Training Booklet on Wealth Accounting Indicators

Phil-WAVES

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WAVES - Global Partnership for Wealth Accounting and the Valuation of Ecosystem Services

Wealth Accounting and the Valuation of Ecosystem Services (WAVES) is a global partnership led by the World Bank, aims to promote sustainable development by mainstreaming natural capital in development planning and national economic accounting systems, based on the System of Environmental-Economic Accounting (SEEA). Towards this end, WAVES (www.wavespartnership.org) brings together a broad coalition of governments, United Nations agencies, nongovernmental organizations and academics. Its core implementing countries include developing ones — Botswana, Colombia, Costa Rica, Guatemala, Indonesia, Madagascar, the Philippines and Rwanda — all working to establish natural capital accounts. WAVES' partner UN agencies, namely, UNEP, UNDP, and the UN Statistical Commission, are helping to implement natural capital accounting. WAVES is funded by a multi-donor trust fund and is overseen by a steering committee. Donors include—Denmark, the European Commission, France, Germany, Japan, The Netherlands, Norway, Switzerland, and the United Kingdom.

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[1] WB Consultant Mr. Raymundo J. Talento as the technical editor.

OVERVIEW

- This training booklet aims to equip the trainees with an understanding of the theoretical background and practical applications of the wealth accounting indicators.

- Wealth accounting provides better indicators for monitoring sustainable development and prospects for long term growth.

- The topics on wealth accounting indicators are divided into four:

  (a) adjusted net national income (ANNI),
  (b) adjusted net national savings (ANNS),
  (c) produced capital (PC), and;
  (d) comprehensive wealth (CW).

- This training booklet also presents a brief overview of the relevant concepts of the System of National Accounts (SNA) and the System of Environmental-Economic Accounting (SEEA) to ensure a better understanding of wealth accounting indicators.

[2] The editor would like to acknowledge the PSA Technical Staff of Phil-WAVES for preparing the draft lay-out of this training booklet.

A NATION'S WEALTH

What composes a nation's wealth?

BUILDINGS

INFRASTRUCTURE

MACHINERIES

WEALTH

It has many definitions, from the simplest to the most complex, but what's intuitively clear is the following:

- It is what underpins the income that a country generates.
- It is "anything of value".
- It is the annual production of the land and labor of the society (Adam Smith, The Wealth of Nations)
- It is the accumulation of all assets owned, net of all liabilities owed, at a point in time.

NATURAL ASSETS

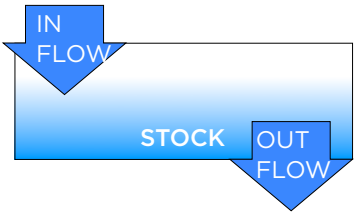
HUMAN & SOCIAL

SYSTEM OF NATIONAL ACCOUNTS (SNA)

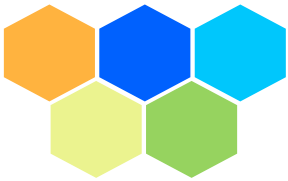
It records economic activities which consist of all transactions of resident institutional units both within the economic territory of the country and with non-resident institutional units or the rest of the world (ROW).

The concept of wealth has at least two basic features:

Wealth is stock.



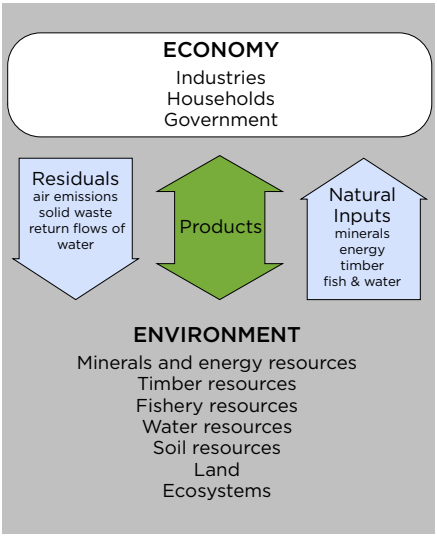
Wealth is composite as it has many components.

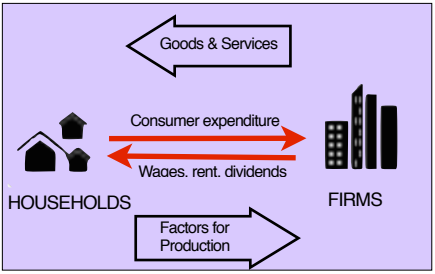


How to measure wealth?

SYSTEM OF ENVIRONMENTAL-ECONOMIC ACCOUNTING (SEEA) CENTRAL FRAMEWORK

This is a multipurpose conceptual framework that describes the interactions between the economy and the environment, as well as the stocks and changes in stocks of environmental assets.





The SEEA Central Framework applies the accounting concepts, structure, rules and principles of the SNA to environmental accounting.

WEALTH ACCOUNTING measures the assets and capital goods that are inputs to economic well-being.

macroeconomic indicator

It can be measured in three conceptually equivalent ways.

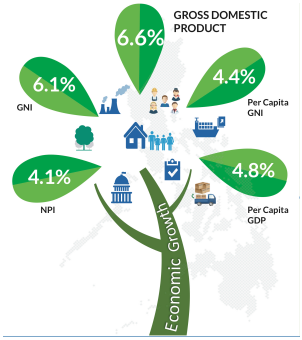
GROSS DOMESTIC PRODUCT (GDP) as a measure of economic performance. GDP is an aggregate measure of the gross value added of all resident institutional units.

Income Approach = Compensation of Employees + Consumption of Fixed Capital - Taxes - Subsidies + Net Operating Surplus

Expenditure Approach = Sum of expenditure on Final Consumption +Gross Capital formation + Exports - Imports

Production Approach = ∑ GVA of all industries GVA = Gross Output - Intermediate Consumption

GDP as an Indicator



Gross Domestic Product (GDP) measures the output of an economy. It is an important indicator of a country's economic activity.

However, it also has limitations.

GDP does not measure....

- Natural processes such as growth of fish in the ocean and natural growth of trees in the forest.
- Loss of natural areas that provide ecosystem services to the economy, like pollination
- Extent to which renewable resources like forests and fisheries are being depleted.
- Depletion of minerals and mineral fuels.
- Future losses resulting from greenhouse gas emissions - sea level rise, extreme weather and agricultural decline.
- Future economic losses when pollution leads to premature deaths and chronic disease.

"GDP is not a measure of welfare or well-being of a society."

"Since GDP does not account for the use of the environment, its recorded growth may or may not be sustainable."

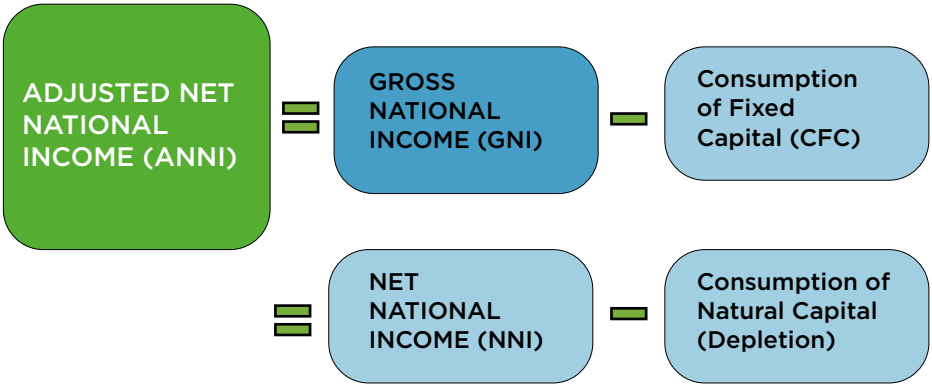
GDP needs to be adjusted to measure sustainability. There are four macroeconomic indicators that measure macroeconomic output can be refined to account for the depletion of physical, environmental, and natural capitals, as well as human capital and capital stock:

- Adjusted Net National Income (ANNI)
- Adjusted Net National Saving (ANNS)
- Produced Capital (PC)
- Comprehensive Wealth (CW)

ADJUSTED NET NATIONAL INCOME (ANNI)

ANNI is the net national income adjusted to account for the depletion of the natural resources. It is one of variables used to assess the sustainability of a country's growth path.

In estimating the adjusted net national income (ANNI), the data needed are:



where:

GNI — is the sum of the gross value added of all resident producers plus net property income from abroad.

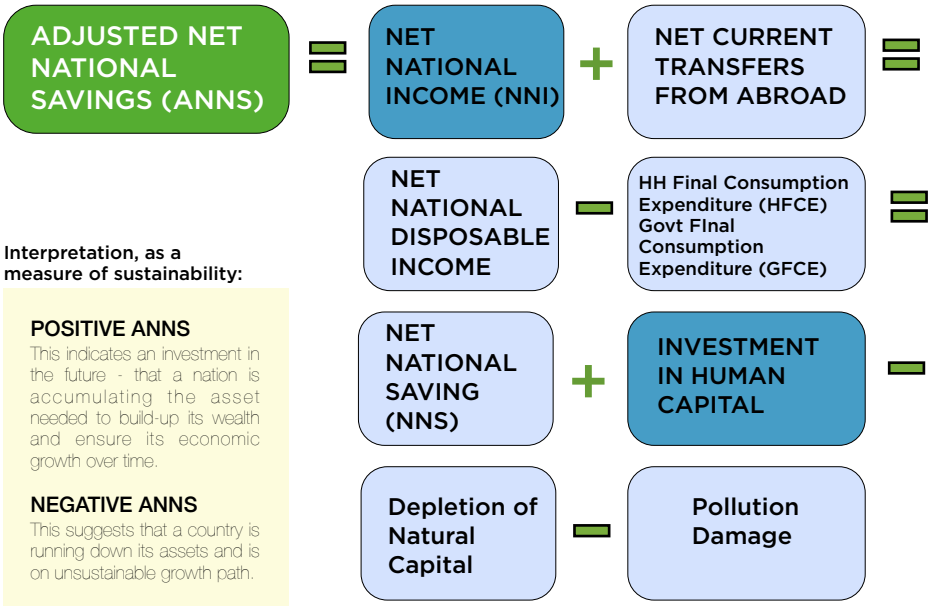
CFC — represents the decline in value during the accounting period of the fixed capital used in a production process.

Depletion — in physical terms, is the decrease in the quantity of the stock of a natural resource in an accounting period due to the extraction of the natural resource by economic units occurring at a level greater than that of regeneration. Natural Capital refers to natural resources considered as environmental asset. It includes mineral and energy resources, land, soil resources, timber resources, aquatic resources, other biological resources, and water resources.

ADJUSTED NET NATIONAL SAVINGS (ANNS)

ANNS is derived from the national accounts estimate of net national saving by making three adjustments, that is: (a) current expenditure on education is added to account for investment in human capital; (b) estimates of the depletion of a variety of natural resources are deducted to reflect the decline in asset values associated with extraction and depletion; (c) deductions are made for pollution damages from carbon dioxide and particulate emissions.

In estimating the ANNS, the data requirements are:



Interpretation, as a measure of sustainability:

POSITIVE ANNS

This indicates an investment in the future - that a nation is accumulating the asset needed to build-up its wealth and ensure its economic growth over time.

NEGATIVE ANNS

This suggests that a country is running down its assets and is on unsustainable growth path.

where:

Net Current Transfer from Abroad – These are all current transfers in cash or in kind receivable minus those payable by resident institutional units from/to the rest of the world.

Human Capital — measured using various approaches: Cost-based, income-based, and/other related indicators (e.g., educational attainment, outcomes). Proxy: Education expenditures can be considered as investments in human capital.

Pollution Damage — This is the economic cost of damages due to emission of substances to the environment by establishments and households as a result of production, consumption, and accumulation processes

PRODUCED CAPITAL (PC)

Produced capital or produced assets are non-financial assets that have come into existence as outputs from processes that fall within the production boundary of the SNA. PC consists of fixed assets, inventories, and valuables. It is actually the value of capital stock of an economy for a particular accounting period.

In estimating the PC, the data requirements are:

PRODUCED CAPITAL (PC)

GROSS CAPITAL FORMATION
(as investment data on produced capital)

Fixed assets are produced assets used repeatedly in the production process for more than a year. This type of asset includes land improvements (fences, ditches, drains, etc.); machinery, and equipment; infrastructures, residential/non-residential buildings and intellectual property products such as databases, literary/artistic originals, among others.

Inventories are produces goods for the current period or earlier period that is held for sale or use in production or other use at a later date.

Valuables are produced goods of considerable value held as stores of value and not used for production or consumption.

Consumption of Fixed Capital

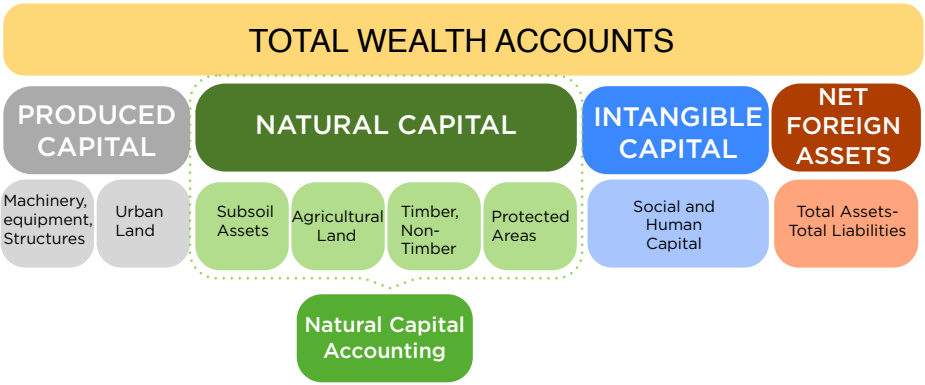
Service Lives of Fixed Assets

Obsolescence/Disposal of Fixed Assets

COMPREHENSIVE WEALTH (CW)

Comprehensive wealth accounting can provide an estimate of the total wealth of nations by measuring the value of these different components of wealth. Changes in wealth can serve as basis for assessing the sustainability of a country's economic growth without depleting its stock of assets.

COMPREHENSIVE WEALTH COMPOSITION



The data for estimating the comprehensive wealth are identified as follows:

COMPONENT	SECTOR/RESOURCE	POSSIBLE DATA SOURCE
PRODUCED CAPITAL	Household, NPSIH	National Accounts of the Philippines (NAP),PSA
	Corporation	NAP, (PSA), SEC, BSP
	Government	NAP, (PSA)
NATURAL CAPITAL	Land Resources	PSA, NAMRIA, HLURB, LMB, FMB, etc.
	Mineral & Energy Resources	PSA, MGB, SEC, NAMRIA, DOE, etc.
	Timber Resources	PSA, FMB, NAMRIA, etc.
	Aquatic Resources	PSA, BFAR, etc.
	Water Resources	PSA, PAGASA, other agencies
HUMAN AND SOCIAL CAPITAL	Human Capital (Education Expenditures)	NAP, Satellite Accounts on Health & Education

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