

# Water Accounts Introduction

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# Outline

- Basic concepts and definitions
- Indicators
- Statistical units
- Classifications



# Basic concepts and definitions

The environment has 4 components;

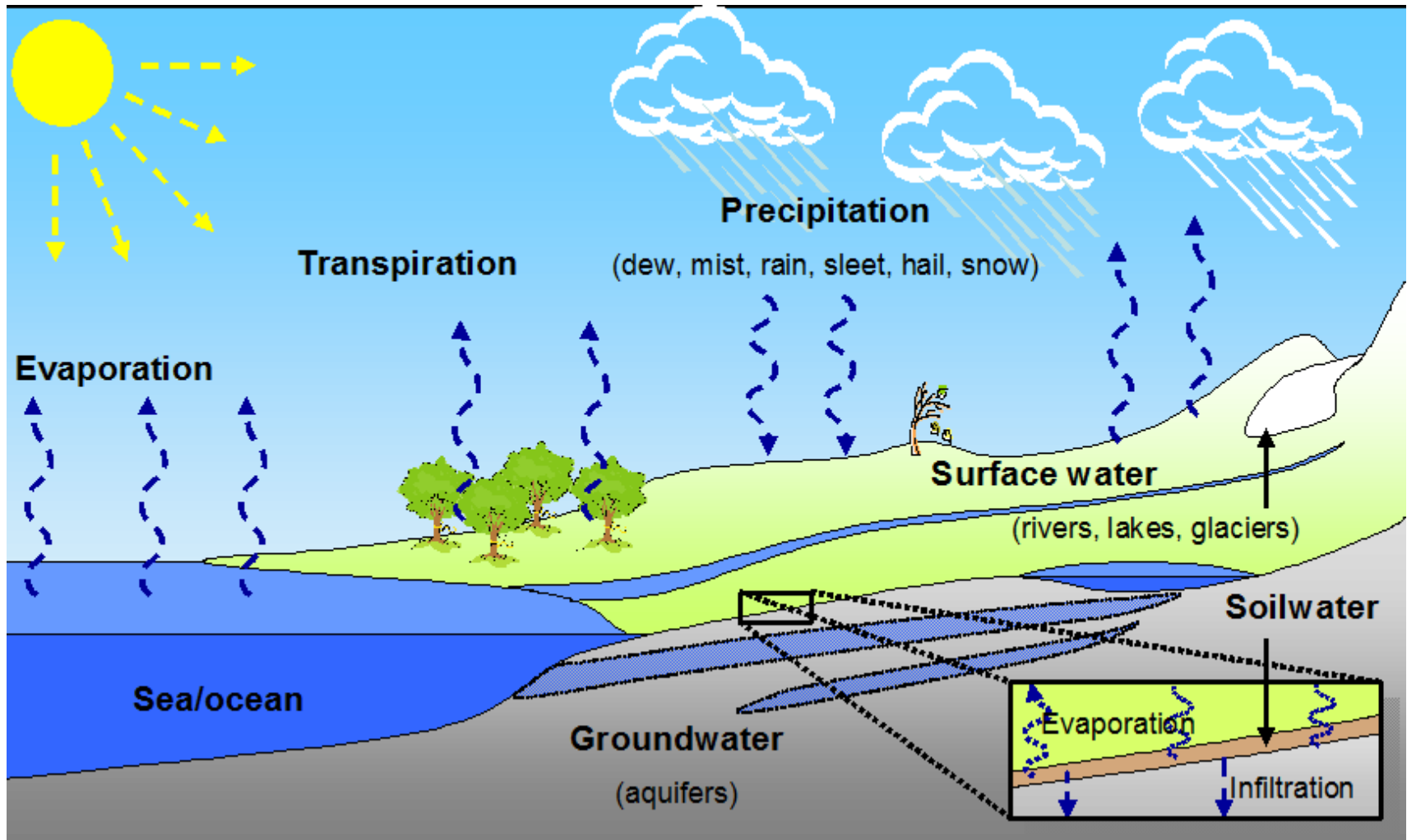
- Land
- Atmosphere (Air)
- **Water**
- Life (biodiversity)



Energy is also important in environment statistics.

The components of the environment interact with each other and with the economy.

# Basic concepts and definitions



# Basic concepts and definitions

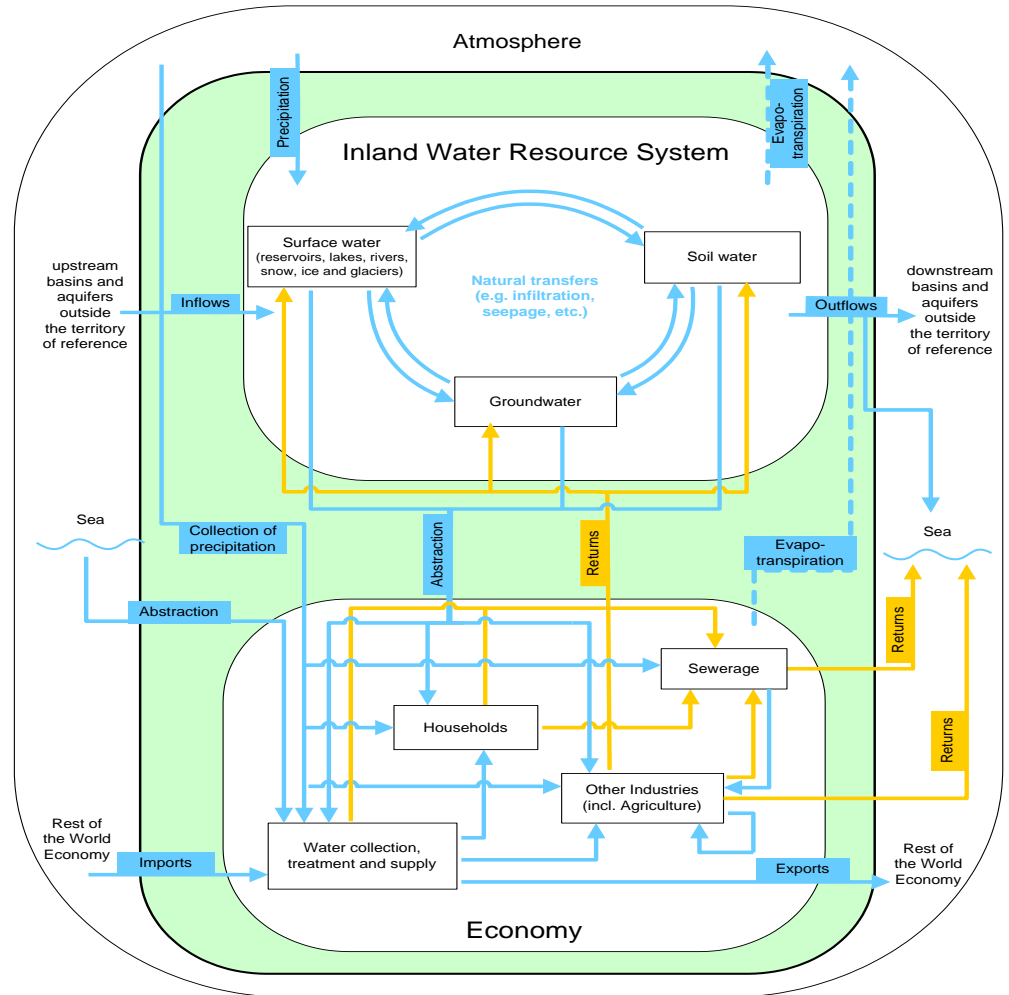
The role and value of Water Accounting;

**SEEAW provides the much-needed conceptual framework for monitoring and assessment.**

- Sub-group on Water Accounting established at the 2003 meeting of the London Group (Rome)
- Sep 2004 SEEA Water discussed at London Group Meeting (Copenhagen)
- May 2005 1<sup>st</sup> draft SEEA Water discussed in by sub-group (New York)
- May 2006 2<sup>nd</sup> Draft discussed at the User-Producer Conference (Voorburg)
- Jun 2006 2<sup>nd</sup> Draft discussed by London Group and UNCEEA
- Jul-Dec 2006 SEEA Water finalized by electronic discussion

# Basic concepts and definitions

- Stocks and flows
- Economy and environment



# Basic concepts and definitions

The economy uses water in different ways.

- physically remove water from the environment for activities involving production and consumption
- use water without physically removing it from the environment.

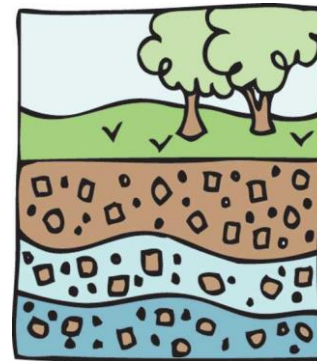
In the first case, the economy **abstracts water** from the inland water bodies or the sea, uses the precipitation through rain-fed agriculture or water harvesting, and uses water for generating hydroelectric power.

In the second case, the economy **uses water** for recreational and navigational purposes, fishing and other uses that rely on the physical presence of water and often on the quality of the water also.

# Basic concepts and definitions

The water resources considered in the inland water resource system are

- rivers
- lakes
- artificial reservoirs
- snow
- ice
- glaciers
- groundwater
- soil water



within the territory of reference.



# Basic concepts and definitions

In addition to abstracting water, the economy returns water into the environment. Returns can be

- into the inland water system
- directly into the sea

Usually, **return flows have a negative impact** on the environment in terms of quality, as the quality of such water is often lower than that of abstracted water.

Although returns to the water resource system alter the quality of the receiving body, they represent an input into the water system, as returned water then becomes available for other uses.

# Basic concepts and definitions

Each economic unit either abstracts water directly from the environment or receives it from other industries.

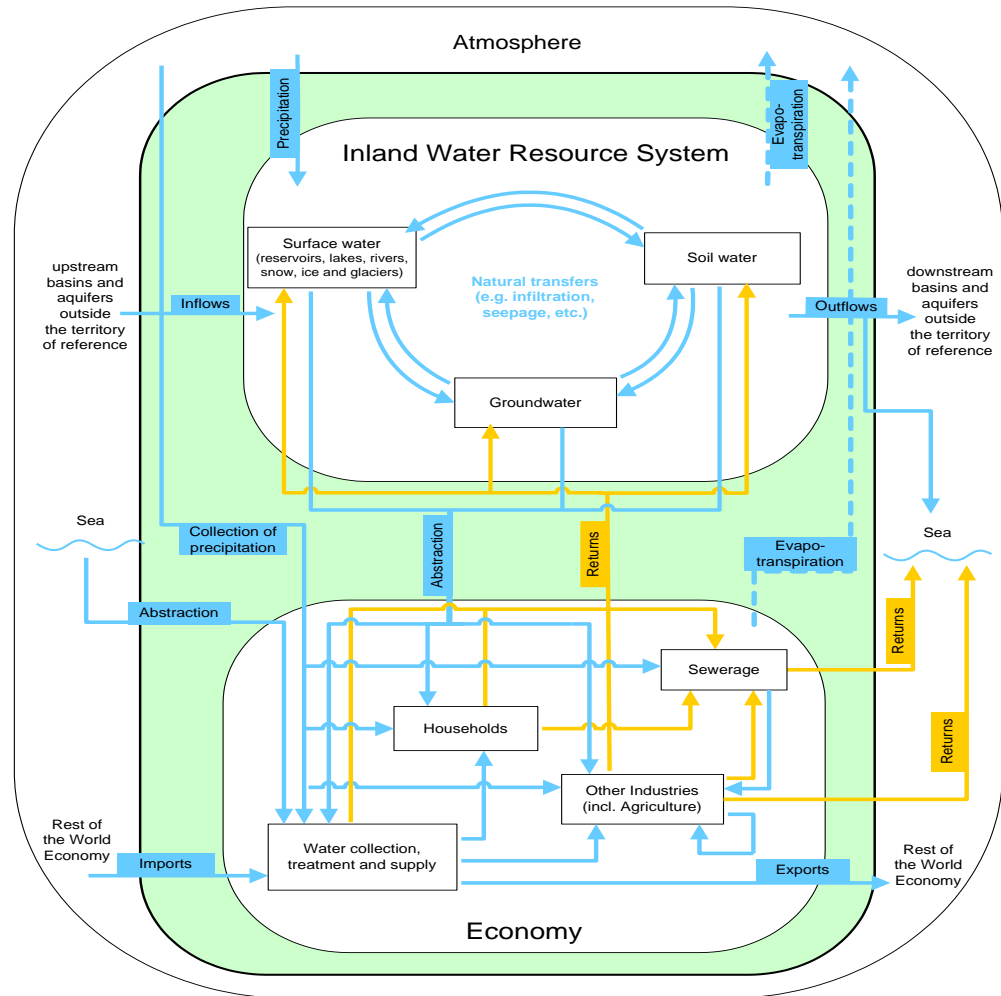
Once water has been used, it can be

- discharged directly into the environment,
- supplied to other industries for further use (reused water),
- supplied to a treatment facility

During use, some water may be retained in the products generated by the industry, or some of it may have evapotranspired during use.

# Basic concepts and definitions

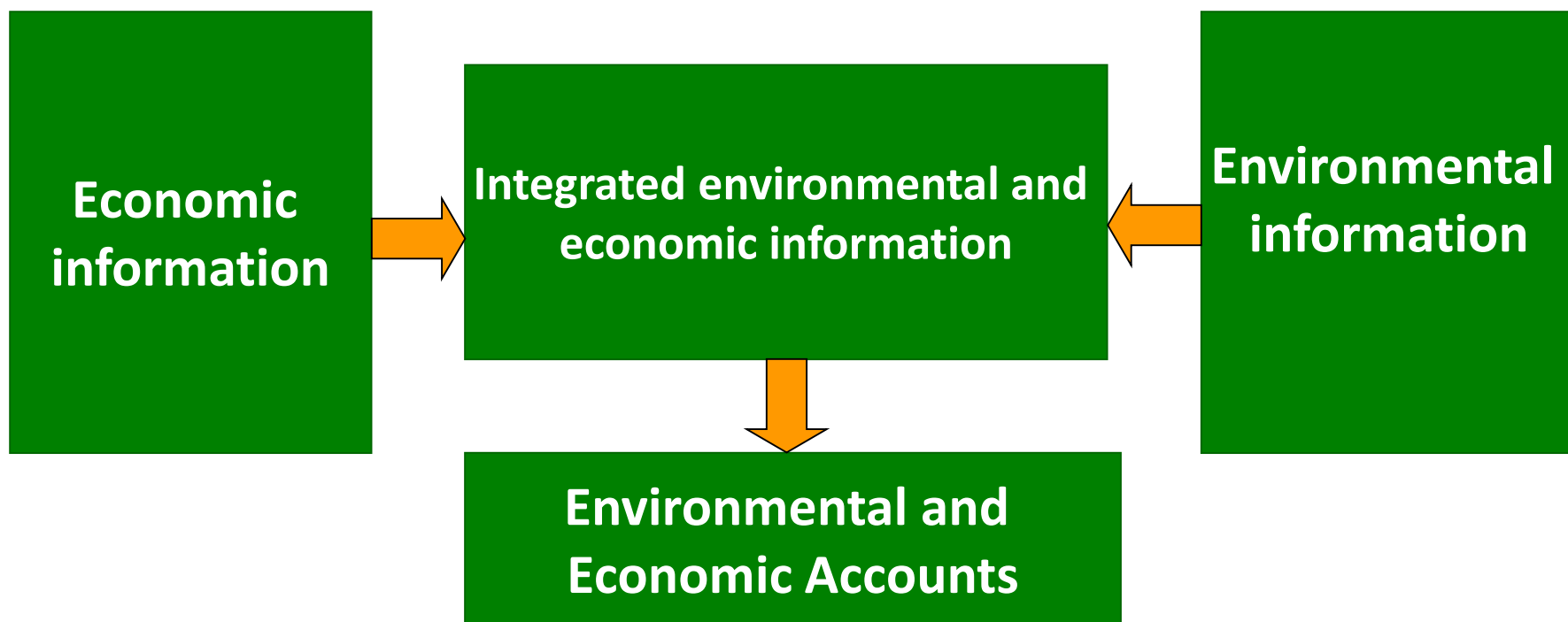
- Abstraction from environment
- Supply and use within economy
- Returns to environment



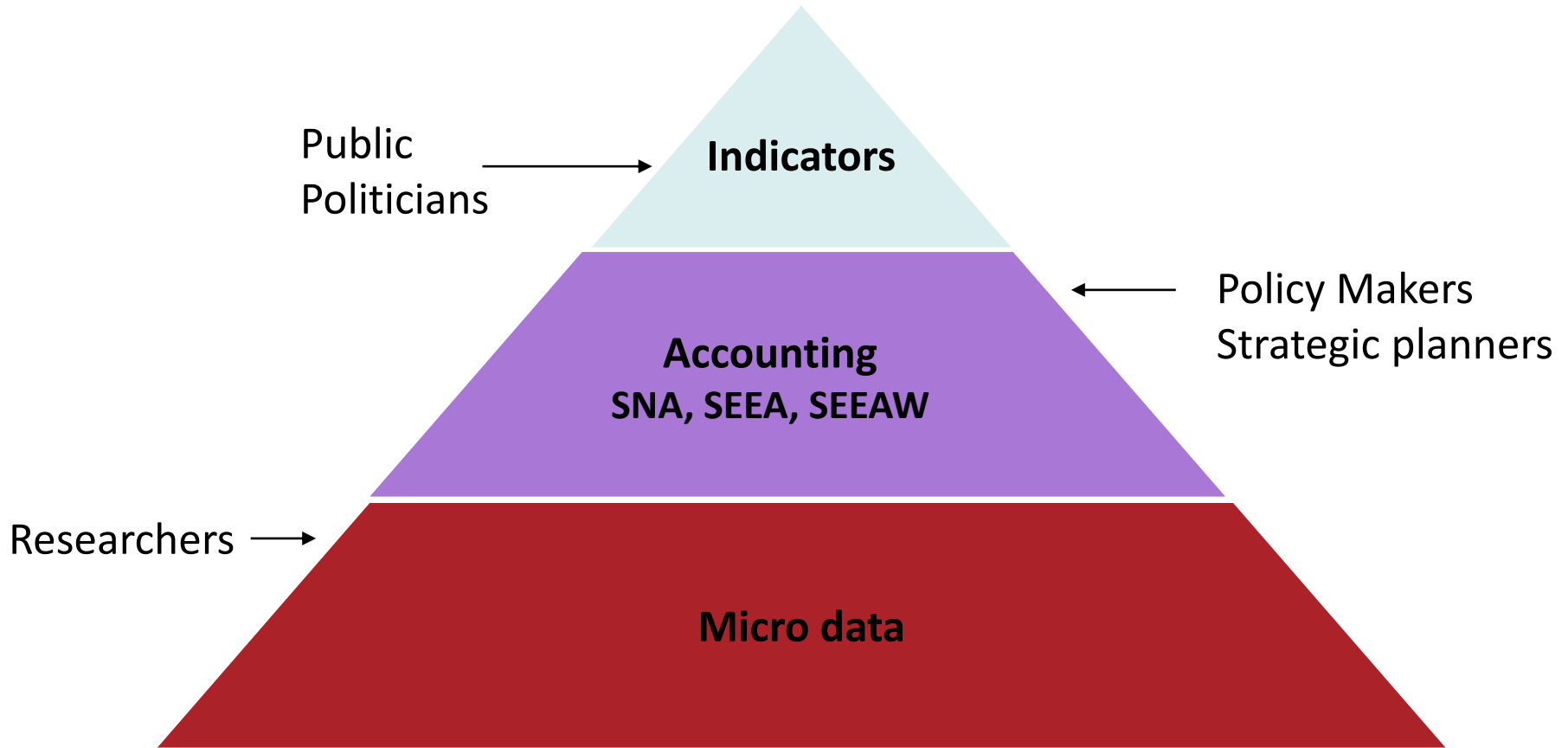
# Basic concepts and definitions

## Water Accounts;

Brings together economic and environmental information

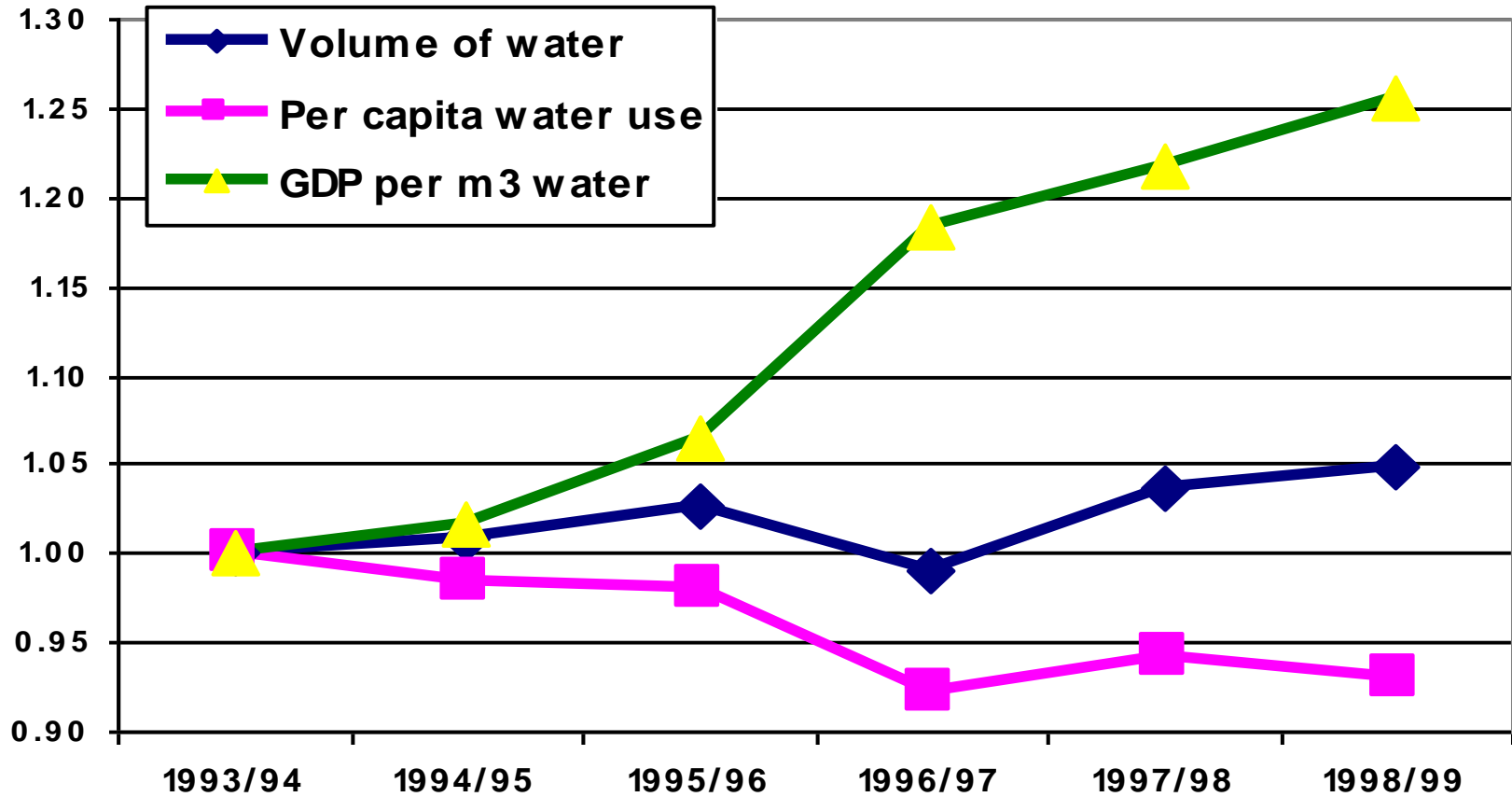


# Indicators



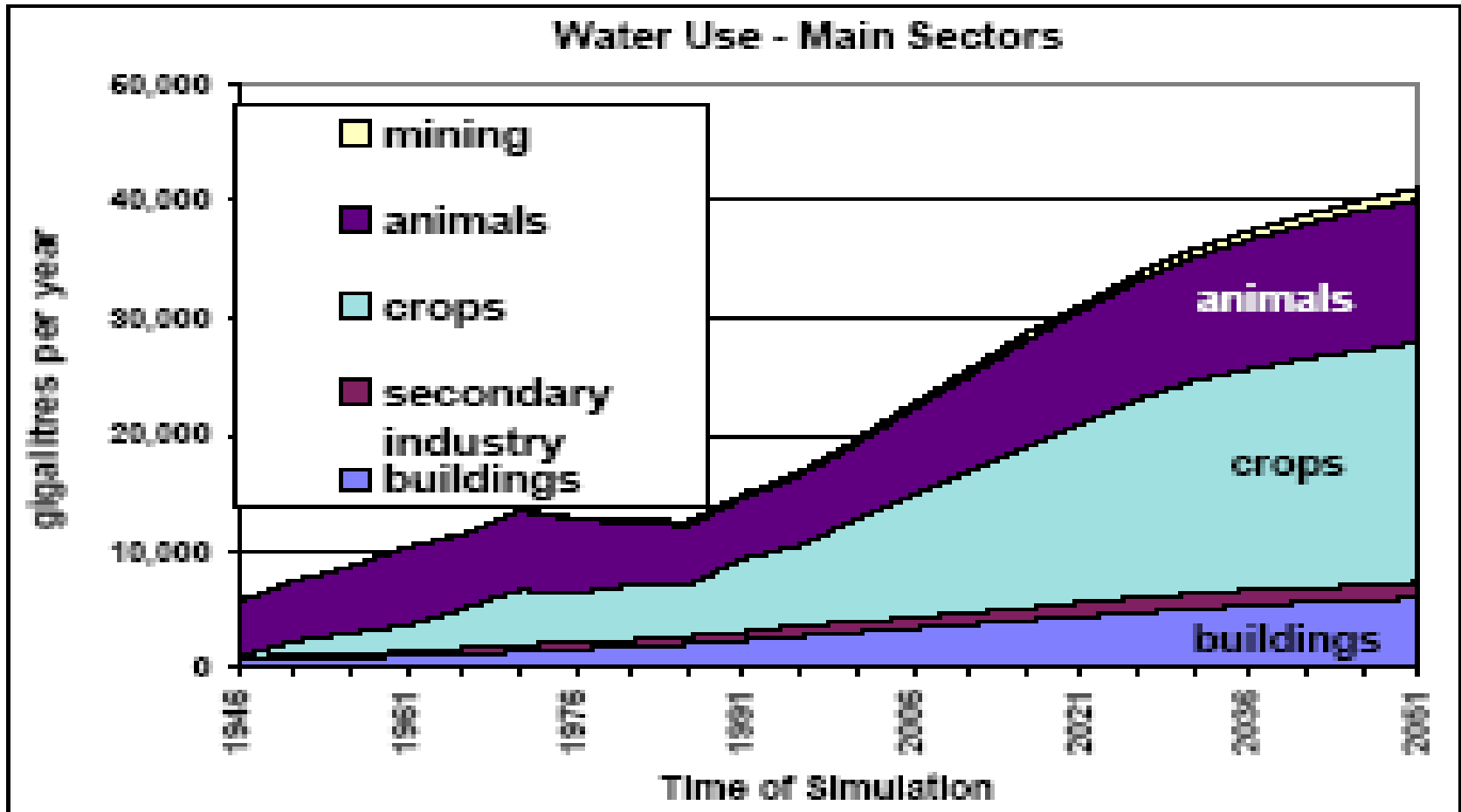
# Indicators

Botswana: water use and economic growth, 1993-1998



# Indicators

Projecting future water demands Australia 2050



# Statistical units

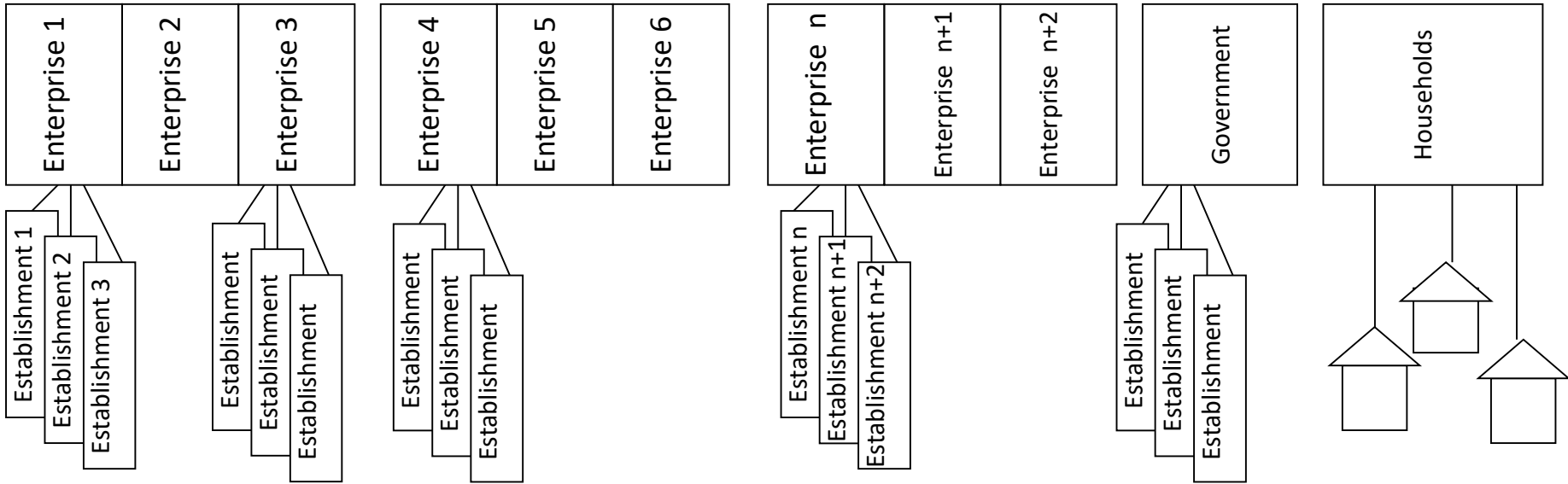
**A statistical unit is an entity about which information is sought and for which statistics are ultimately compiled. It is the unit at the basis of statistical aggregates to which tabulated data refer.**

**These units can be divided into two categories:**

- *observation units* – identifiable legal/organizational or physical entities which are able, actually or potentially, to report data about their activities;
- *analytical units* – entities created by statisticians (also referred to as *statistical constructs*), often by splitting or combining observation units in order to compile more detailed and more homogeneous statistics than it is possible by using data on observation units. Analytical units are not able to report data themselves about their activities, but there exist indirect methods of statistical estimation.



# Statistical units



# Statistical units

An institutional unit in its capacity as a producer of goods and services is known as an **enterprise**.

An enterprise is an economic transactor with autonomy in respect of financial and investment decision-making, as well as authority and responsibility for allocating resources for the production of goods and services.

It may be engaged in one or more economic activities at one or more locations.

The **establishment** is defined as an enterprise or part of an enterprise that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added.

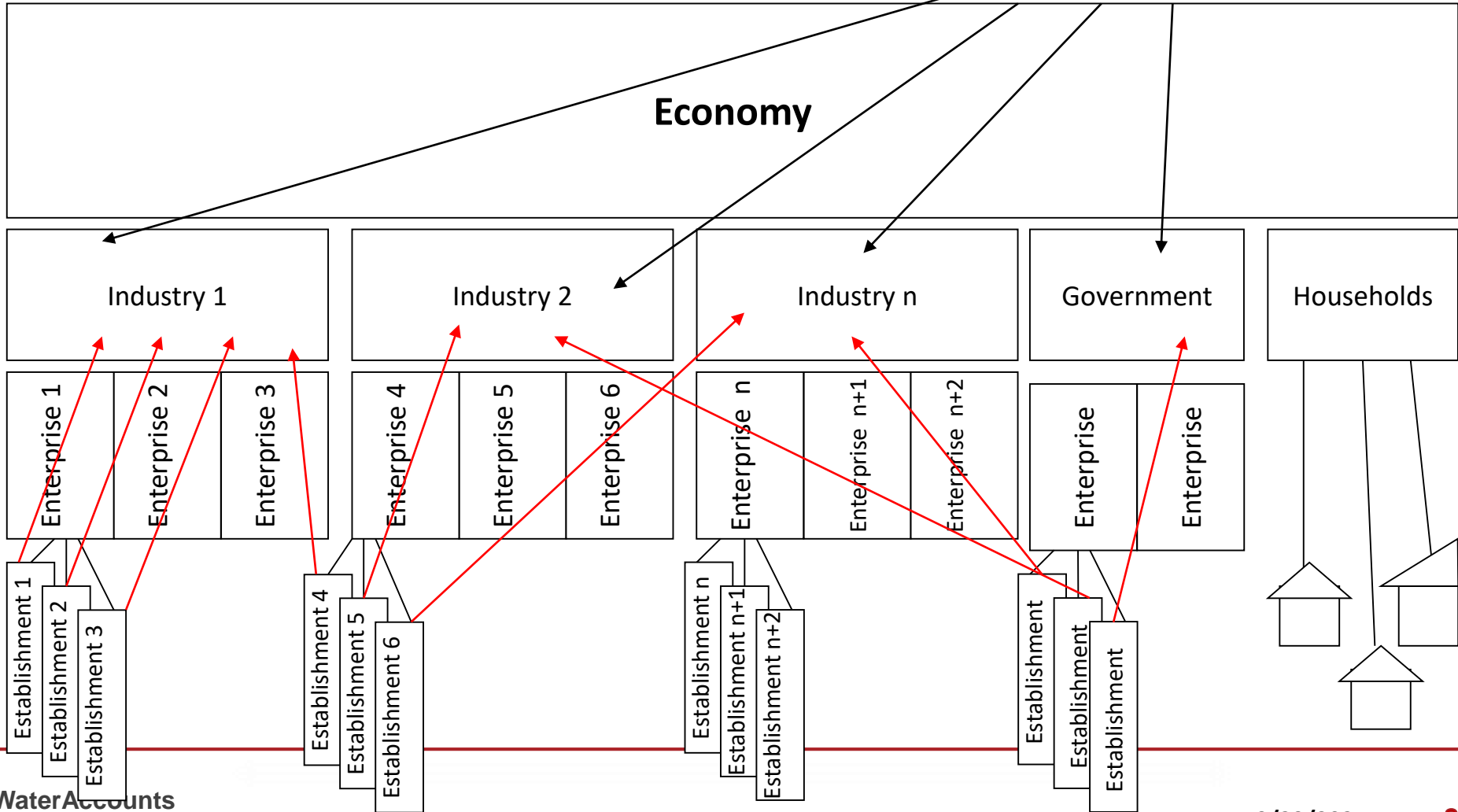
# Classification

- The classification used in national accounts and water accounts is the International Standard Industrial Classification (ISIC)
- Enterprises and establishments are classified using ISIC Revision 4 according to the goods and services they produce
- Sometimes all establishments of an enterprise are classified to the same ISIC code
- Sometimes establishments of the one enterprise are classified to different ISIC classes.

**CLASSIFICATION**

# Classification

International Standard Industrial Classification



# Classification

- National Accounts aggregate the information on the economy, obtained from the units of the economy, into a standard format from which well known indicators are derived
- Gross Domestic Product is the best known of the indicators from the national accounts
- Use of international standard System of National Accounts (SNA), classifications (e.g. ISIC) and table formats allows for meaningful comparisons over time and between countries

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