4	...	13,034.1	22,812.8
2004	15,577.0	227,723.4	469,300.8	767,026.8	313,893.1	...	13,034.1	22,812.8
2005	15,577.7	227,722.7	468,953.7	767,606.0	313,661.0	...	13,034.1	22,812.8
2006	15,583.3	227,717.2	468,931.5	767,642.9	313,646.1	...	13,034.1	22,812.8
2007	15,591.9	227,708.5	467,303.3	770,360.2	312,557.1	...	13,034.1	22,812.8
2008	15,592.1	227,708.3	464,798.4	774,540.6	310,881.7	...	13,034.1	22,812.8
2009	15,596.8	227,703.6	459,745.5	782,973.0	307,502.1	...	13,034.1	22,812.8
2010	15,597.0	227,703.4	459,476.9	783,421.3	301,322.4	...	13,034.1	22,812.8
2011	15,601.9	227,698.5	455,331.3	790,339.7	304,549.6	...	13,034.1	22,812.8
2012	15,608.7	227,691.7	449,523.5	800,032.0	300,665.0	...	13,034.1	22,812.8
2013	15,614.8	227,685.6	432,064.1	829,169.2	288,987.3	...	13,034.1	22,812.8
2014	15,619.0	227,681.4	417,910.3	852,789.8	279,520.5	...	13,034.1	22,812.8
2015	15,619.2	227,681.2	407,684.0	869,856.0	272,680.6	...	13,034.1	22,812.8

Source: Philippine Statistics Authority

Note: (...) Not applicable

- Crops or agricultural land declined with a rate of 0.035 percent or about 80 hectares from 227,751 hectares in 1999 to 227,681 hectares in 2015. This represented an average decrease of about 5 hectares annually.
- Tree-covered areas increased from 756,556 hectares in 1999 to 869,856 hectares in 2015. This indicated a 15.0 percent growth rate from 1999 to 2015 with an average growth of 0.09 percent or 7,081 hectares annually.

Figure 1. Land Cover Map, CAR: 2003 and 2010



Source: NAMRIA

### 124,072 hectares are reforested from 1999-2015

- Using the available data for the year 2003 and 2010, the land cover was mapped to capture an overview of the land conversions over the years. It reflects the changes made by the afforestation/reforestation activities of the combined efforts of different government agencies and private sectors. The presence of artificial surfaces on agricultural lands can also be observed from the figure. None of the data compiled can relate to the changes in regularly flooded areas, terrestrial barren-land and inland water of the region.
- The conversion of other wooded land (grassland and shrub land) to tree-covered areas reflect the increase in forest cover to address the needs of the people including poverty reduction and disaster and climate change mitigation. It is also a way to preserve the rich biodiversity of the region and its role as Watershed Cradle of Northern Luzon. The total afforested/reforested area from 1999 to 2015 was 124,072 hectares. On the other hand, a total of 6,052 hectares were affected by forest disturbance and removals on the same time period.

- The decrease in land devoted to agricultural uses can be explained by the land conversions from agricultural lands to built-up areas. These conversions can relate to population growth and upland migration. During the period covered, the total agricultural lands converted to artificial surfaces were 79.7 hectares. In general, there was no apparent trend in land conversions.

### CAR land resource is valued at 21.7 trillion pesos in 2015

- The estimated total value of land in the region particularly land devoted to agriculture, aquaculture, forestry and built-up areas amounted to ₱21.7 trillion in 2015.
- The opening stock of land used for agriculture was valued at ₱302.9 billion in 1999 and estimated to be at ₱1.8 trillion in 2015. The value of agriculture land was estimated to have an annual average increase of 11.7 percent or ₱92 billion yearly increment.

**Table 4. Estimated Value of Land, CAR: 1999-2015 (in Pesos)**

Year	Agriculture	Forestry	Aquaculture	Built-up	Total
1999	302,908,377,209.4	105,917,838,952.8	...	18,270,955,196,735.2	18,679,781,412,897.4
2000	302,904,391,199.4	106,392,455,332.8	...	18,274,476,671,735.2	18,683,773,518,267.4
2001	592,143,922,645.4	878,028,130,322.9	...	18,274,476,671,735.2	19,744,648,724,703.5
2002	1,332,277,097,907.1	980,004,068,078.9	...	18,283,862,219,235.2	20,596,143,385,221.2
2003	1,332,212,516,247.1	981,550,537,910.0	...	18,296,833,749,235.2	20,610,596,803,392.3
2004	1,332,182,079,867.1	981,794,266,311.0	...	18,302,947,039,235.2	20,616,923,385,413.3
2005	1,332,177,657,267.1	982,535,622,143.9	...	18,303,835,339,235.2	20,618,548,618,646.2
2006	1,332,145,343,037.1	982,582,959,963.0	...	18,310,325,804,235.2	20,625,054,107,235.3
2007	1,332,094,490,157.1	986,061,036,599.9	...	18,320,539,844,235.2	20,638,695,370,992.2
2008	1,776,124,526,716.1	1,367,064,124,057.6	117,548,000.0	18,320,759,804,235.2	21,464,066,003,008.9
2009	1,776,088,304,296.1	1,426,968,310,055.9	111,224,000.0	18,326,216,386,735.2	21,529,384,225,087.2
2010	1,776,086,795,776.1	1,427,785,321,555.2	115,076,000.0	18,326,443,631,735.2	21,530,430,825,066.5
2011	1,776,048,221,656.1	1,440,394,140,791.9	117,816,000.0	18,332,254,476,735.2	21,548,814,655,183.2
2012	1,775,995,034,236.1	1,458,058,396,523.2	119,892,000.0	18,340,266,684,235.2	21,574,440,006,994.5
2013	1,775,947,770,136.1	1,511,160,926,082.1	118,134,000.0	18,347,386,596,735.2	21,634,613,426,953.4
2014	1,775,914,888,456.1	1,554,209,459,255.1	113,568,000.0	18,352,339,926,735.2	21,682,577,842,446.4
2015	1,775,913,178,696.1	1,585,312,611,535.3	119,098,000.0	18,352,597,486,735.2	21,713,942,374,966.6

Source: Philippine Statistics Authority

Note: (...) Data not available

- The monetary value of agricultural land exhibited an increasing trend due to the increase in prices even if the area was decreasing.
- Valuation of land for built-up areas also showed an increasing trend. The opening stock for built-up areas was valued at ₱18.3 trillion in 1999. In 2015, built up areas were valued at ₱18.4 trillion.
- The opening stock of land for forestry was valued at ₱105.9 billion in 1999 and was estimated to be valued at ₱1.6 trillion in 2015 due to the increase in land cover.

- Despite the unchanging zonal value of land used for aquaculture, the monetary estimates varied. The fluctuation was due to the changes in the area of the land devoted to aquaculture.

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#### Technical Notes

***Alienable and disposable lands*** refer to those lands of the public domain which have been the subject of the present system of classification and declared as not needed for forest purposes. It covers those purposes intended for residential, agricultural, conversional purposes that also include other civil uses

***Land use*** reflects both the activities undertaken and the institutional arrangements put in place in an area, either for economic production purposes or for maintenance and restoration of environmental functions

***Land Cover*** refers to the observed physical and biological cover of the Earth's surface, including natural vegetation and abiotic surfaces

***System of Environmental-Economic Accounting 2012 – Central Framework*** is an international statistical standard for environmental-economic accounting. It is a multipurpose conceptual framework for understanding the interaction between the economy and the environment.

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