

# **PAWA – Pilot Arno Water Accounts**

Training session on SEEA-W

System of Environmental-Economic Accounting for Water

## **Exercise on basic flows diagram**

**Florence PINTUS**

OIEau

**Carolina CARDETE**

EMWIS Technical Unit

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## Exercise introduction I: case of study: UNUPACHA country

- Area: 16000 km<sup>2</sup>
- 6.25 M inhabitants
- Precipitation: 800 mm/year
- The country suffers from water scarcity
- Government has mandate to several institutions the establishment of a **water information system**

The water information system based on:

Water Accounting

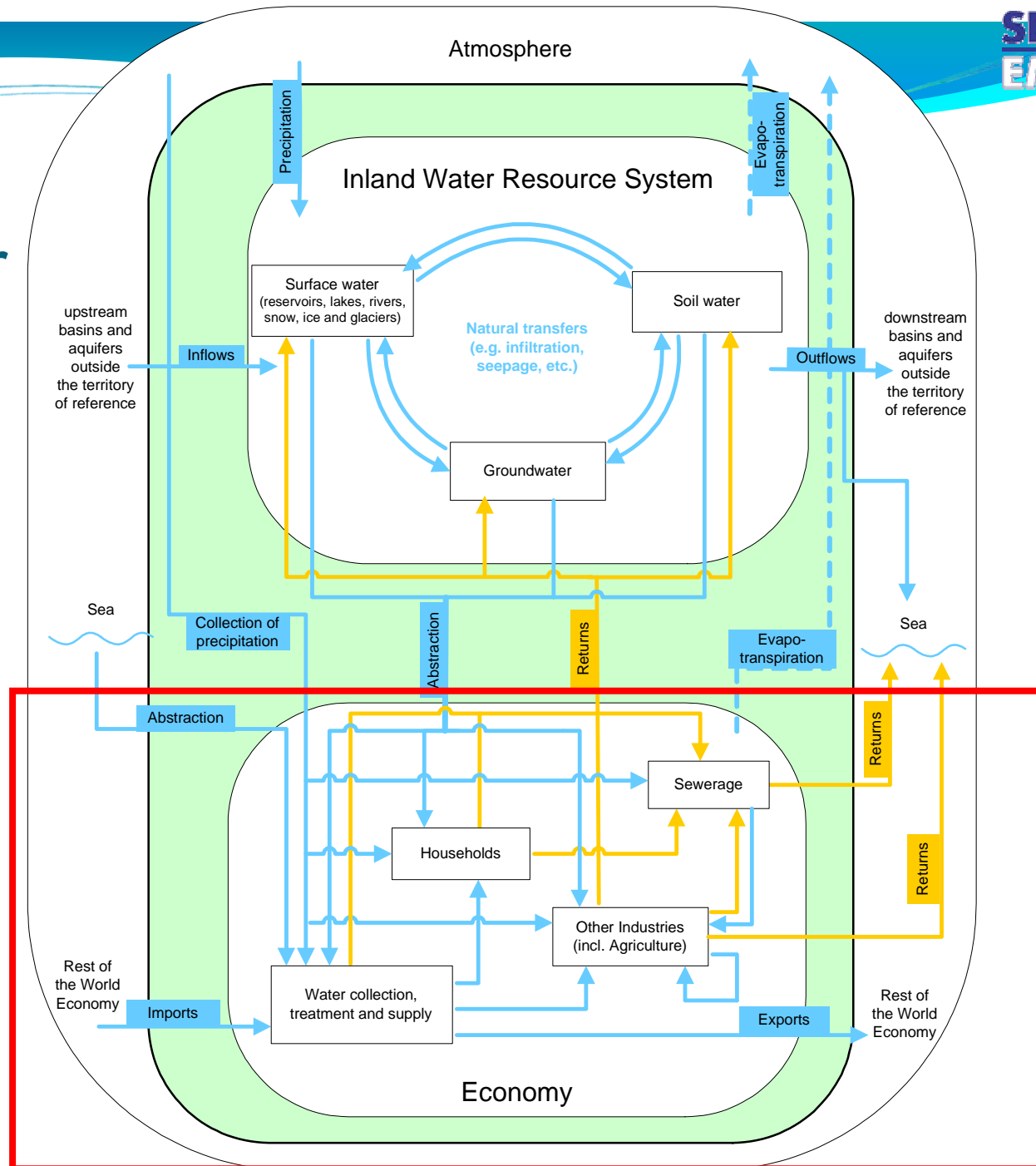
Standard way of tracking the water movement:

- Within the environment
- Within the economy
- Among environment and economy

Statistical Standards

The way of coding the water movements/flows.

# Focus water cycle in the economy




## Exercise introduction II: water cycle in the economy

### The problem states:

- Amount of water extracted from sea, water inland surface or sewerage and used by type of industry, service or households
- Amounts of water return from/to.

### Outputs:

- The amounts of water abstracted and returned from/to the environment.
- Construction of a flow diagram adding the corresponding water flow values.
  - Give assumptions
- Identify data items code according with the statistical standards of IRWS.
- Identify industrial activities according to the ISIC standard revision 4.



You may review the concepts of SEEA-CF

## Exercise introduction III: Additional information provided

Annex I: The IRWM data code

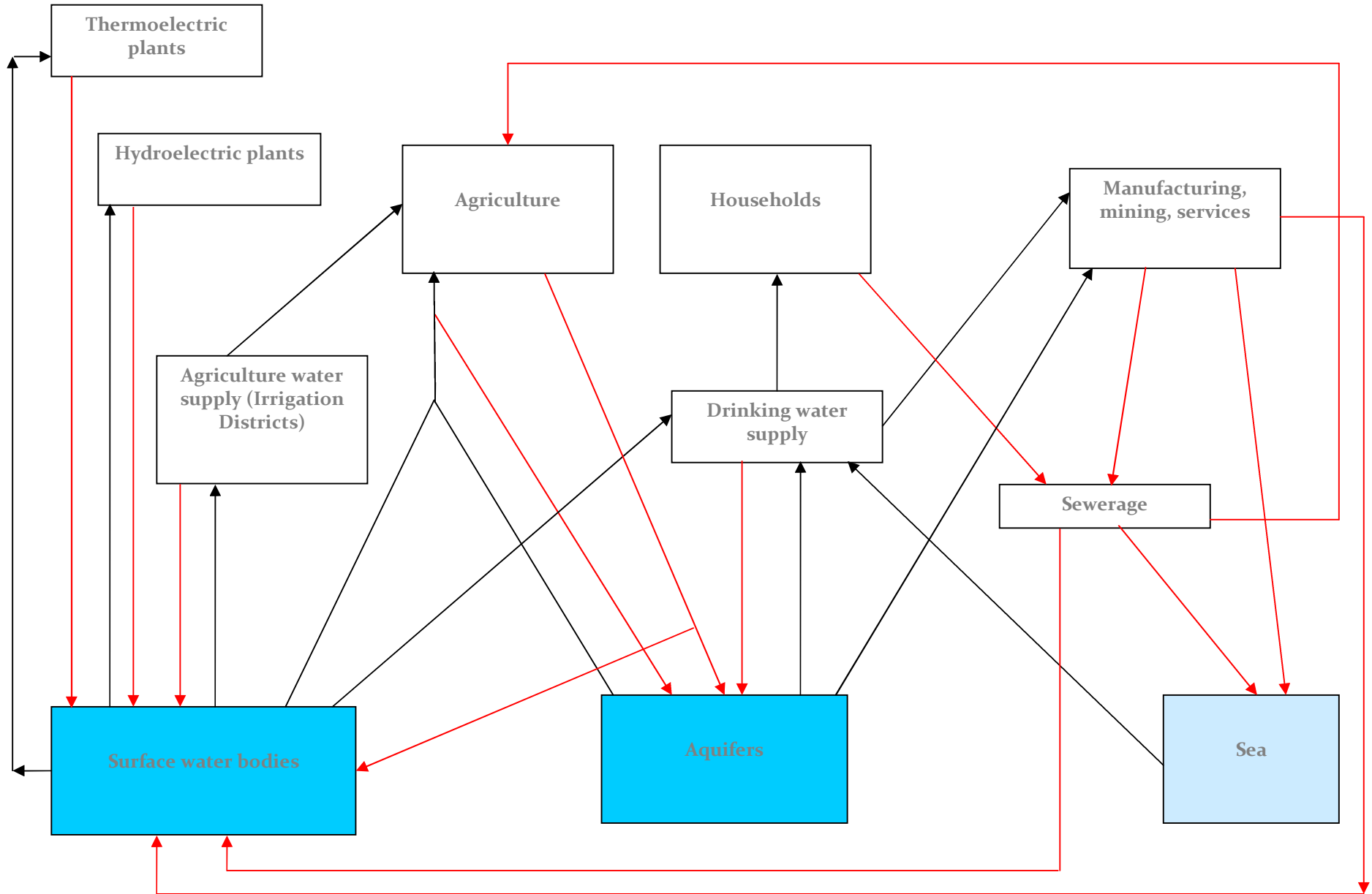
Annex II: ISIC rev. 4

STANDARD DIVISION FOR INDUSTRIES AND SERVICES

Physical data items for flows from the environment to the economy	
<b>E. Abstraction of water</b>	The volume of water that within the territory of refe
<b>E.1. From inland water resources</b>	The volume of water that within the territory of refe brackish, saline or pollute inland water resources.
<b>E.1.1. From surface water</b>	The volume of water remd and snow, ice and glaciers abstraction of surface wat

	ISIC code
Agriculture, forestry and fishing	01 to 03
Mining and quarrying	05 to 09
Manufacturing	10 to 39
Construction	41 to 43
Wholesale and retail trade	45 to 47
Generation, transmission and distribution of electricity	3510
Water supply	36
Sewerage	37

Unupacha. Water flows in the economy. Empty diagram.



# Work time

- 30 mins
- Using work book provided

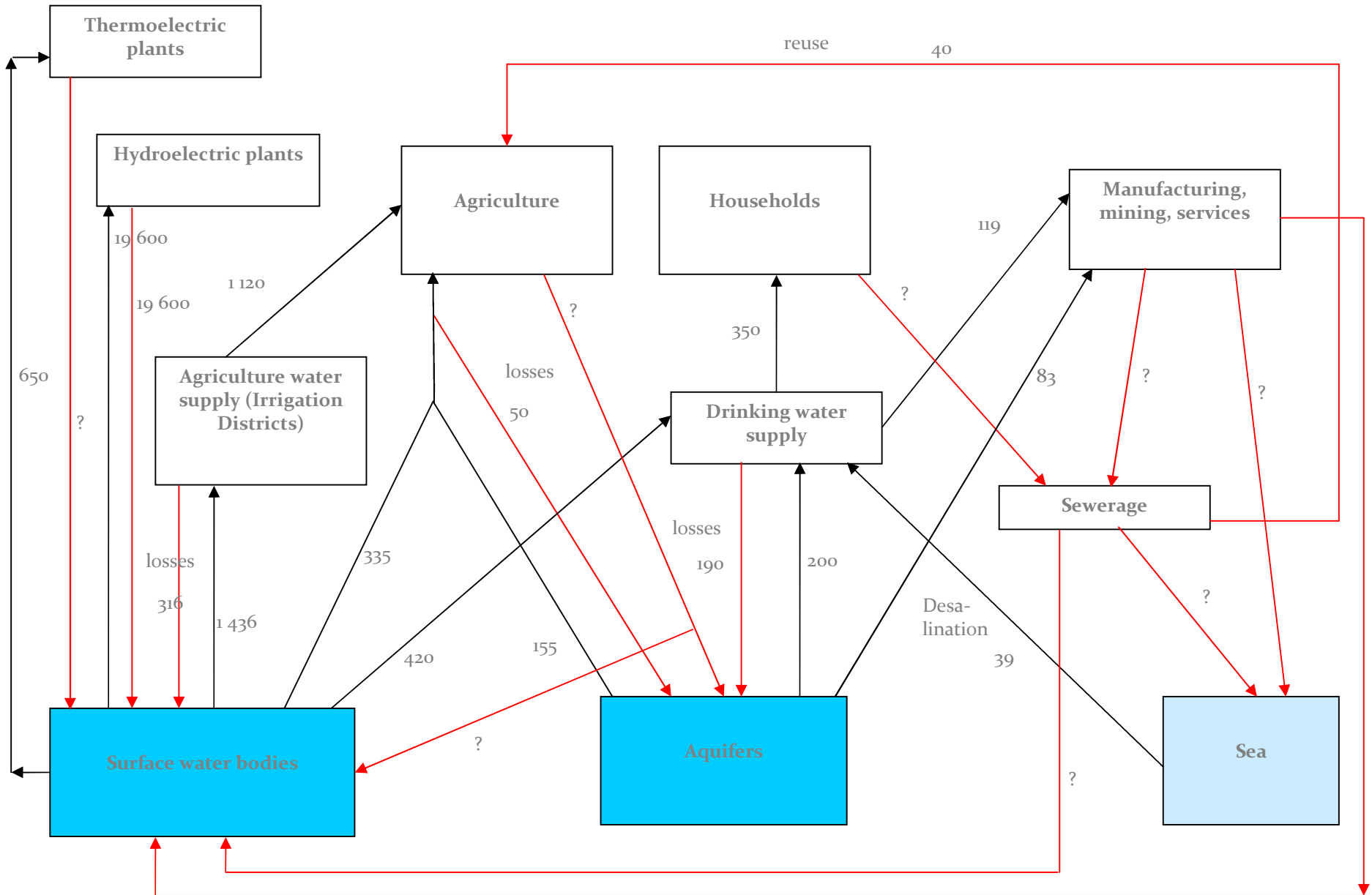




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# Solution

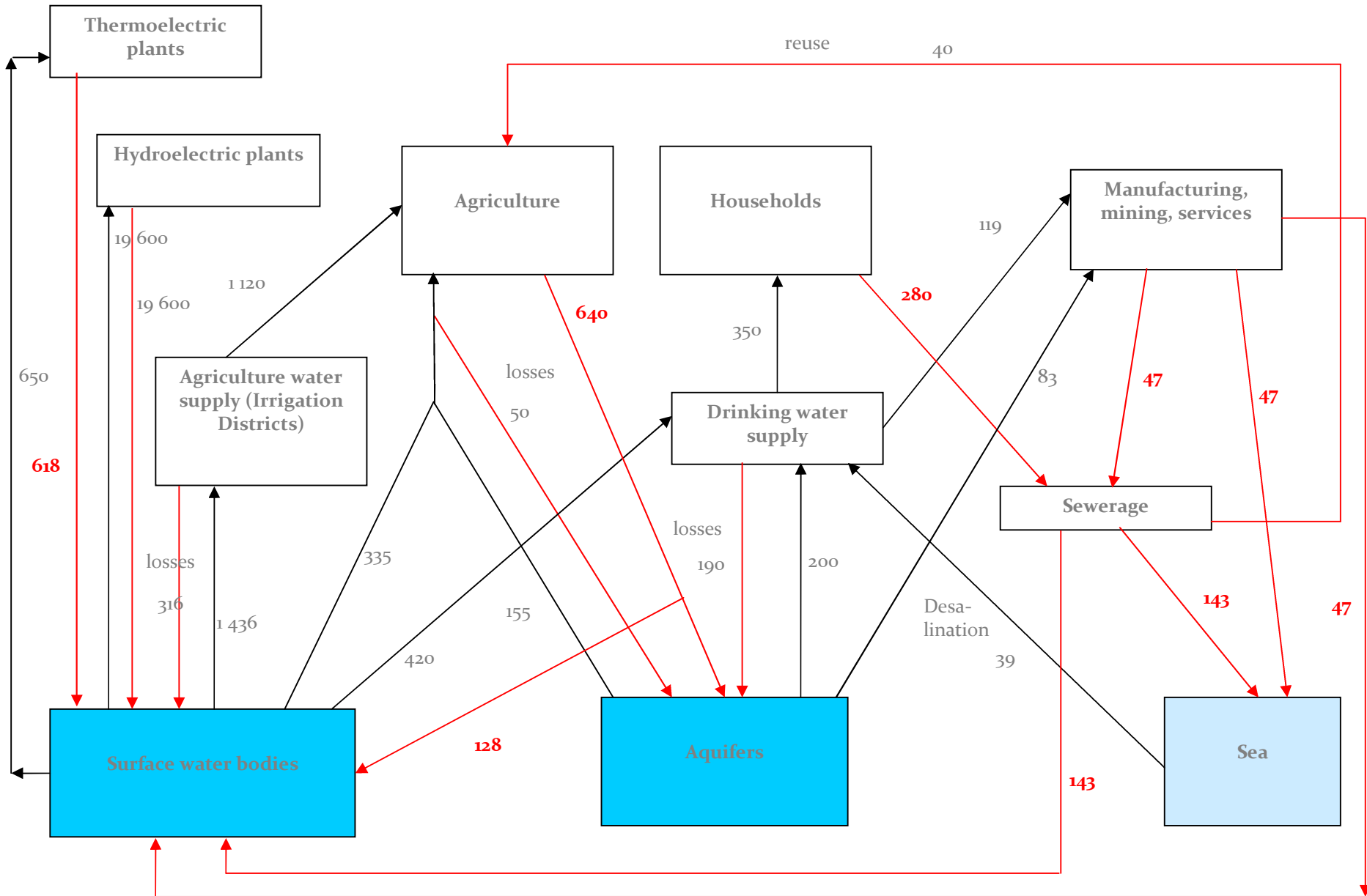
**Unupacha. Water flows in the economy. COMPLETE WITH KNOWN NUMBERS**  
**SOLUTION I: Without assumptions of returned water. (Millions of cubic meters per year)**



Unupacha. Water flows in the economy. Solution II: **With estimated missing data.**

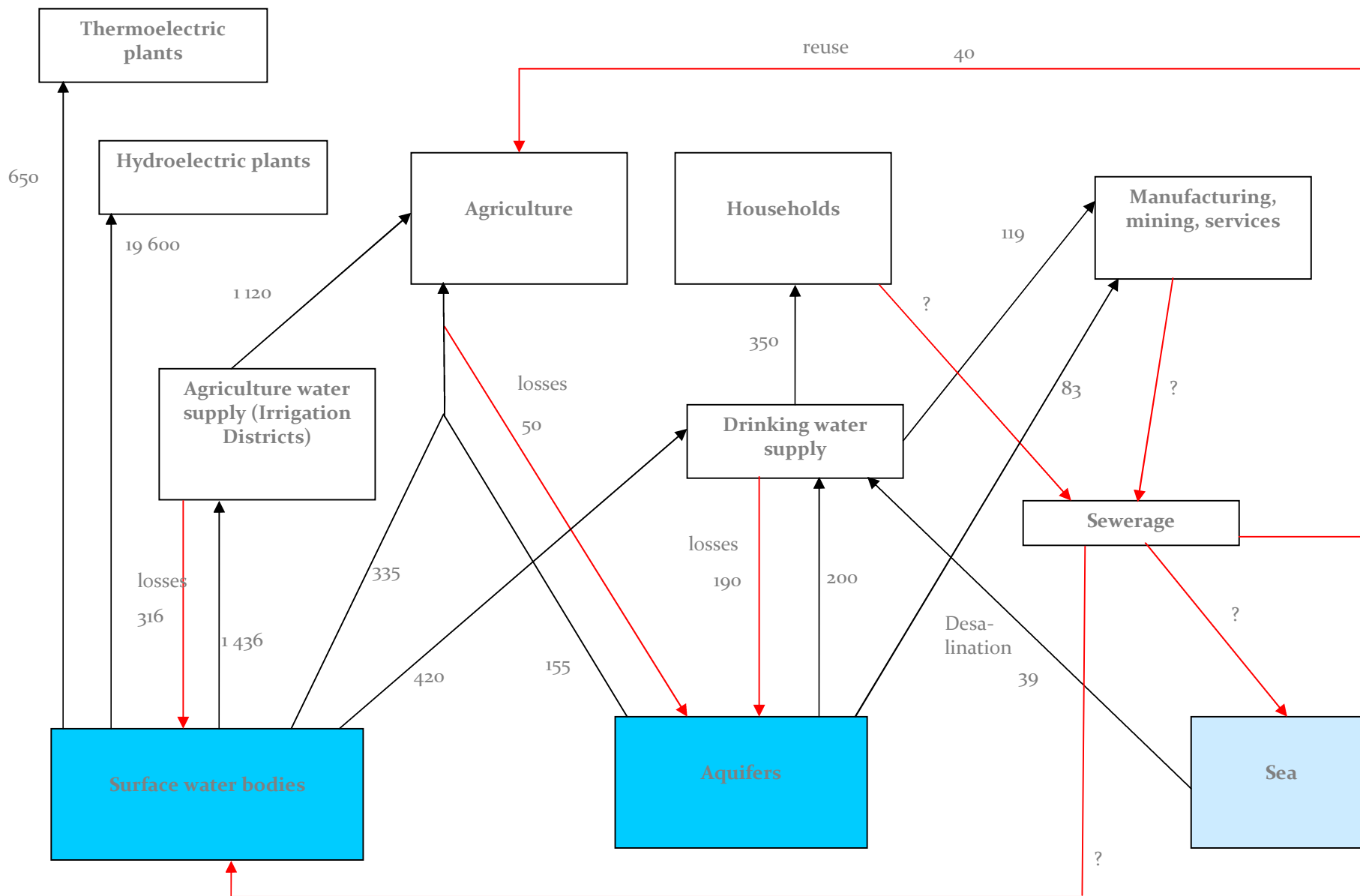
24 Jan 2014

(Millions of cubic meters per year)

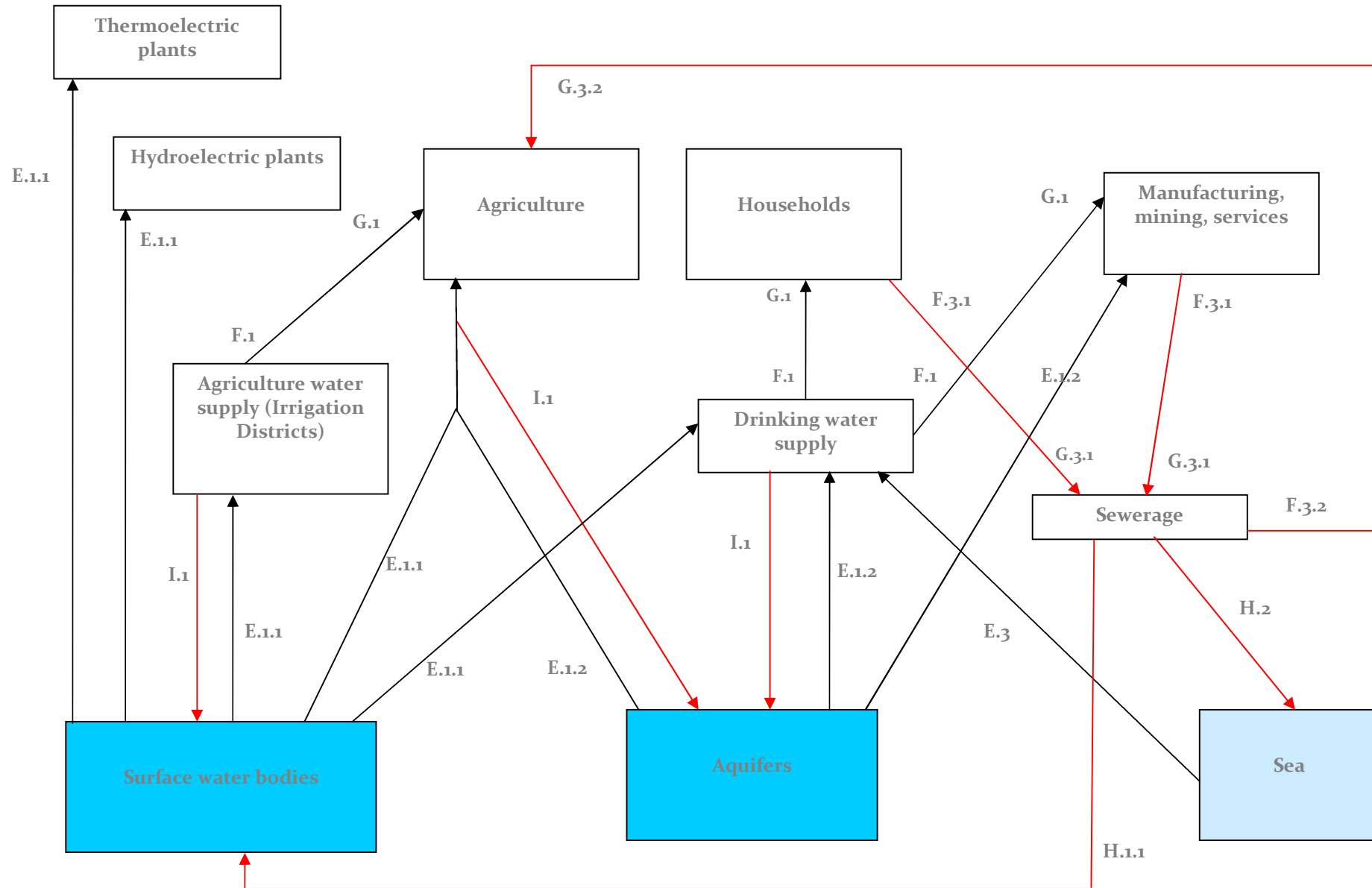


Unupacha. Water flows in the economy. Solution III: Simplified, not all flows are shown. 27 Jan 2014

(Millions of cubic meters per year)



Unupacha. Water flows in the economy. Solution IV: Use of the standard code, not all flows are shown. (Millions of cubic meters per year) 16 Jan 2014  
Unu v10





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**Thank you for your kind attention!**

**<http://pawa.emwis.net/>**