



**SEEA: THE INTERNATIONAL  
STANDARD FOR ENVIRONMENTAL-  
ECONOMIC ACCOUNTING**

**INTRODUCTION TO CORE  
ACCOUNTING PRINCIPLES OF SEEA  
AND SNA**

**SIAP Training Course on SEEA  
23-27 September, 2013  
Kuala Lumpur, Malaysia**

## OBJECTIVES OF THE SESSION

- Introduce and recall some fundamentals of national accounting
- Demonstrate the breadth of national accounting and the recording of stocks and flows
  - SNA and SEEA as frameworks for organising information
- Define the scope of measurement
  - Defining the “economy”
  - The production boundary
  - Economic units – sectors and industries
- Outline developments in 2008 SNA and 2012 SEEA





**DISCUSSION:**

**WHAT ECONOMIC AND ENVIRONMENTAL INFORMATION WOULD BE USEFUL TO ORGANISE?**



## THE STRUCTURE OF ACCOUNTS

## FATHER OF ACCOUNTING : PACIOLO



## MAIN BENEFITS OF AN ACCOUNTING APPROACH

- Integrates measures of stocks and flows, supply and use
- Comprehensive and internally consistent within defined measurement boundaries
- Measurement and attribution of change over time
- Enables comparison between countries because it measures agreed concepts



## BASIC SUPPLY AND USE TABLE

	Industries	Households	Government	Accumulation	Rest of the world	Total
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### Supply table

Products	Output		Imports	Total supply
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### Use table

Products	Intermediate consumption	Household final consumption expenditure	Government final consumption expenditure	Gross capital formation (incl. changes in inventories)	Exports	Total use
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Value added

## SEQUENCE OF ACCOUNTS

### ◦ Production account

Resources	Uses	Balancing item
Output	Intermediate consumption	<i>Gross value added</i>
	Consumption of fixed capital	<i>Net value added</i>

### ◦ Generation of income account

Resources	Uses	Balancing item
		<i>Gross value added</i>
	Compensation of employees	
	Taxes less subsidies	<i>Gross operating surplus</i>



## SEQUENCE OF ACCOUNTS (CONT.)

### o Allocation, distribution and use of income

Resources	Uses	Balancing items
		<i>Gross operating surplus</i>
Compensation of employees		
Taxes less subsidies		
Property income receivable	Property income payable	<i>Balance of primary income</i>
Current transfers receivable	Current transfers payable	<i>Gross disposable income</i>
	Final consumption expenditure	<i>Gross saving</i>

## SEQUENCE OF ACCOUNTS (CONT)

### o Capital account

Resources	Uses	Balancing item
		<i>Gross saving</i>
	Gross fixed capital formation	
	Change in inventories	
Sales of non-produced assets (incl. natural resources)	Purchases of non-produced assets (incl. natural resources)	
Capital transfers receivable	Capital transfers payable	<i>Net lending</i>

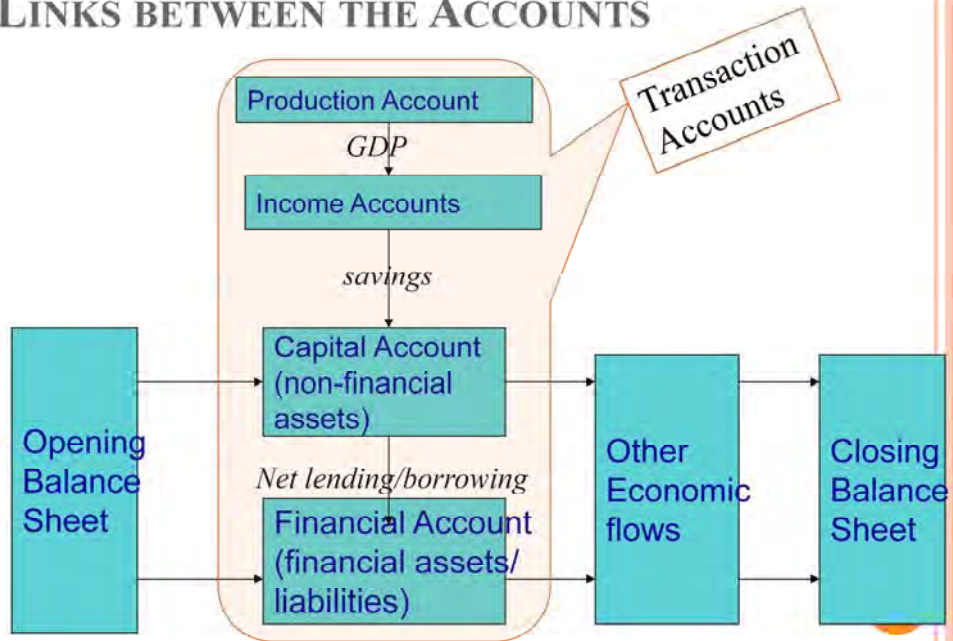
## SEQUENCE OF ACCOUNTS (CONT)

### o Asset account

Opening stock	Additions	Reductions	Closing stock
Produced assets	Gross Fixed Capital Formation	Consumption of fixed capital	
Non-produced assets	Natural growth	Natural losses	
		Extraction	
	Discoveries	Catastrophic losses	
	Purchases of non-produced assets	Sales of non-produced assets	
Financial assets and liabilities	Financial transactions	Financial transactions	

## Sequence of Accounts

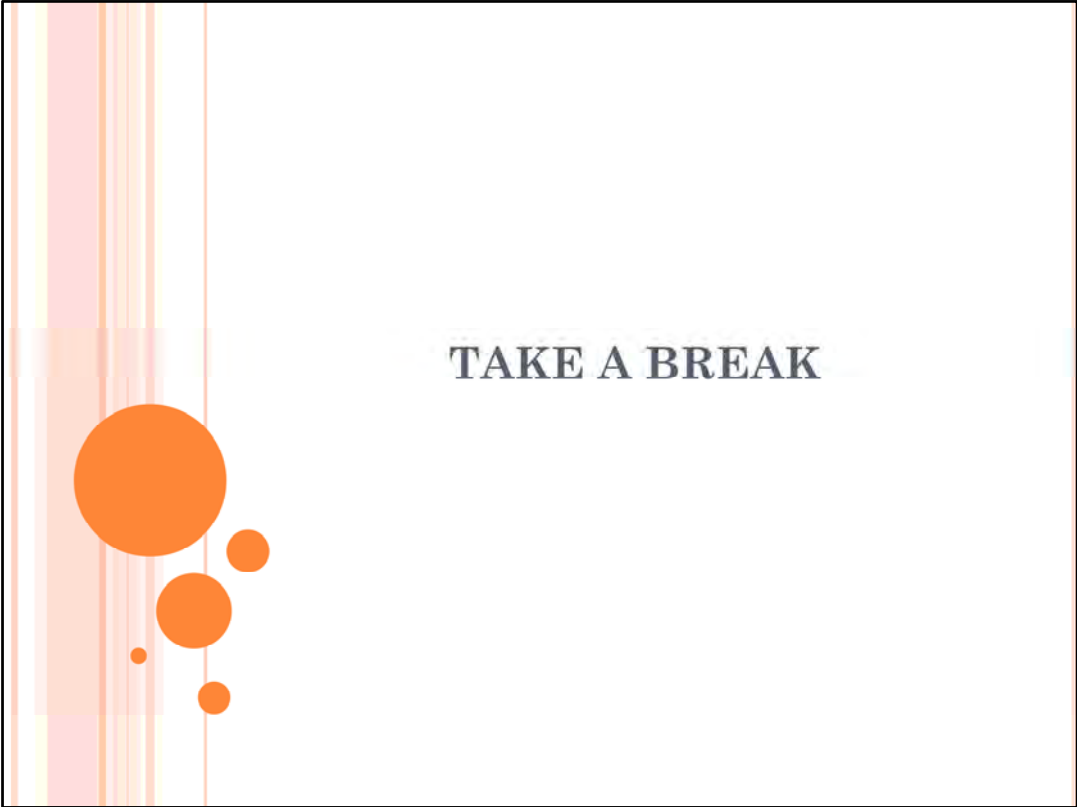
### LINKS BETWEEN THE ACCOUNTS



## KEY MESSAGES

- All economic stocks and flows can be organised and placed in context
- National accounting is not only output and intermediate consumption
- One account is not sufficient – different questions require a focus on different accounts and balancing items
- The accounting system is complete and internally consistent





**TAKE A BREAK**



## DEFINING THE ECONOMY

## DEFINING THE “ECONOMY”

- Economic activities
  - Production, Consumption, Accumulation
- Economic products
  - Goods and services
- Economic assets
  - Produced, Non-produced, Financial assets
- Economic units
  - Establishments, enterprises, households, governments
- Economic territory
  - Residence, geographic coverage





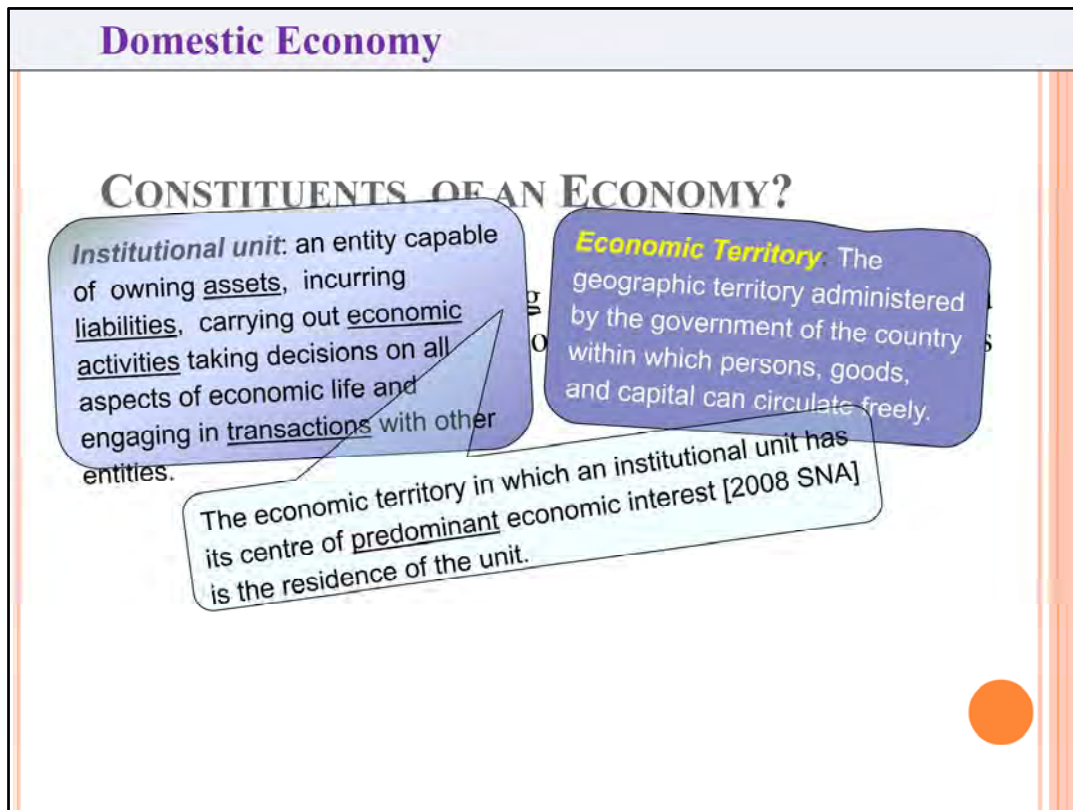
## Domestic Economy

### CONSTITUENTS OF AN ECONOMY?

**Institutional unit:** an entity capable of owning assets, incurring liabilities, carrying out economic activities taking decisions on all aspects of economic life and engaging in transactions with other entities.

**Economic Territory:** The geographic territory administered by the government of the country within which persons, goods, and capital can circulate freely.

The economic territory in which an institutional unit has its centre of predominant economic interest [2008 SNA] is the residence of the unit.



### Some Questions – Domestic Economy

State whether TRUE or FALSE.

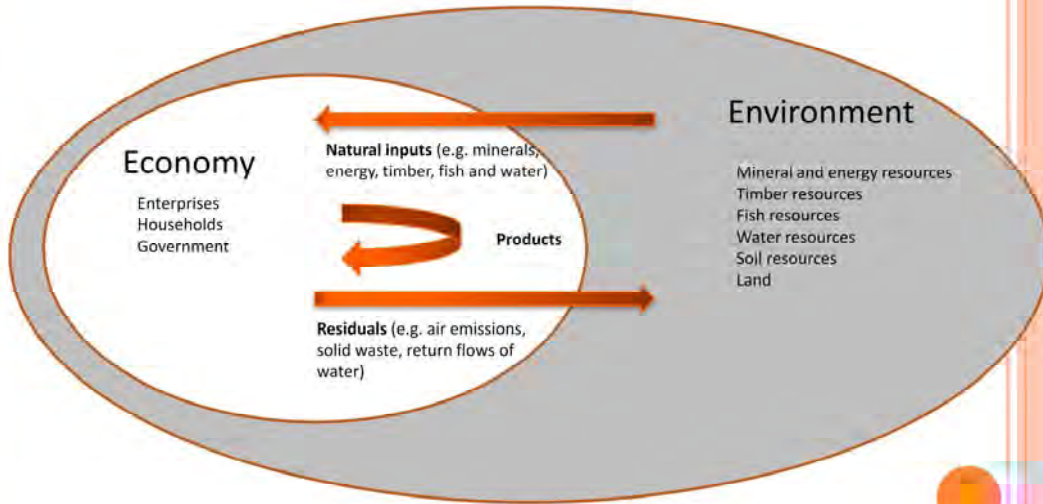
1. Foreign students staying for three years are considered residents of the host country. **Q 1. FALSE**
2. A branch of Citi Bank (an American bank) in Tokyo is a resident of Japan. **Q 2. TRUE**
3. Australian crew of a ship of a Japanese company are considered residents of Japan. **Q 3. FALSE**
4. Non-residents are not considered to be owners of immovable property in the host country. **Q 4. TRUE**
5. All unincorporated businesses without separate accounts are considered residents of the household sector. **Q 5. TRUE**
6. Branch of foreign NPI serving residents households is considered a resident NPISH. **Q 6. TRUE**
7. Central Bank is part of the general government sector. **Q 7. FALSE**
8. A branch of a Japanese company in Thailand is resident of Thailand. **Q 8. TRUE**

## THE PRODUCTION BOUNDARY

- “Production is an activity carried out ... by an institutional unit that uses inputs of labour, capital and goods and services to produce outputs of goods and services” (2008 SNA, 6.24)
  
- In practice:
  - Exclude things you do only for yourself
  - Exclude household production of services for itself
    - Except rent of owner-occupiers & wages of domestic staff
  - Include household production of goods for itself
    - Agricultural products, fishing, fuelwood, clothes, furniture, water, energy
  - Include concealed and illegal activity



# PRODUCT FLOWS IN THE SEEA



## TYPES OF OUTPUT AND PRODUCTION

### o Market output

- Transactions between economic units at market prices

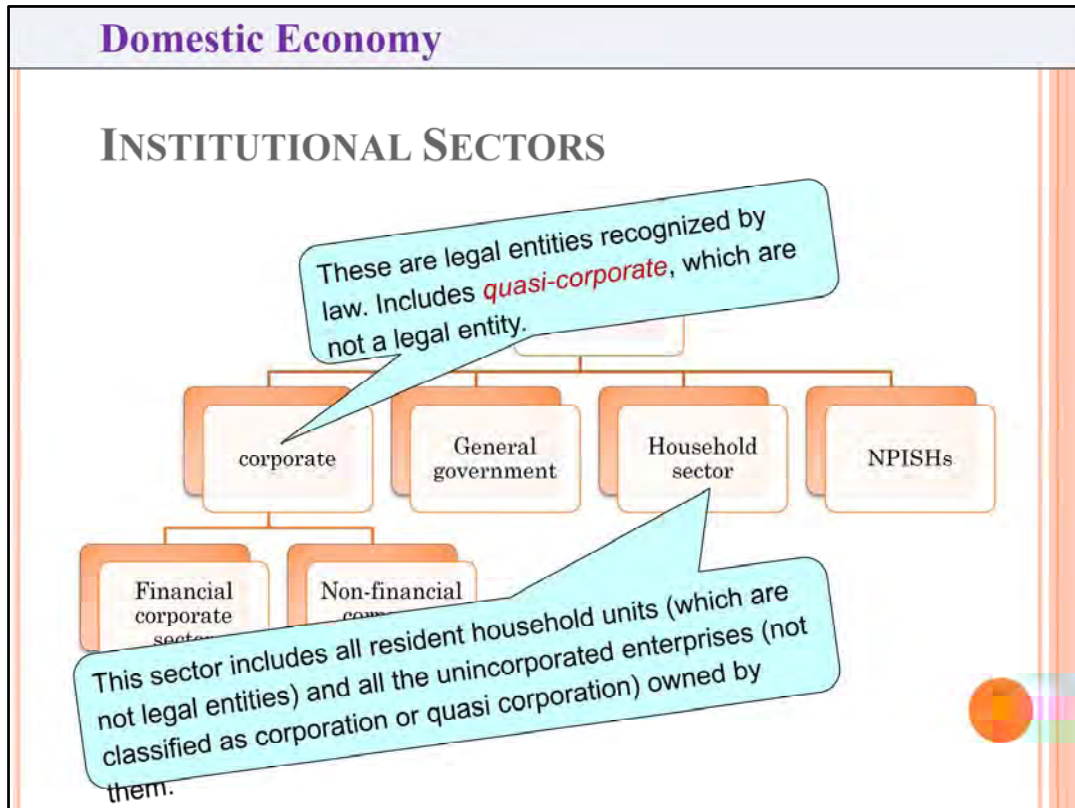
### o Non-market output

- Not transacted at market prices (government education, health)
- Valued at cost of production

### o Own-account production (within establishments)

- For own final consumption (e.g. subsistence agriculture) : **INCLUDED**
- For own final capital formation (e.g. building own house) : **INCLUDED**
- For own intermediate consumption : **EXCLUDED** (except ancillary activity)





## ENTERPRISES, ESTABLISHMENTS AND INDUSTRIES

- Enterprises
  - Institutional units from the perspective of being producers of goods and services
- Establishments
  - Enterprises in a single location performing a single or predominant type of productive activity
- Industries
  - Groupings of establishments undertaking similar types of productive activity



## KEY MESSAGES

- Many aspects to defining the economy
- Measurement boundaries are important to understand
  - Production boundary key determinant of the size of GDP
- Own- account activity needs special consideration
- Economic (institutional) units can be seen from two key perspectives
  - Institutional sector: Similar economic behaviours / legal basis
  - Industry: Similar productive activities







**HAVE A STRETCH**



**DEVELOPMENTS IN THE SNA  
AND THE SEEA**

## KEY DEVELOPMENTS IN 2008 SNA

- Clarifications on definition of units and sectors
- Developments in the measurement of financial services including FISIM allocation, central bank output and non-life insurance
- Capitalisation of research and development
- Capitalisation of computer software extended to include databases and copies (of originals)
- Water resources included on balance sheet (in some circumstances)
- Treatment of goods for processing and merchanting aligned with BPM
- Improvements in treatments for financial assets and liabilities



## KEY DEVELOPMENTS IN 2012 SEEA CENTRAL FRAMEWORK FROM SEEA-2003

- Coverage and style
  - Inclusion of agreed treatments rather than options for accounting
  - Removal of examples => SEEA Applications and Extensions
  - Discussion of environmental degradation => SEEA Experimental Ecosystem Accounting



## 2012 SEEA DEVELOPMENTS (CONT)

- Measurement of physical flows
  - Clarification on natural inputs and residual flow boundaries
    - Treatment of landfill sites
    - Natural resource residuals
    - Cultivated biological resources
    - Inputs of energy from renewable sources
  - Definition for solid waste
  - Design of Physical supply and use tables



## 2012 SEEA DEVELOPMENTS (CONT)

- o Environmental activities and related transactions
  - Environmental activities limited to environmental protection and resource management – now excludes resource use activities
  - Development of Classification of Environmental Activities (CEA)
  - Definition of the Environmental Goods and Services Sector (EGSS) and relevant statistics – previously discussion on the environment industry



## 2012 SEEA DEVELOPMENTS (CONT)

- Accounting for environmental assets
  - Definition of environmental assets now introduced aligned with descriptions in SEEA-2003
  - Complementary perspectives of individual resources and ecosystems rather than overlap
  - Change to the price used for the measurement of flows of natural resources in monetary terms
  - Determinations in the accounting approach to the measurement of individual resources
    - Depletion as a deduction from income
    - Discoveries not a consequence of a production process
    - Depletion of renewables calculated net of natural growth
  - Interim classifications for land use and land cover
  - Introduction of discussion on soil resources



## KEY MESSAGES

- 2012 SEEA and SEEA-2003 different but in broad terms quite aligned conceptually
- 2012 SEEA Central Framework and 2008 SNA aligned
- Standards will always develop over time to reflect
  - New conceptual developments and accounting treatments
  - Experience in compilation
  - Developments in the economy and our understanding of nature







**THANK YOU**