

Improving the Estimation Methodology of Cultivated Biological Resources in the Philippine System of National Accounts

By

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Presented by

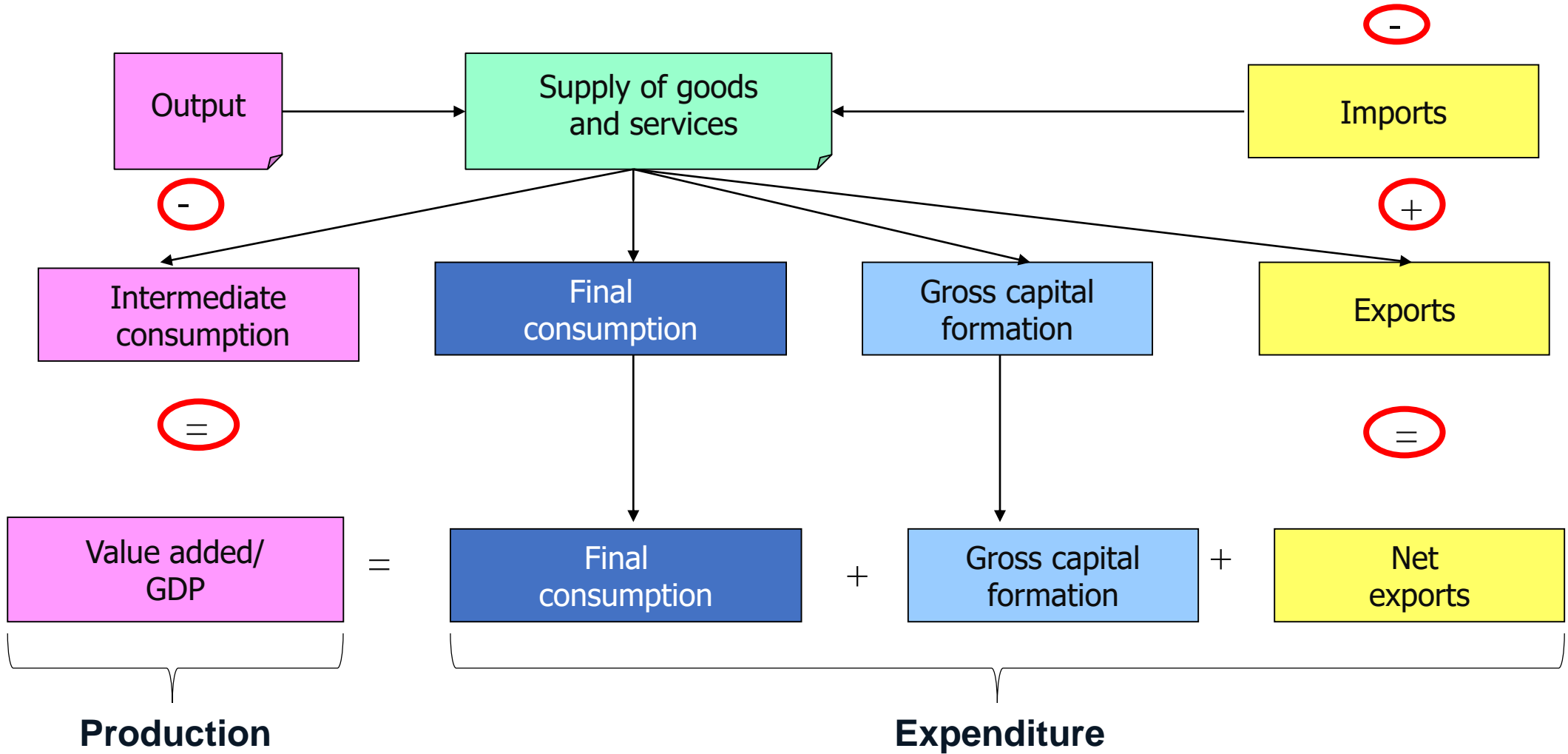
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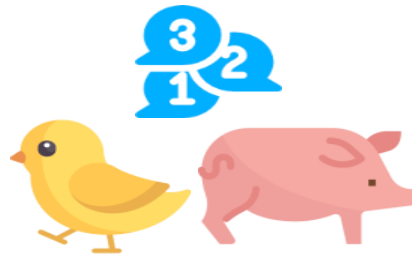
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Outline of Presentation

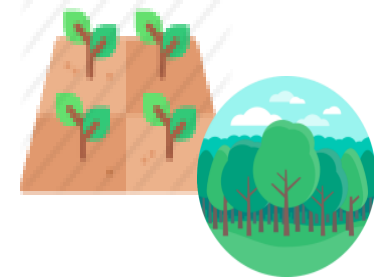
- Introduction
 - Overview of the System of National Accounts (SNA) Framework
 - Scope and Coverage of Cultivated Biological Resources
- Methodology of Breeding Stock and Orchard Development (BSOD)
- Issues and Recommendations

System of National Accounts Framework





Cultivated biological assets



Breeding Stocks

Used repeatedly or continuously over periods of time of more than a year

Orchard Development

animal resources yielding repeat products whose natural growth and regeneration are under the direct control, responsibility and management of institutional units

tree, crop and plant resources yielding repeat products whose natural growth and regeneration are under the direct control, responsibility and management of institutional units



Importance of BSOD

- Declining share to GDP from 2.3% in 1998 to 1.0% in 2018
- Annualized growth of 1.1% from 2010 to 2018
- captures the capital formation of agriculture
- validates the current agricultural situation of the country

2000-based estimation

$$BS = (EI_i \times r_i \times lw_i \times P_i) \times UCR$$

where BS = gross fixed capital formation in breeding stocks and other animals used as fixed capital

EI_i = ending inventory of the animal type

r_i = ratio of the animal type in the breeding stock

lw_i = average live weight of the animal type in the breeding stock

P_i = farm prices of the animal type in the breeding stock

UCR = undercoverage ratio for total breeding stock



2000-based estimation



$$ORCH = AP \times C \times UCR$$

where ORCH = gross fixed capital formation in orchard

AP = area planted to permanent crops (in hectare)

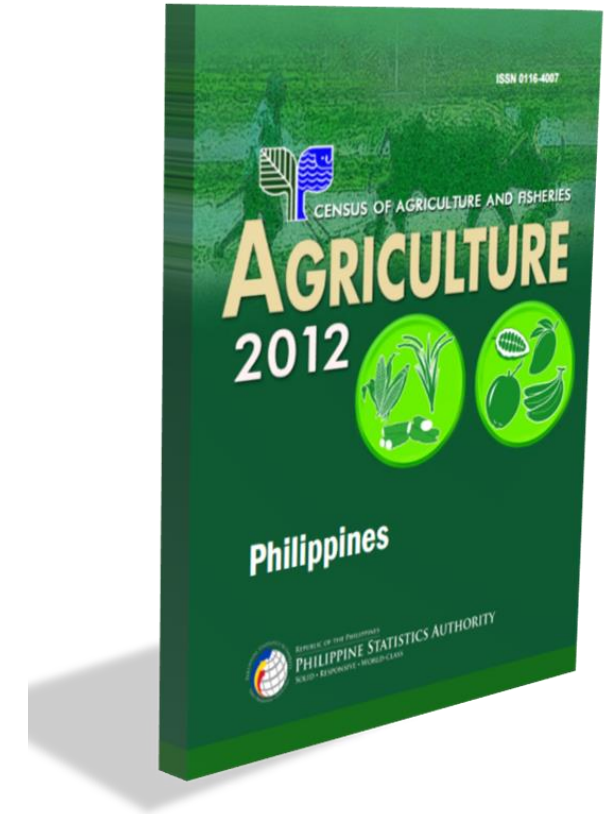
C = total development and cultivation cost per hectare

UCR = undercoverage ratio

PROPOSED 2018-based estimation

Main highlights and improvements in the estimation methodology:

- 2012 Census of Agriculture and Fisheries
- Field visit results
- Data from other source agencies



RESULTS AND DISCUSSIONS

Table 1. Distribution of total spending across number of years before crops yield products

Commodity	Number of years before crops yield products	Share to total expenses							Total
		Y1	Y2	Y3	Y4	Y5	Y6	Y7	
Cacao	3	0.40	0.30	0.30					1.00
Calamansi	3	0.54	0.30	0.15					1.00
Coconut	5	0.33	0.17	0.17	0.16	0.16			1.00
Coffee	3	0.68	0.15	0.17					1.00
Mango	7	0.25	0.13	0.13	0.12	0.13	0.13	0.13	1.00
Rubber	5	0.37	0.16	0.16	0.15	0.15			1.00

- Spending tends to decrease over time
- Bulk of the first year's cost is associated with materials and inputs expenses

Table 2. Share of inputs to growing of various permanent crops

Item	Cacao	Calamansi	Coconut	Coffee	Mango	Rubber
Materials	0.23	0.53	0.17	0.10	0.11	0.29
Labor	0.77	0.47	0.82	0.90	0.89	0.71

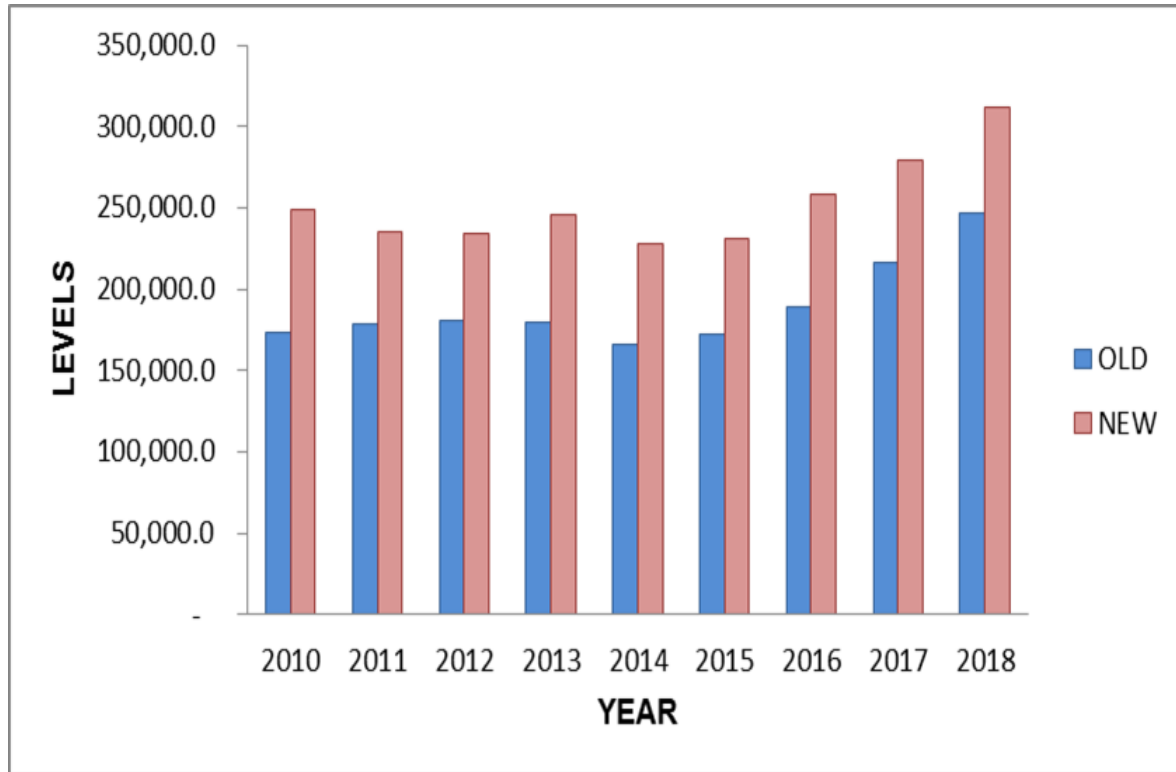
- A large portion of total expenses is accounted for labor for most of the permanent crops visited
- Calamansi has higher inputs from materials than labor

Table 3. Comparison of Published and Revised Estimates, 2010 to 2018

Item/Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
2000-Based	173,493.9	178,640.3	181,021.6	180,080.8	165,981.4	172,474.2	188,839.0	216,089.5	246,990.8
2018-Based	248,563.4	235,453.2	234,621.9	245,584.8	227,410.8	231,114.9	258,635.1	279,665.1	312,327.2
Difference	75,069.5	56,812.9	53,600.3	65,504.0	61,429.4	58,640.7	69,796.1	63,575.6	65,336.4

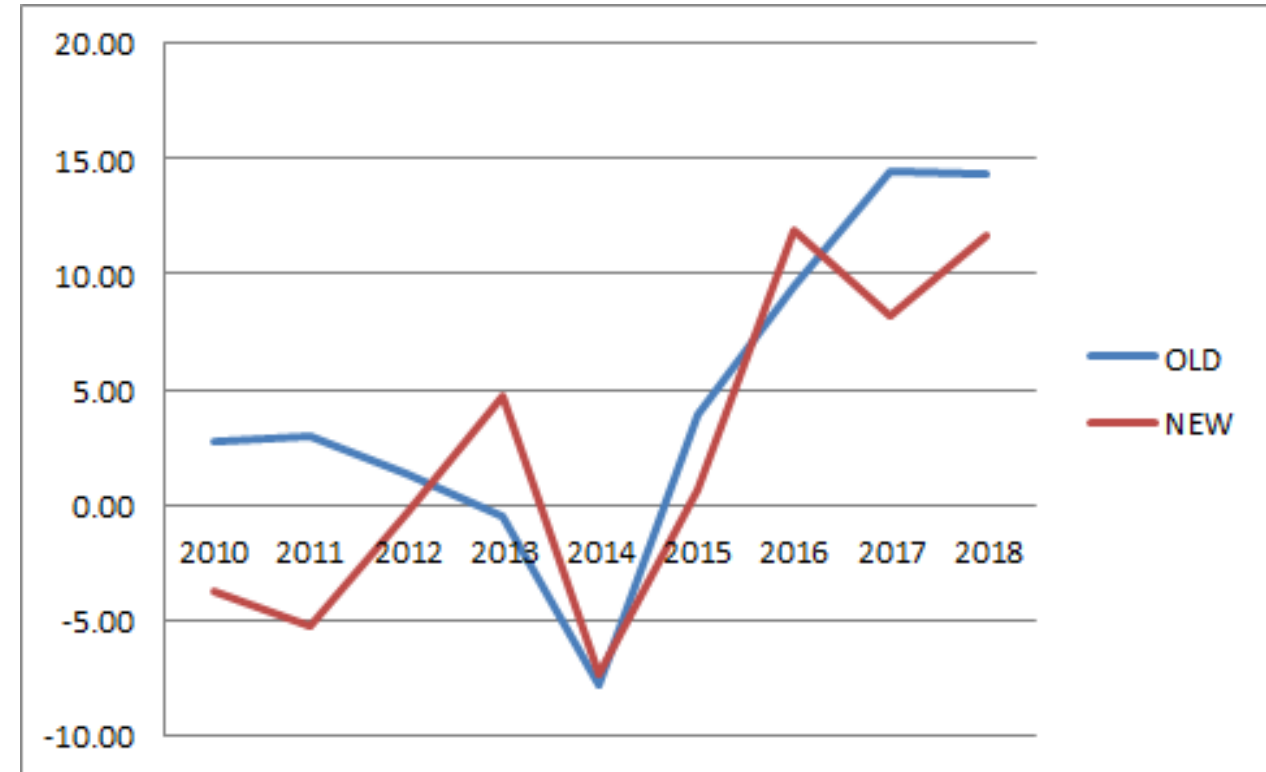
- Around PhP 63.3 billion increase in levels
- Around 33.4 percent increase on average

Figure 1. Comparison between the Published and Initial Revised Estimates for BSOD, 2010 to 2018



- Initial revised estimates posted higher levels than published estimates

Figure 2. Comparison Between the 2000-Based and the 2018-Based Growth Rate for BSOD, 2010 to 2018



- For years 2013 to 2016, the growth pattern of old and new method is the same

Issues and Recommendations

- Need to update and improve BSOD estimation methodology
- Strengthen data support and coordination with data providers
- Knowledge and appreciation on the importance of cultivated biological resources
- IAC on Agriculture and Fishery Statistics



Thank You!



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