



Valuation of A Natural Resource: The Case of Laguna de Bai

Potential Policy Application of Ecosystem Accounts

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Economic Valuation – What is it?

- Simply said, economic valuation (EC) is attaching a peso value to a good or service.
- Normally this value is determined based on the benefit that can generated from the good or service.
- It is incorrect to gauge the value of a good or service solely based on its market price—but it is a beginning point.
- EC is needed to gauge the level of productivity and wealth of a community or a nation.

Total Economic Value (TEV)

- Convention and the literature summarize the components of TEV as follows:

$$\text{TEV} = \text{Use Value (direct+indirect)} + \text{Option Value} + \text{Existence Value}$$

National Income Accounting and Valuation

- Valuation is the way to attach a peso figure to economic activities
- National Income Account is the recorded measurement of economic activities in a country in a specific period of time
 - NI Accounting is **not** an exact science
 - Tells us where the economic activities are coming from
 - Provides one gauge as to how well the economy is performing.

Valuation of Natural Resources

- It is not as easy and straightforward as valuation of manufactured goods and services, and other “priced” or traded commodities.
- Natural resources and environmental quality are mostly ***non-market or non-traded*** goods.
- Often, valuers have to rely on Willingness to Pay assessment (survey) and using proxy variables (e.g., land prices, etc)

The Case of Laguna de Bai

- Problem: What is the economic value of Laguna de Bai as a natural resource?
- Importance: To determine if public funds should be used to “save” Laguna de Bai, or should these funds be used for other worthwhile projects.
- Proper valuation of natural resources such as Laguna de Bai is needed to add to our country’s natural assets as part of the Philippines’ capital assets
 - It will allow for the appropriate monitoring of assets and liabilities as reflected in the NIA.

Difficulties in the Valuation of Laguna de Bai

- Laguna de Bai is a common-pool natural resource
 - Non-traded or non-market
- The value must be measured through the generated peso value of its services
 - But data were not available
- For the rapid valuation project, the time constraint was a huge factor.
 - The study was needed in 10 days, hence, no time to conduct in-depth valuation
- *In the end, the rapid valuation produced a benchmark figure, but not a complete economic valuation of Laguna de Bai.*

LdB – Components of Value

- Health impacts of clean water
- Recreation value
- Transportation
- Fish production for income
- Temporary reservoir of floodwater
- Power generation
- Irrigation of agri land
- Waste receptacle

Breakdown of Value of LdB

Environmental Service/Good	Estimated Value (Million Php)
	Current
Health Benefits as Source of Potable Water	19
Recreation	197
Transportation	224
Fish Production	4,330
Temporary Reservoir of Floodwater	75,991
Irrigation of Agricultural Land	2,193
Total Annual Value of the Direct Benefits from Laguna de Bai	82,954
Value of Traded Potable Water Sourced from Laguna de Bai	356
Value of Traded Electric Power Generated from Laguna de Bai	1,295
Environmental User Fees	148
Total Annual Economic Value of Laguna de Bai	84,753

Comparison of Value with Pristine State of LdB

Environmental Service/Good	Estimated Value (Million Php)	
	Current	Potential (Pristine Case)
Health Benefits as Source of Potable Water	19	19
Recreation	197	213
Transportation	224	224
Fish Production	4,330	8,020
Temporary Reservoir of Floodwater	75,991	75,991
Irrigation of Agricultural Land	2,193	2,193
Total Annual Value of the Direct Benefits from Laguna de Bai	82,954	86,660
Value of Traded Potable Water Sourced from Laguna de Bai	356	356
Value of Traded Electric Power Generated from Laguna de Bai	1,295	1,295
Environmental User Fees	148	0
Total Annual Economic Value of Laguna de Bai	84,753	88,311

What can be surmised from the rapid valuation?

- Laguna de Bai is a valuable resource because it provides economic benefits worth billions.
- The net value of LdB as a result of pollution.
- To include the value of a natural asset such as LdB provides policy makers with the information they need to:
 - Track and measure the performance of the economy
 - Monitor the possible deterioration of the country's total assets.
- *NOTE: the rapid valuation does not include the full value of LdB because of time and data limitations*

Suggested refinements to the rapid valuation

- Impacts of LdB on the price of water and power, and consumers' welfare
- Detail and examine the impacts of pollution on the value of LdB
- Include the other environmental services that LdB provides society that were not included in the rapid valuation

Note: The figures can not be compared with other countries' valuation. This needs to be addressed in the future.



End of Presentation
Thank you!