Global Water Policies

Bo Libert


1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

SDG 6 – Clean water and sanitation
To ensure access to safe water sources and sanitation for all

- Access to water, sanitation and hygiene is a human right
- The demand for water has outpaced population growth, and half the world's population is already experiencing severe water scarcity at least one month a year
- Water is essential not only to health, but also to poverty reduction, food security, peace and human rights, ecosystems and education
- Countries face growing challenges linked to water scarcity, water pollution, degraded water-related ecosystems and cooperation over transboundary water basins.

Targets SDG 6 - 1

6.1 By 2030, achieve universal and equitable access to safe and affordable **drinking water** for all

6.2 By 2030, achieve access to adequate and equitable **sanitation** and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

6.3 By 2030, improve **water quality** by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Targets SDG 6 - 2

6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

6.6 By 2030, protect and restore **water-related ecosystems**, including mountains, forests, wetlands, rivers, aquifers and lakes

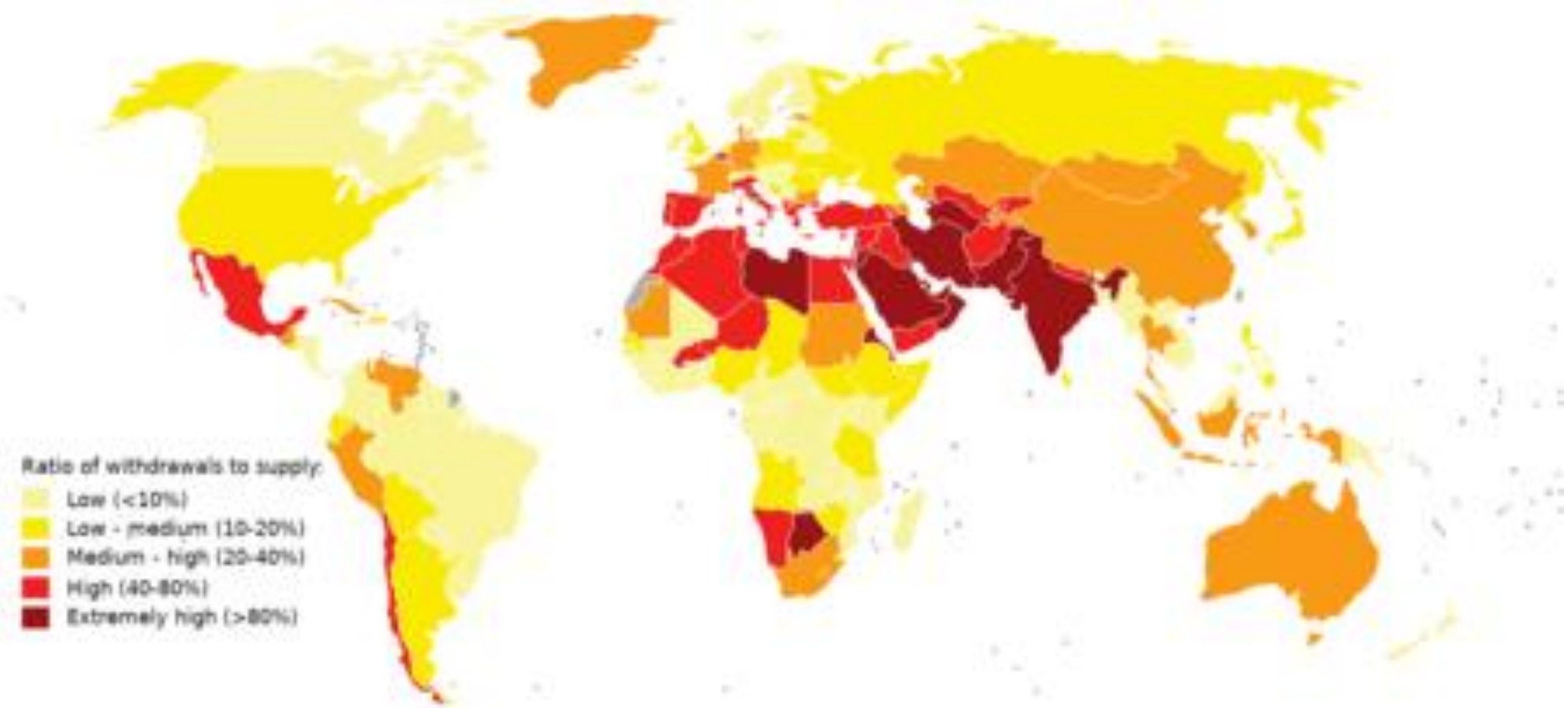
6.A By 2030, expand **international cooperation** and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

6.B Support and strengthen the **participation of local communities** in improving water and sanitation management

Which sectors use the most water?

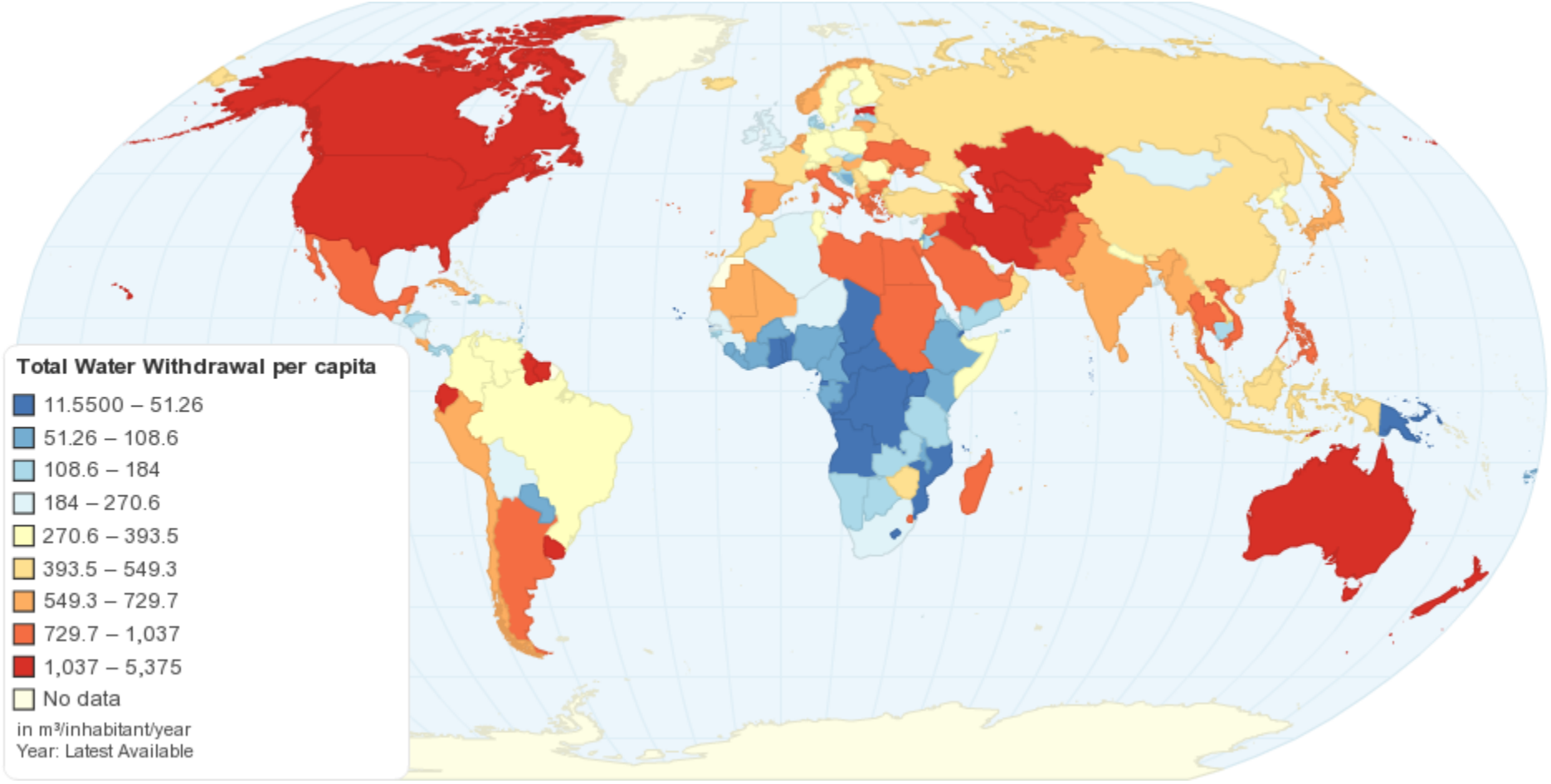
- About 70% of the world's freshwater is used for agriculture (more than 90% in Uzbekistan)
- Industry 20 %, and municipalities account for remaining 10%
- Heavy water users in industry are thermoelectric power plants, textile and food industry

Which regions have problems with water stress?



Kummu, M.; Guillaume, J. H. A.; de Moel, H.; Eisner, S.; Flörke, M.; Porkka, M.; Siebert, S.; Veldkamp, T. I. E.; Ward, P. J. (2016).

Which regions use the most water?



The Food and Agriculture Organization of the United Nations 2010, AQUASTAT online database

Water problems

- Overuse of water
- Pollution
- Eutrophication (N and P)
- Risk of water disasters
- Impact of climate change

The impact of climate change on irrigation

- Crops need more irrigation water because of warmer temperatures
- Seasonally less water available as glaciers are disappearing
- More evaporation from reservoirs and canals

This is why measures are needed to adapt to climate change: More efficient irrigation methods, better infrastructure, new crops…

What is Integrated Water Resources Management?

Integrated Water Resources Management (IWRM) promotes the coordinated development and management of water, land and related resources to **maximize economic and social welfare in an equitable manner, without compromising the sustainability of vital ecosystems**

3. The Four Principles of IWRM

The Dublin Principles as a Guide to the Implementation of IWRM

I. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.

II. Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels

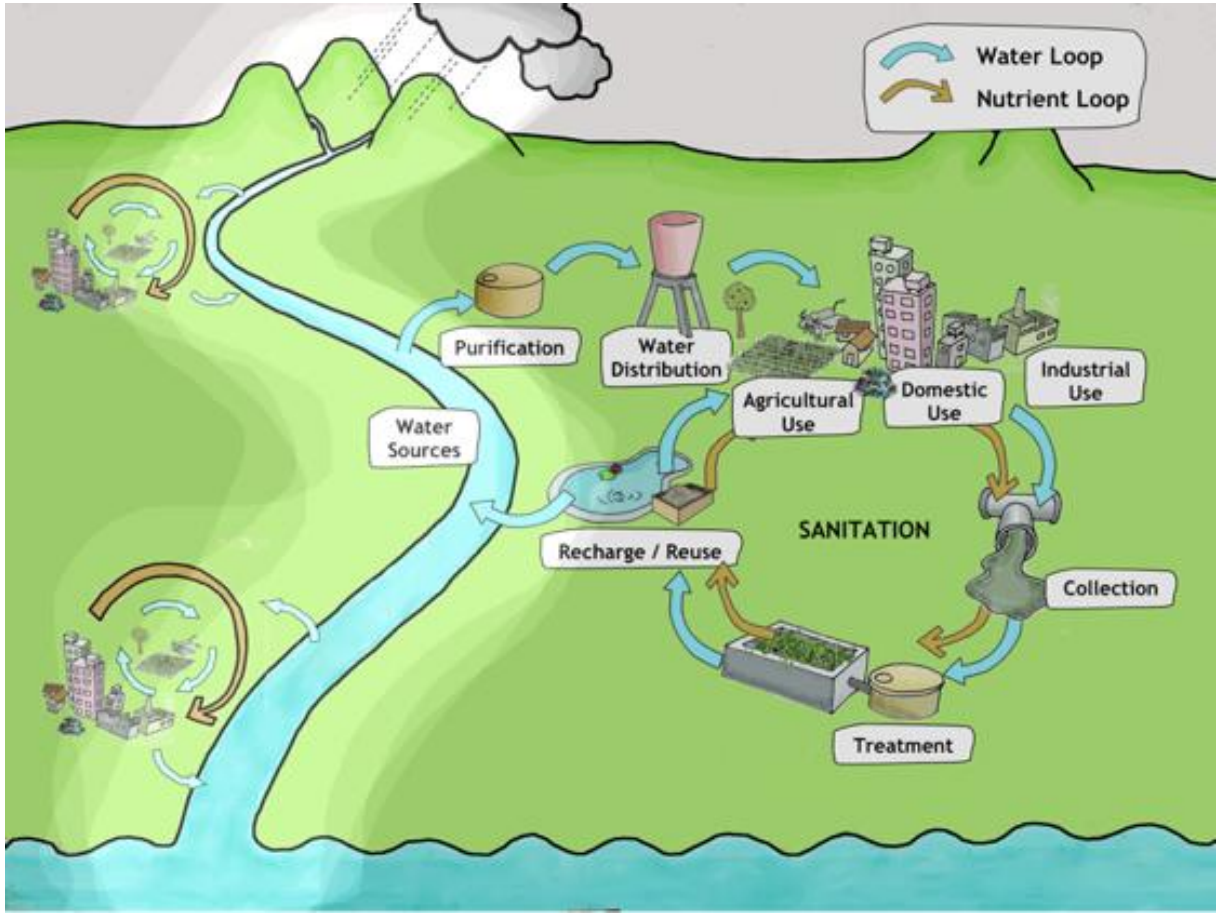
III. Women play a central part in the provision, management and safeguarding of water.

IV. Water has an economic value in all its competing uses and should be recognized as an economic good

(GWP 2008:13)

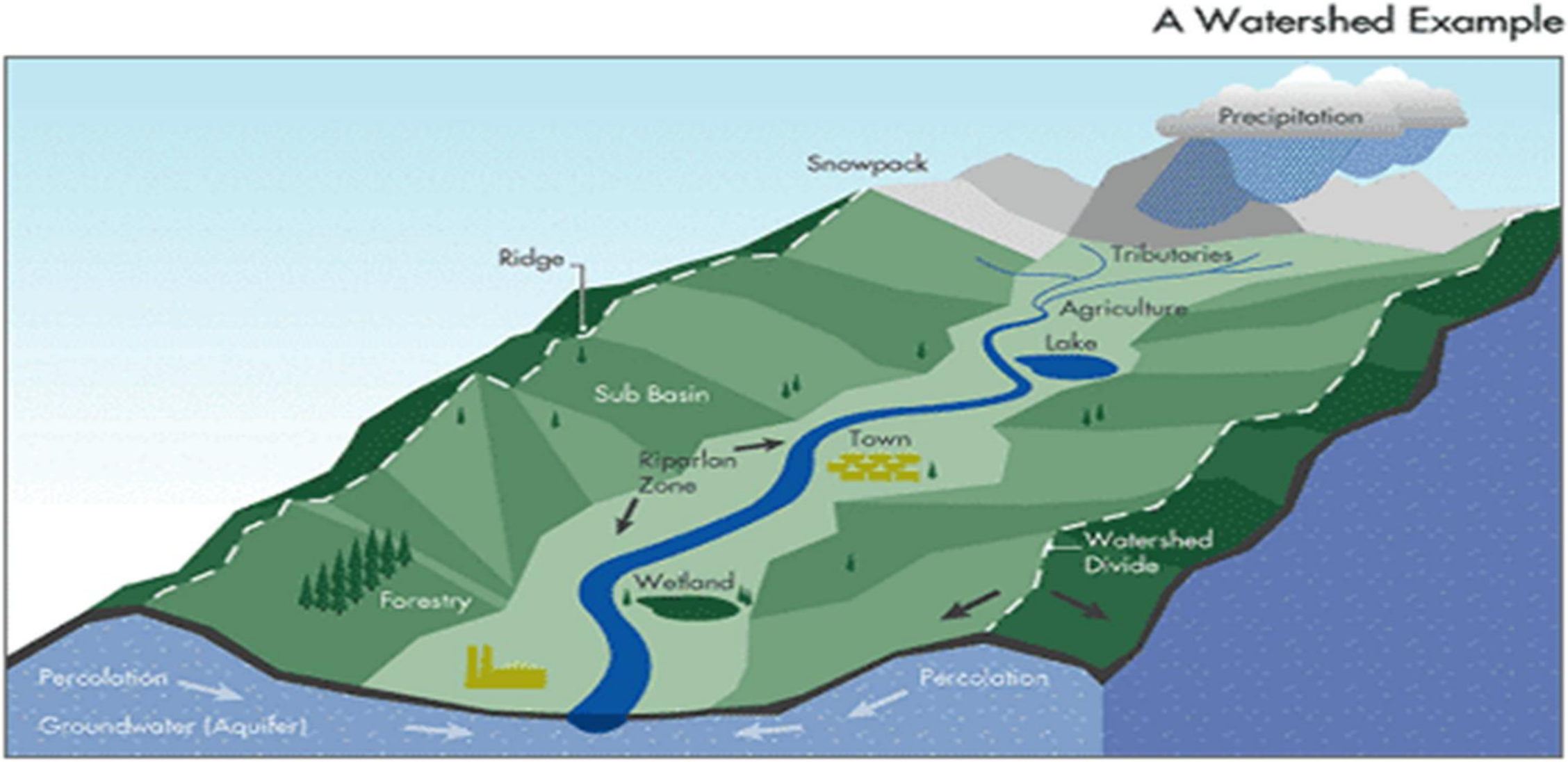
5. SSWM and IWRM

Integrated, holistic Approach



Source: sswm.info

Management of water according to basin or watershed boundaries



EU Water Framework Directive

RIVER BASIN MANAGEMENT PLAN

The project is funded The European Union

public consultation

1.1 General description of the river basin

1.2 Water body identification and classification

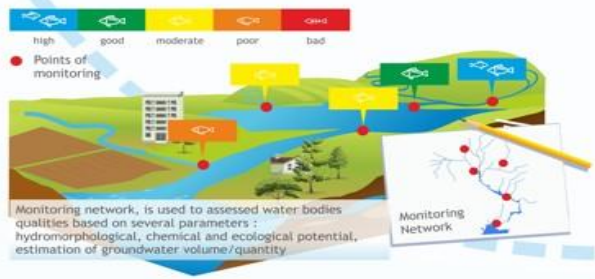
Water body is part of an aquatic ecosystem that is homogeneous according to certain criteria

2. Identification of significant pressures and impacts of human activity on the status of surface water and groundwater

3. Identification and mapping of protected areas

- Areas of sanitary protection
- Areas designated for the protection of the valuable species of aquatic biological resources
- Water bodies designated for recreational, promoting health, spa and wellness purposes and for bathing

4. Monitoring programme for surface and groundwater bodies



Monitoring network, is used to assessed water bodies qualities based on several parameters : hydromorphological, chemical and ecological potential, estimation of groundwater volume/quantity

5. Establishing of environmental objectives

6. Economic analysis

- economic development of river basin district
- characterization of current water use
- forecast of water needs for the main sectors of economy
- instrument of economic control

7. Programmes of measures

how to achieve good ecological status

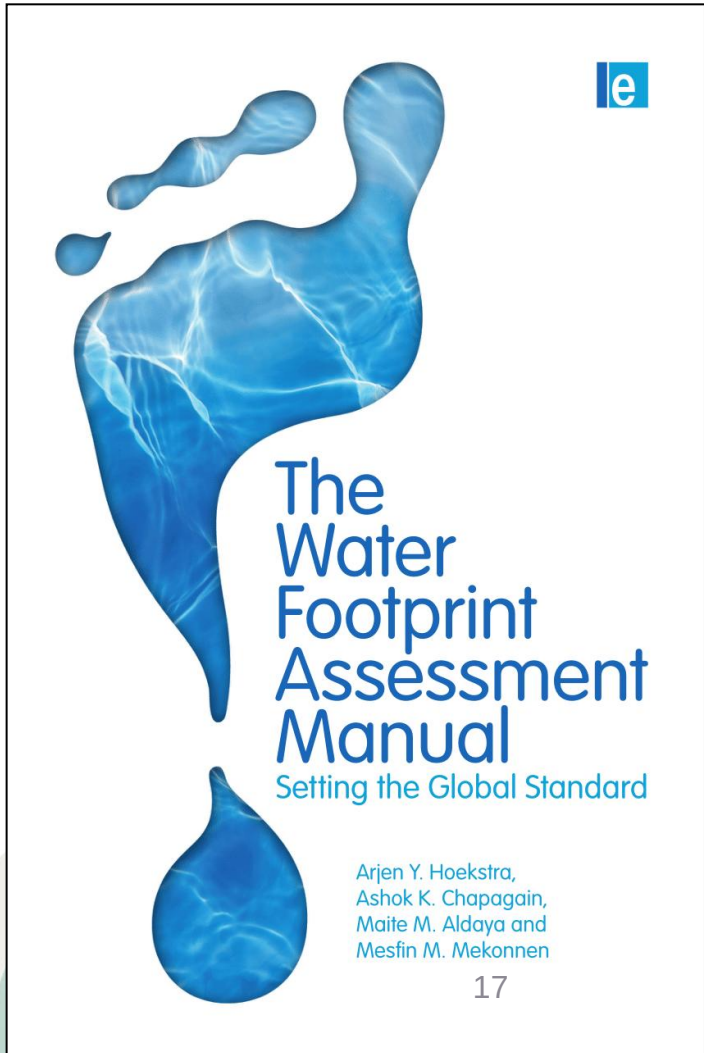
PUBLIC CONSULTATIONS

in accordance with the EU-Ukraine Association Agreement

The main aim of the Plan is to ensure the achievement of good ecological and chemical status of surface water bodies and groundwater bodies

Water Footprint Assessment

- Geographical and time specific
- Can be applied to
    - Product/Crop
    - Process
    - Consumer(=us)
    - Company
    - Country
    - River basin
    - World



Components of Water Footprint

Green water footprint

- Rainwater

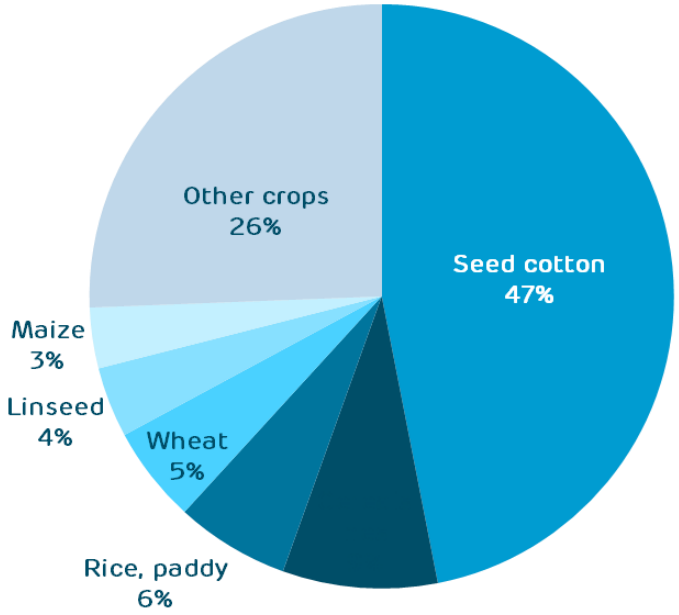
Blue water footprint

- Surface or groundwater

Grey water footprint

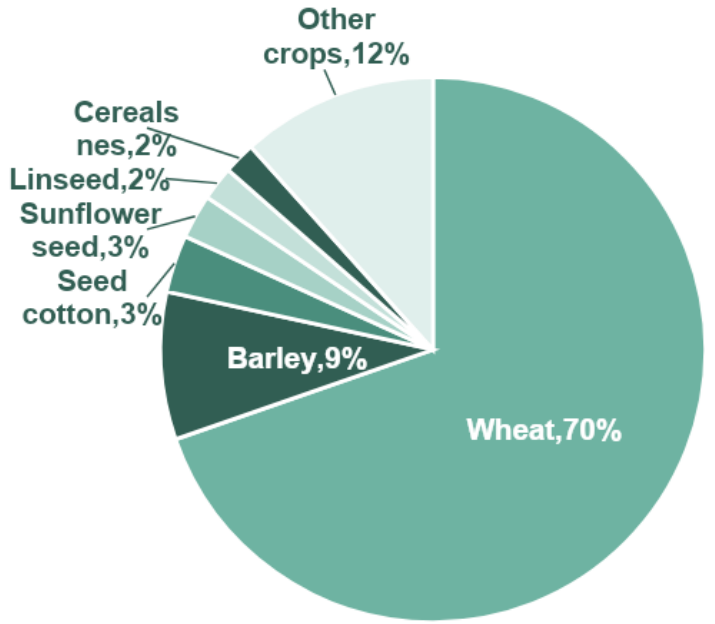
- Polluted water

Major crops: blue & green WF



Cotton is the main crop using blue water.

Wheat is the main crop using green water.



https://www.bluepeace-centralasia.ch/materials/water-footprint-analysis-of-central-asia/

Water footprint reduction

- Increase crop production per m3 = increase food security
- Smart virtual water trade = use ‘national advantage’ to export products with a low WF and import products with a high WF
- Increase economic value per m3 by processing or alternative crops

Conclusions

- **SDG 6** is central to water management but several other SDGs are linked to the availability of clean water
- Basin-wide **Integrated Water Resources Management** is a central principle
- Measurements of the **Water Footprint** gives information to be used for an improved water management

Questions to be discussed

- What can be done by national authorities to save water?
- What can be done by you, individually, to improve the water situation?