

# **PAWA – Pilot Arno Water Accounts**

Training session on SEEA-W

System of Environmental-Economic Accounting for Water

**Discussion on potential indicators and data needed**

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# Introduction

- First list of indicators for discussion based on pressures for each sub-basin
- Should be reviewed according to the list of measures that could be applied to fight water scarcity

# Indicators on water quantities

- *For all basins*

Indicator	Issue addressed
Water discharged, reuse and water losses.	Increase effectiveness of water supply
Relative water stress index: $DIA/Q$ D: domestic water demand I: industrial A: Agricultural Q: Renewable freshwater resources	Water stress
Index of total water use, population and GDP per sub-basin/province.	Water use productivity

# Chiana

- high agricultural use

Indicator	Issue addressed
Water resources available and Total volume of ground and surface water abstracted for water agricultural uses as a percentage of the total <u>monthly</u> renewable volume of freshwater.	Exploitation
GDP derived from agriculture and total GDP per sub-basin.	Important irrigation abstraction
Agricultural GDP per [m3] water used and employment.	Water productivity ratios
Total agricultural abstractions and total abstractions for industry, services, etc.	Agricultural withdrawals
<i>Tons of pollution generated (BOD5) per unit of physical agricultural output (for instance, tons of wheat produced) and per unit of value added.</i>	<i>Pollution intensity</i>
<i>Total of P and N removed and target.</i>	<i>Treatment efficiency</i>

# Bisenzio

- high industrial use

Indicator	Issue addressed
Groundwater abstraction vs. groundwater recharge	Exploitation: fluctuations on groundwater abstraction
GDP derived from industry and total GDP per sub-basin.	Important industrial water abstraction
Industry GDP per [m <sup>3</sup> ] water used and employment.	Water productivity ratios
Total industrial abstractions (for own use or for distribution) and total abstractions for agriculture, services, etc.	Industrial withdrawals
<i>Tons of pollution generated (BOD<sub>5</sub>) by industry and per unit of value added.</i>	<i>Pollution intensity</i>

# Pisa

- high groundwater abstraction

Indicator	Issue addressed
Total monthly volume of groundwater abstracted for water uses as a percentage of the total <u>monthly</u> renewable volume of freshwater.	Exploitation: Important groundwater abstraction
Groundwater abstraction vs. groundwater recharge.	Exploitation: Fluctuations on groundwater abstraction
<i>Specific water quality test meant to evaluate salinity at the pointed aquifer.</i>	<i>Aquifer saline intrusion</i>

# Wish list of additional datasets (potential future improvements)

- More accurate data on water abstraction (temporal and by sector):
  - For agriculture: crops
  - Type of industries
- GDP desagregated by:
  - type of activity
  - Provinces/municipalities
- Population variations by:
  - Months
  - Provinces/municipalities
- Estimates of stocks and variations (water available in reservoirs and ground water)
  - → Additional monitoring

**Thank you for your kind attention!**

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