Water Footprint

Role in communication of water sustainability

Dr. Ertug Ercin, Hong Kong, 12.07.2019

Director and senior researcher

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Water sustainability: capacity building

- Water footprint trainings
- Environmental education: BSc, MSc, summer courses
- Sustainable water use: companies, non-technical experts
- Water in climate change: technical people and researchers

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Signs of global water scarcity

Cotton for export

Former Aral Sea, Central Asia

Signs of global water pollution

Devecser, Hungary, Oct. 5, 2010

Coto Doñana National Park, southern Spain

Strawberries for export

Water Footprint: a tool for communication

How much water is consumed for our production and consumption?

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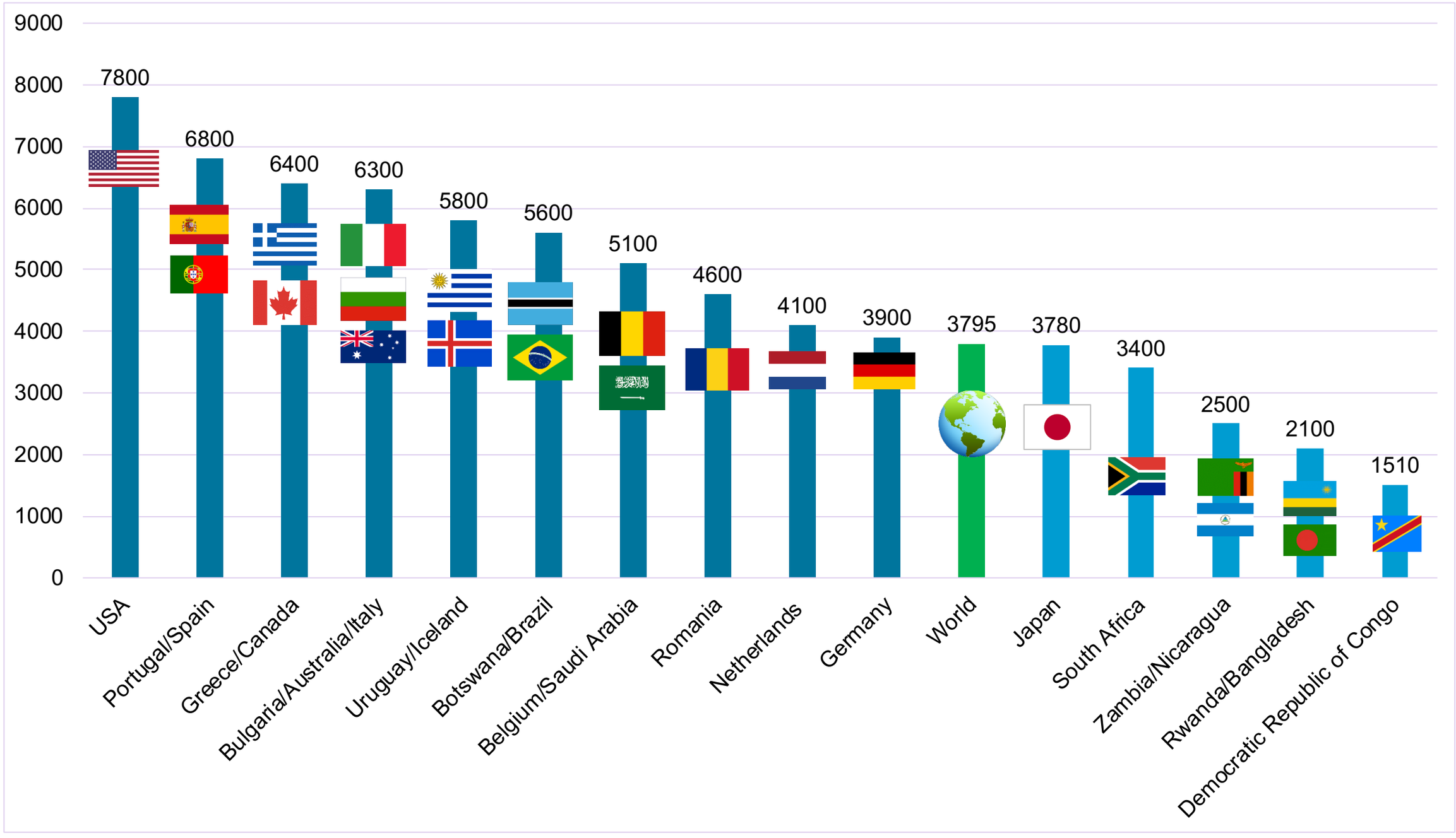
[Hoekstra & Chapagain, 2008]

Water Footprint of consumption – litres per day per person



http://waterfootprint.org/en/resources/interactive-tools/**national-water-footprint-explorer/**

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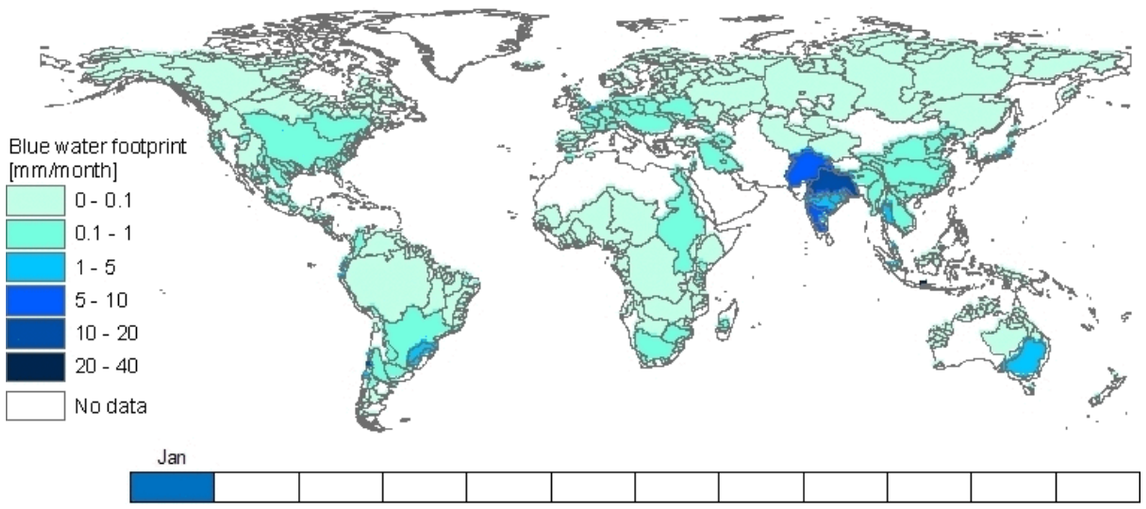
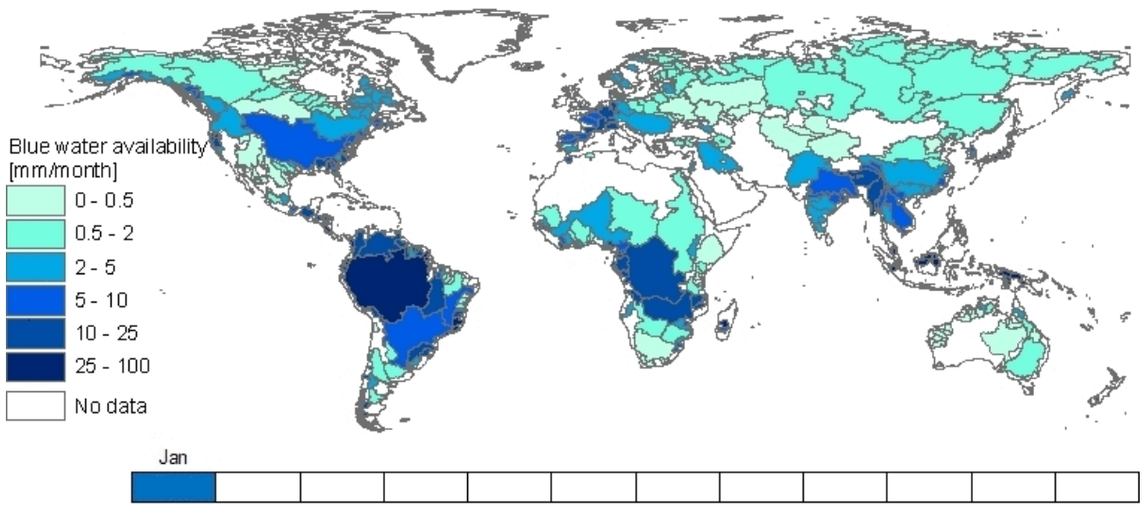
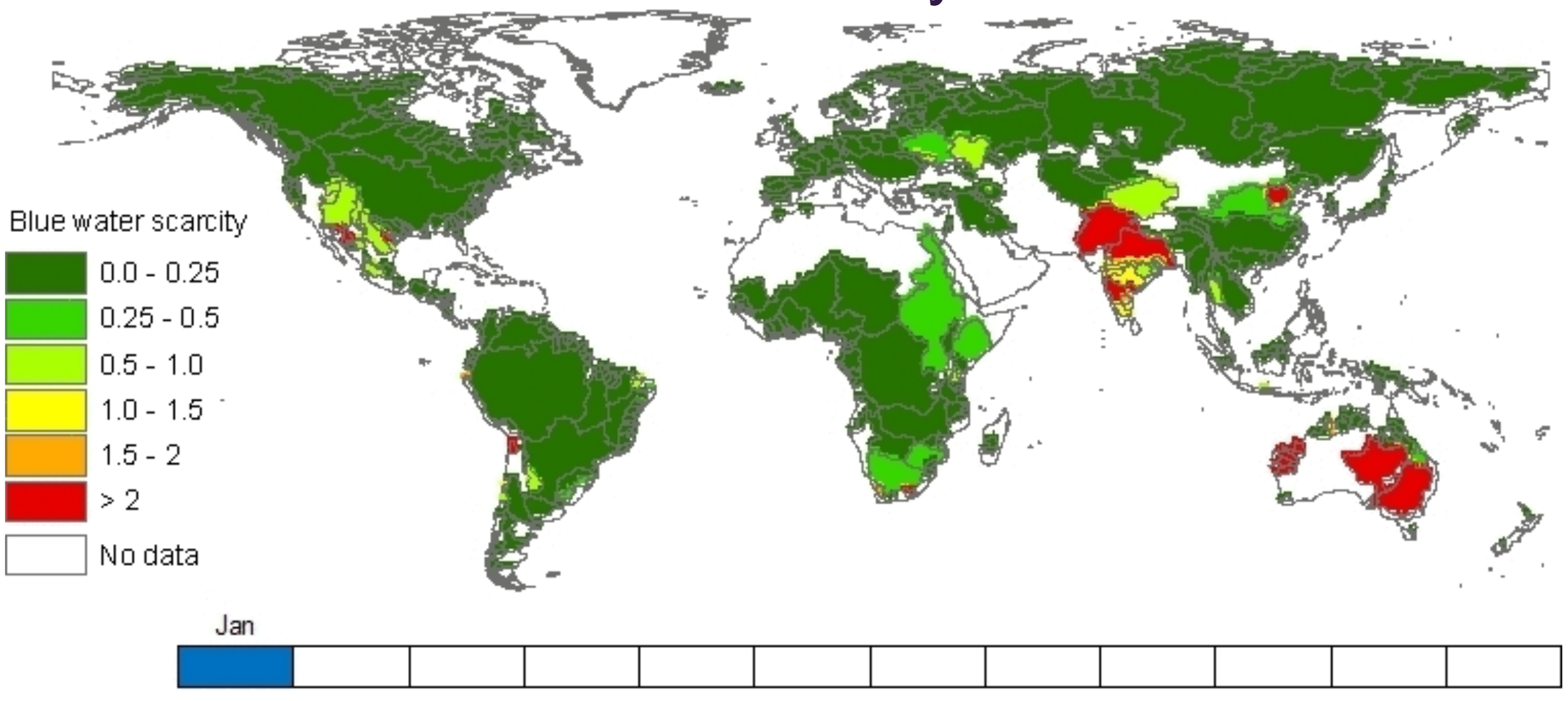
water footprint – use



water availability



water scarcity



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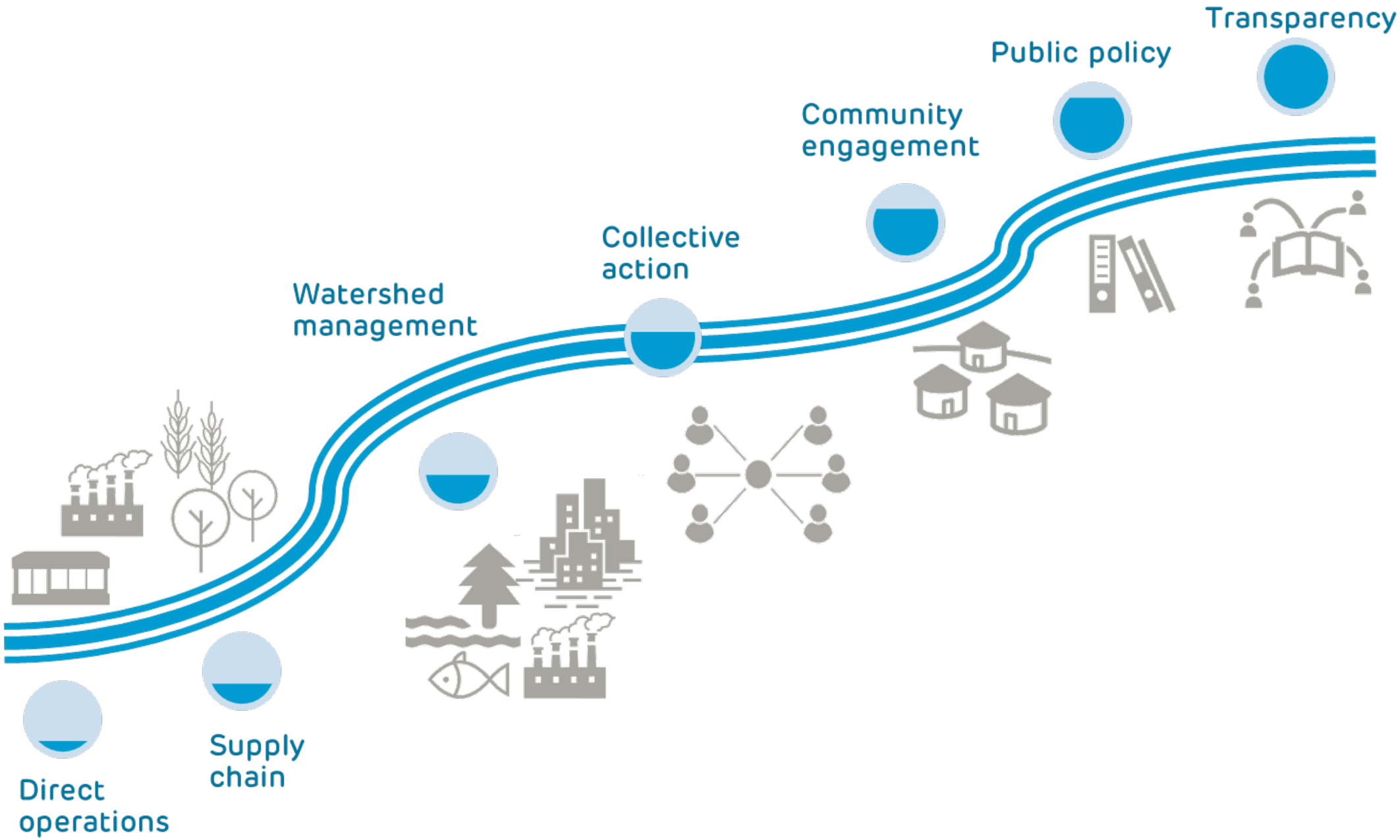
Water stewardship journey



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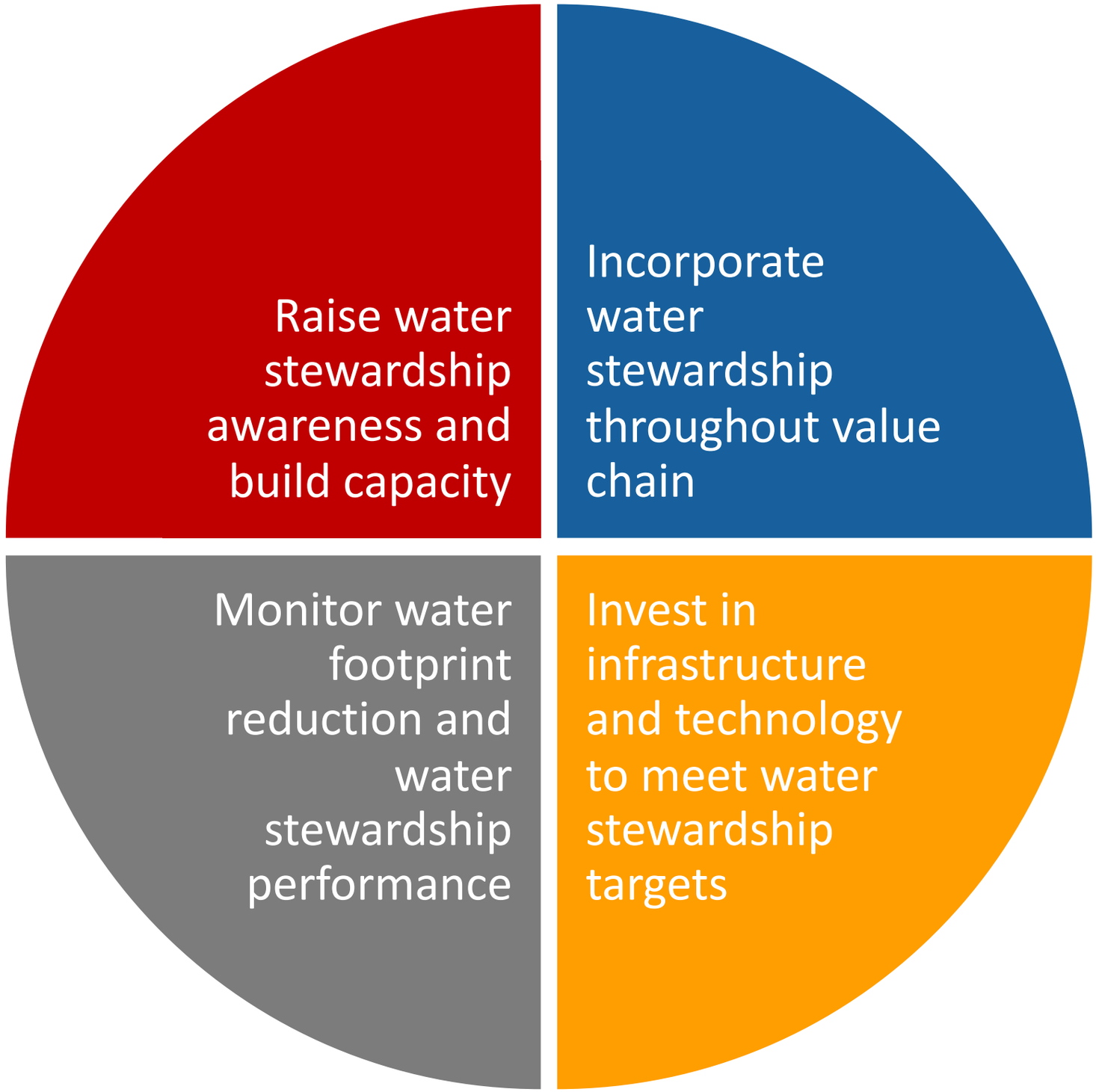
Water stewardship actions



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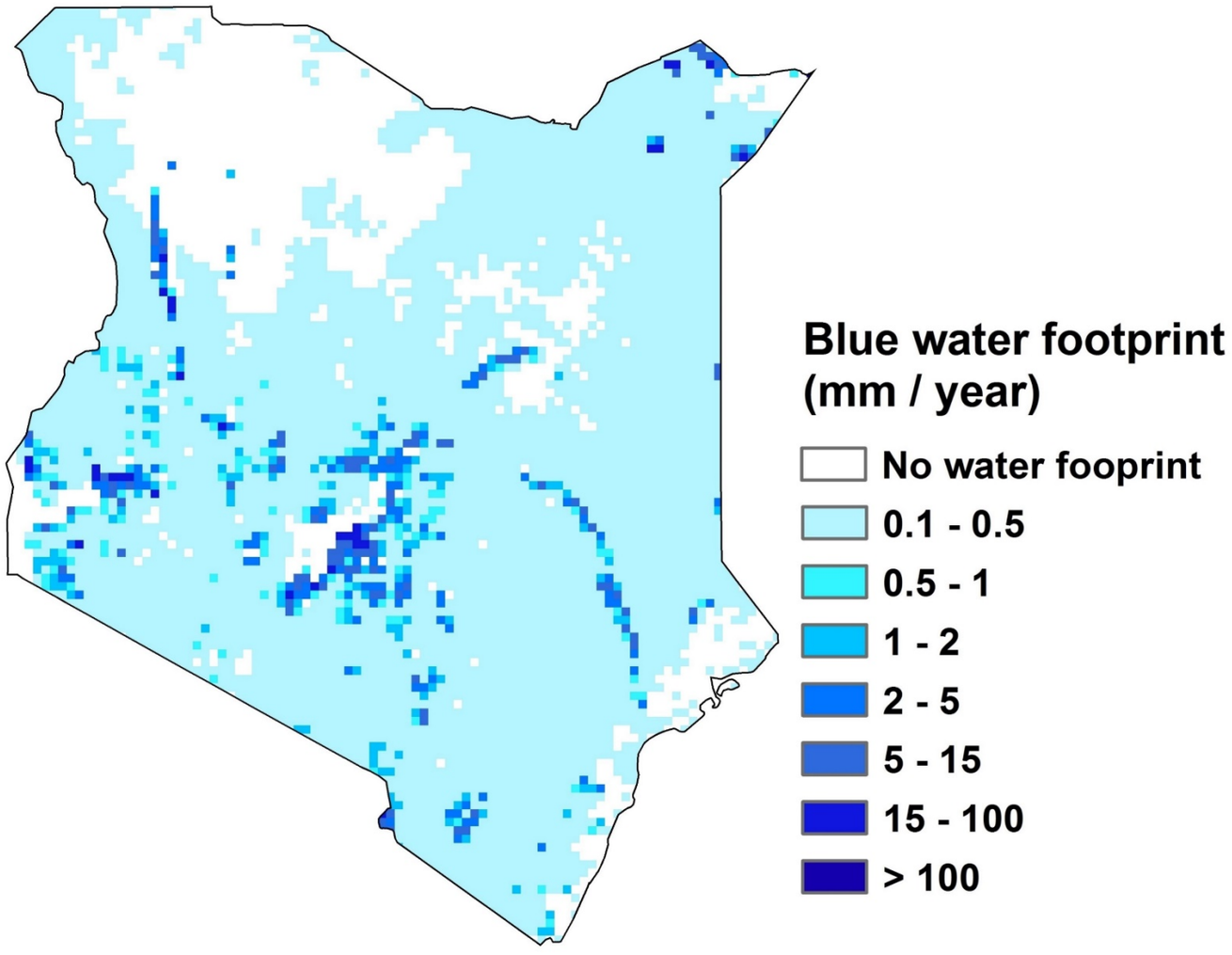
Blue water footprint of crop production



The annual blue water footprint of crop production in Kenya is **210 million m³.**

Agricultural practices at each farming stage

Land preparation

- Land levelling
- Reduced tillage system

Planting

- Selection of planting date
- Seed selection/crop variety
- Crop rotation practice
- Intercropping & green manure

Growing

- Irrigation technology
- Irrigation strategy
- Mulching
- Nutrient management
- Pest control

Harvesting

- Land maintenance (leaching)

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Growing stage – irrigation technology and impact

	Impact on green water footprint	Impact on blue water footprint	Impact on grey water footprint	Impact on crop yield
Drip irrigation		Greater reduction in unproductive evaporation due to the application of water nearer to the root zone of the crop.	Lowest levels of runoff and leaching of pesticides and fertilisers.	Irrigation improves crop yield where rainfall does not meet crop water requirements.
Subsurface drip irrigation		Further reduction of unproductive evaporation due to application of water directly to the root zone at subsurface level.	Lowest levels of runoff and leaching of pesticides and fertilisers.	Irrigation improves crop yield where rainfall does not meet crop water requirements.

Thank you!

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