

Sustainable Development through Water Footprint Assessment

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from awareness to action



Water Footprint
NETWORK

www.waterfootprint.org

Water Footprint Network



UNESCO-IHE
Institute for Water Education



University of Twente
Enschede - The Netherlands



water
neutral



IFC
International
Finance
Corporation
World Bank Group

Vision:

A world in which we share clean fresh water fairly amongst all people to sustain thriving communities and nature's diversity.

Mission:

To provide science-based, practical solutions and strategic insights that empower companies, governments, individuals and small-scale producers to transform the way we use and share fresh water within earth's limits.

Water Footprint Network

Fair and smart water use of the world's freshwater

Sharing Knowledge

- Provides **data, methods, guidelines, criteria, tools, and technical and strategic assistance** for Water Footprint Assessment

Providing Solutions

- Brings together expertise from academia, businesses, civil society, governments and international organisations into a **dynamic, international, continuous learning community**

Building Community

- Is a platform for connecting diverse interests in **sustainable, efficient and equitable water use**



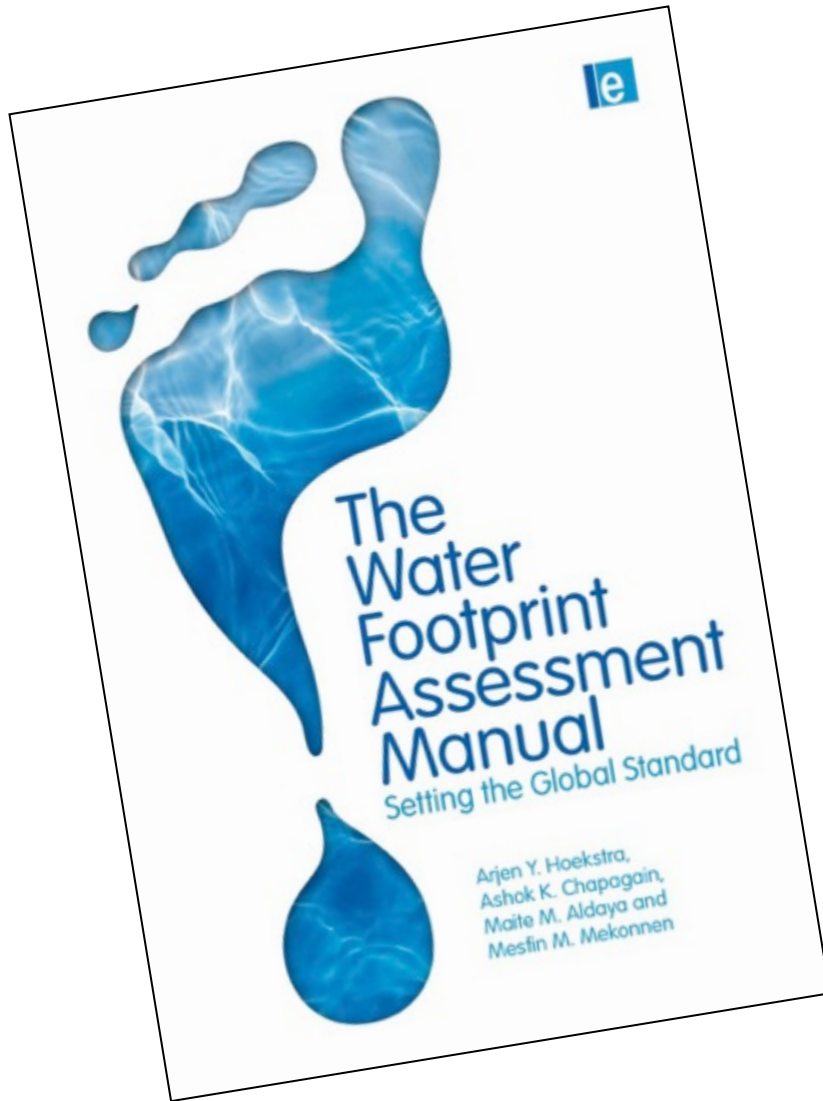
Good Food, Good Life



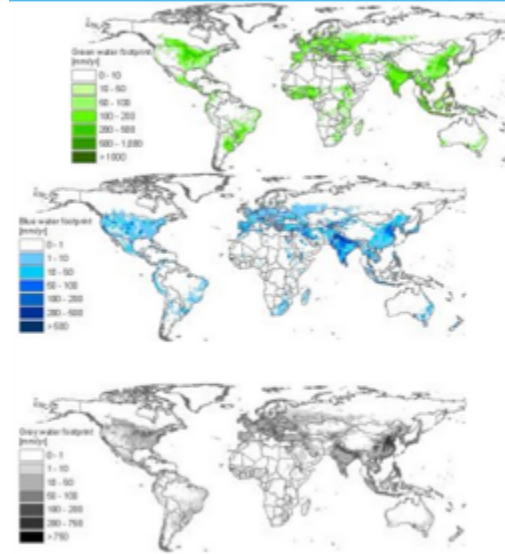
Government of the Netherlands



Standardizing Water Footprint Assessment



WaterStat



WaterStat is a database with water statistics maintained by the Water Footprint Network.

Product water footprint statistics

Find here statistics on green, blue and grey water footprints of crops, derived crop products, biofuels, and farm animal products. All data are available at national and sub-national level.

National water footprint statistics

Download here statistics on green, blue and grey water footprints of national production and consumption.

International virtual water flow statistics

Here you find detailed statistics on international virtual water trade flows and on water savings related to international trade.

Water scarcity statistics

This is the only database in the world providing data on blue water scarcity per river basin on a monthly basis.

Water pollution level statistics

Download here statistics on water pollution level per river basin.

The Water Footprint Assessment Manual

Published by Earthscan, 2011

WaterStat Database

Maintained by Water Footprint Network

Freely downloadable from: www.waterfootprint.org

What is the water footprint?

The '**water footprint**' is a measure of human's appropriation of freshwater resources.

- ▶ Water footprint is a measurement of the **volume of water consumed** (evaporated or otherwise not returned) or **assimilation capacity used**.
- ▶ The water footprint is a **geographically** & **temporally** explicit indicator.
- ▶ The water footprint is an indicator of water use that looks at **both direct** & **indirect** water use of a consumer or producer.
- ▶ A water footprint can be calculated for a **process**, a **product**, a **consumer**, **group of consumers** (e.g. municipality, province, state or nation) or a **producer** (e.g. a private enterprise, public organization).

[Hoekstra et al., 2011]

Water footprint components

Green water footprint

- ▶ volume of rainwater evaporated or incorporated into product



Blue water footprint

- ▶ volume of surface or groundwater evaporated or incorporated into product, lost return flow



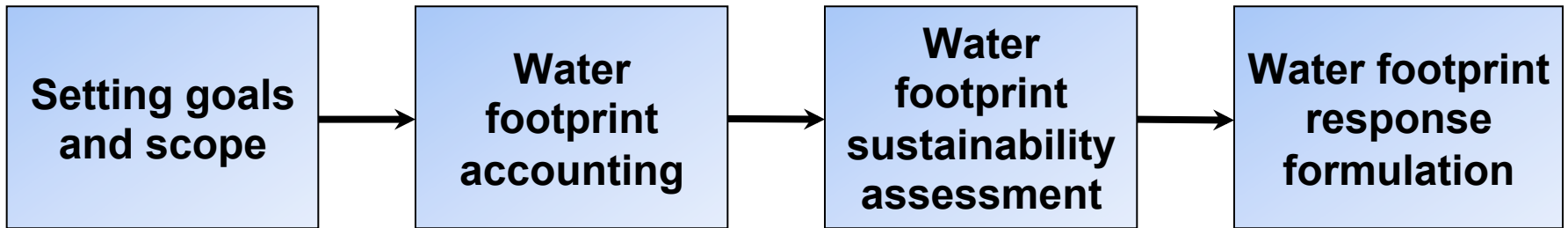
Grey water footprint

- ▶ volume of water needed to assimilate pollutants



[Hoekstra et al., 2011]

Water Footprint Assessment



- Understand the ***geographic and temporal allocation of water resources*** for industry, agriculture and domestic water supply
- Assess the ***sustainability, efficiency and equitability of water use***: consumption & pollution
- Identify the most ***strategic actions*** to be taken in local, regional, national and global scales, individually and collectively

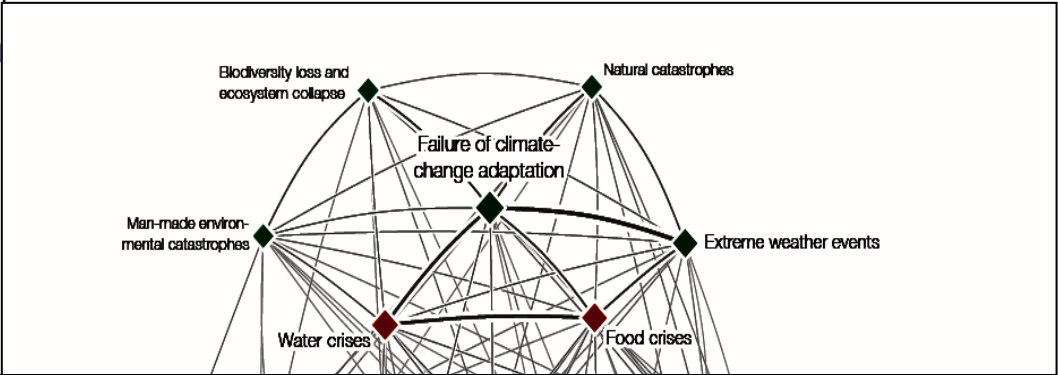
World Economic Forum Global Risks 2015

Top 10 global risks in terms of Impact

- 1 Water crises
- 2 Spread of infectious diseases
- 3 Weapons of mass destruction
- 4 Interstate conflict
- 5 Failure of climate-change adaptation
- 6 Energy price shock
- 7 Critical information infrastructure breakdown
- 8 Fiscal crises
- 9 Unemployment or underemployment
- 10 Biodiversity loss and ecosystem collapse

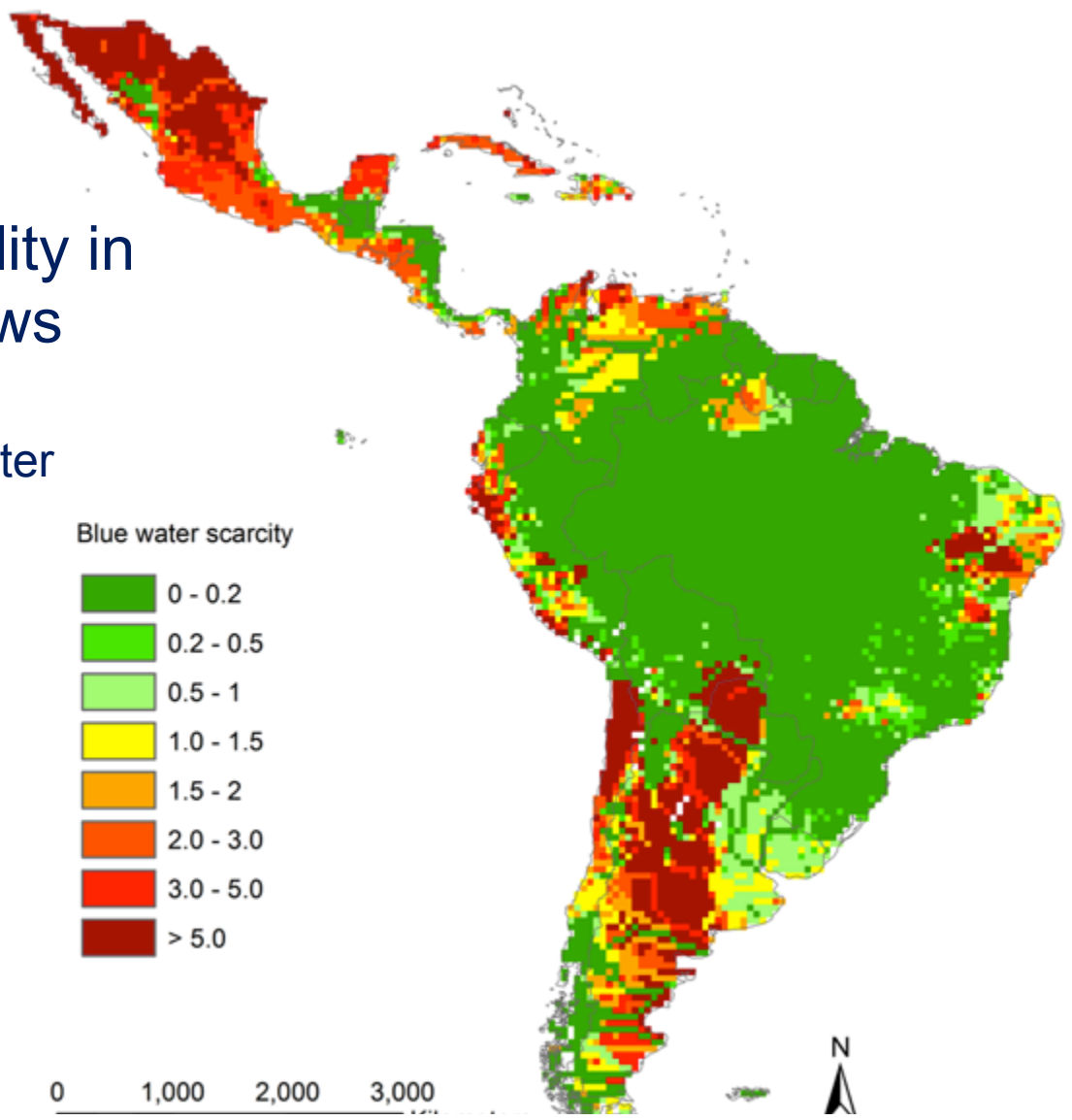
World Economic Forum puts water crises at top of list for high impact global risks.

Water crises are related to food crises, climate change adaptation, biodiversity loss and ecosystem collapse



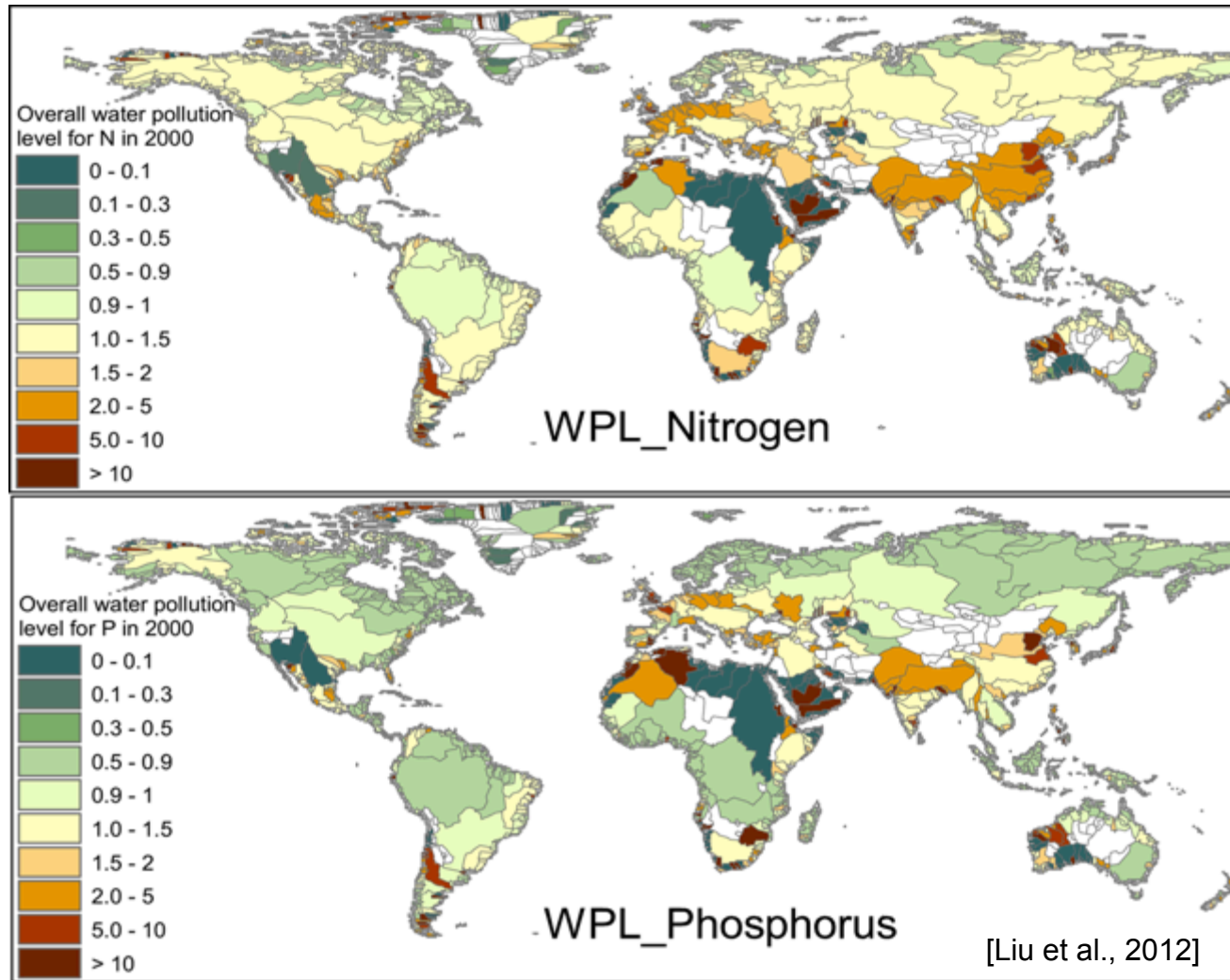
Assessing water availability in light of environmental flows

(annual average monthly blue water scarcity)

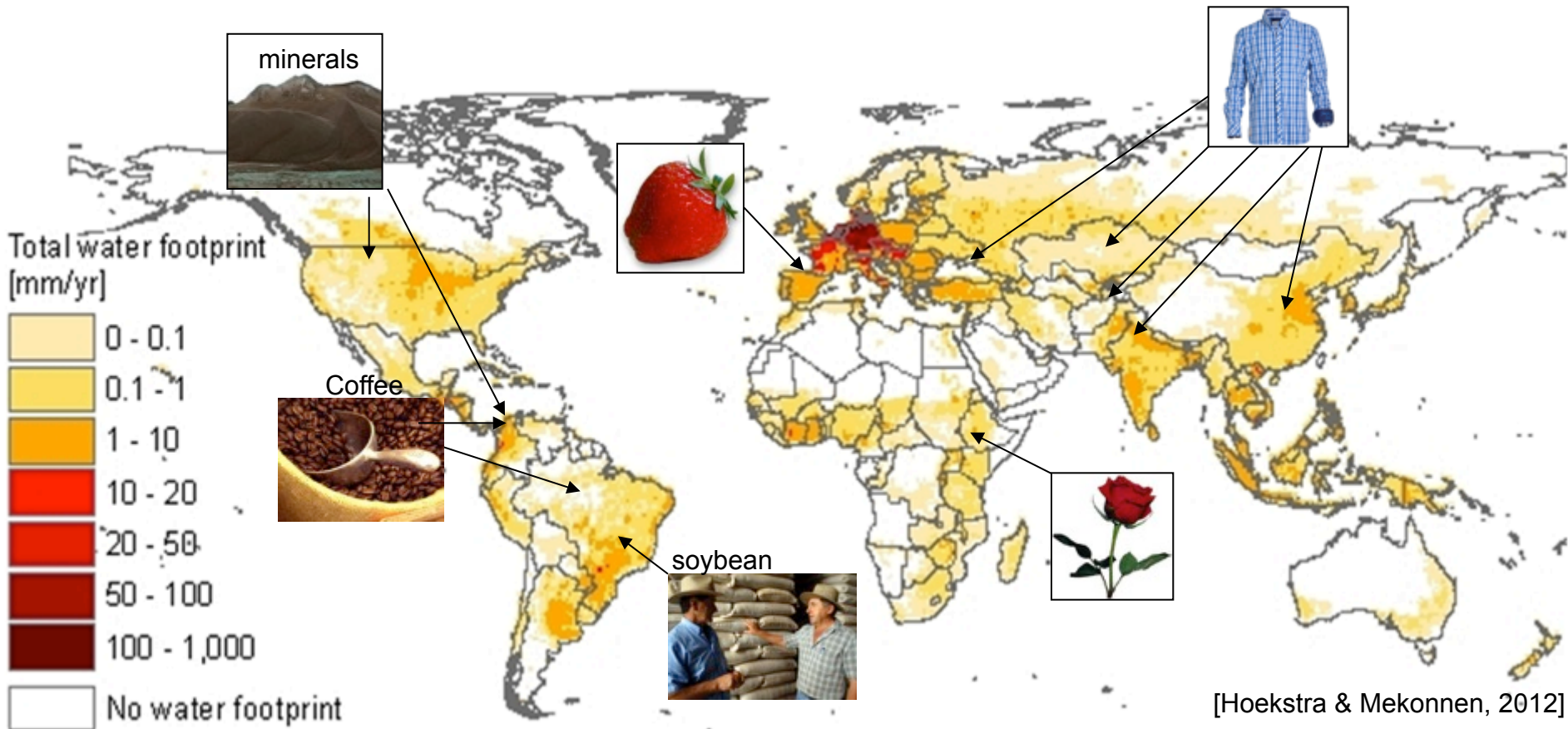


[Mekonnen et al. 2015]

Water pollution level per river basin

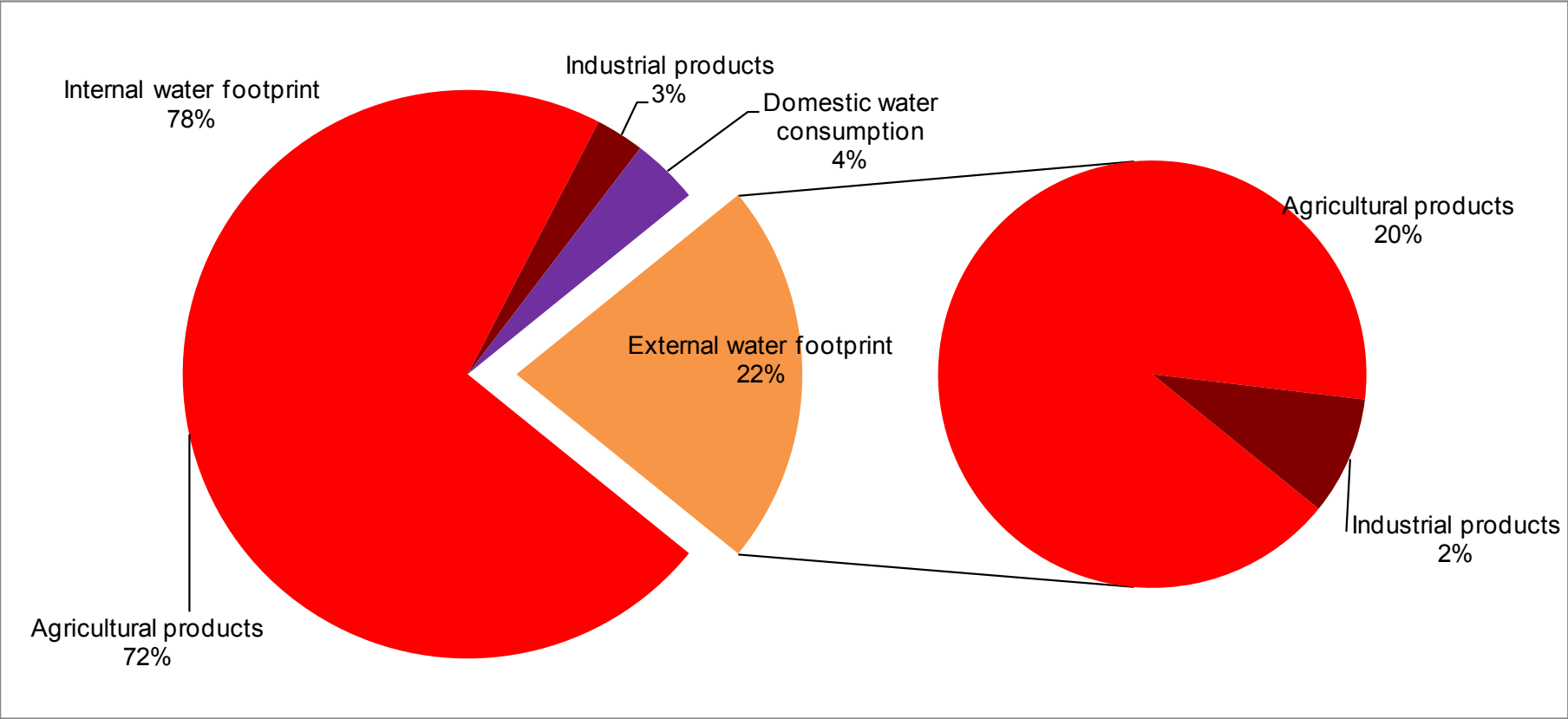


"Water problems are often closely tied to the structure of the global economy. Many countries have significantly externalised their water footprint, importing water-intensive goods from elsewhere."



95% of the water footprint of Dutch consumers is outside the Netherlands

Global water footprint by sector



[Mekonnen & Hoekstra, 2011]

Water Footprint Assessment in Sustainable Development

Environmental Sustainability

Maximum Sustainable Limits

Water footprint allocation amongst all users
What is the cumulative impact of water use?

Social Sustainability

Equitable Allocation

Water footprint allocation between users/ consumers
Who is using water/ consuming products?

Economic Sustainability

Resource Efficient Benchmarks

Water footprint allocation for specific users
How efficiently is water being used?

Partnership for Cleaner Textile in Dhaka, Bangladesh

Public-Private Partnership

Component 1

Buyers' Engagement

Development of shared procurement guidelines

Application of buyer wet processing WFA

Component 2

Factory Engagement

Support to factories on Cleaner Production and WF reduction

Investment facilitation for water efficient technologies

Component 3

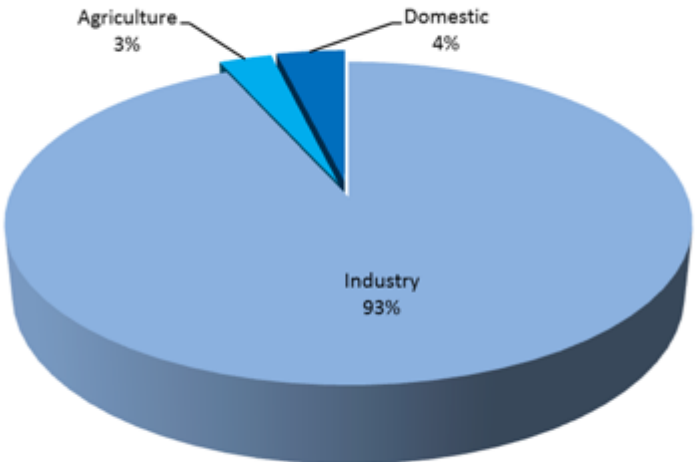
Multi-stakeholder Engagement

Development of a Textile Sustainability Platform for awareness building

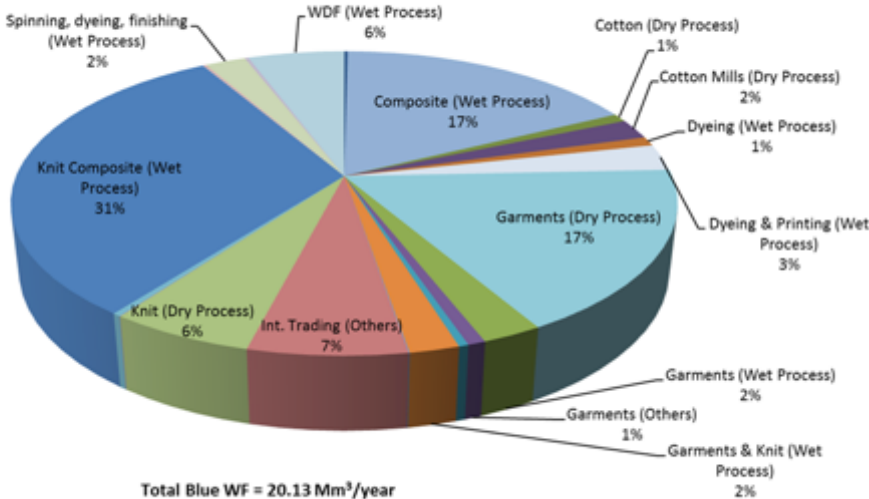
Textile Technology Business Center for database of technical and business case info

Cluster Water Footprint Assessment for multi-stakeholder dialogue

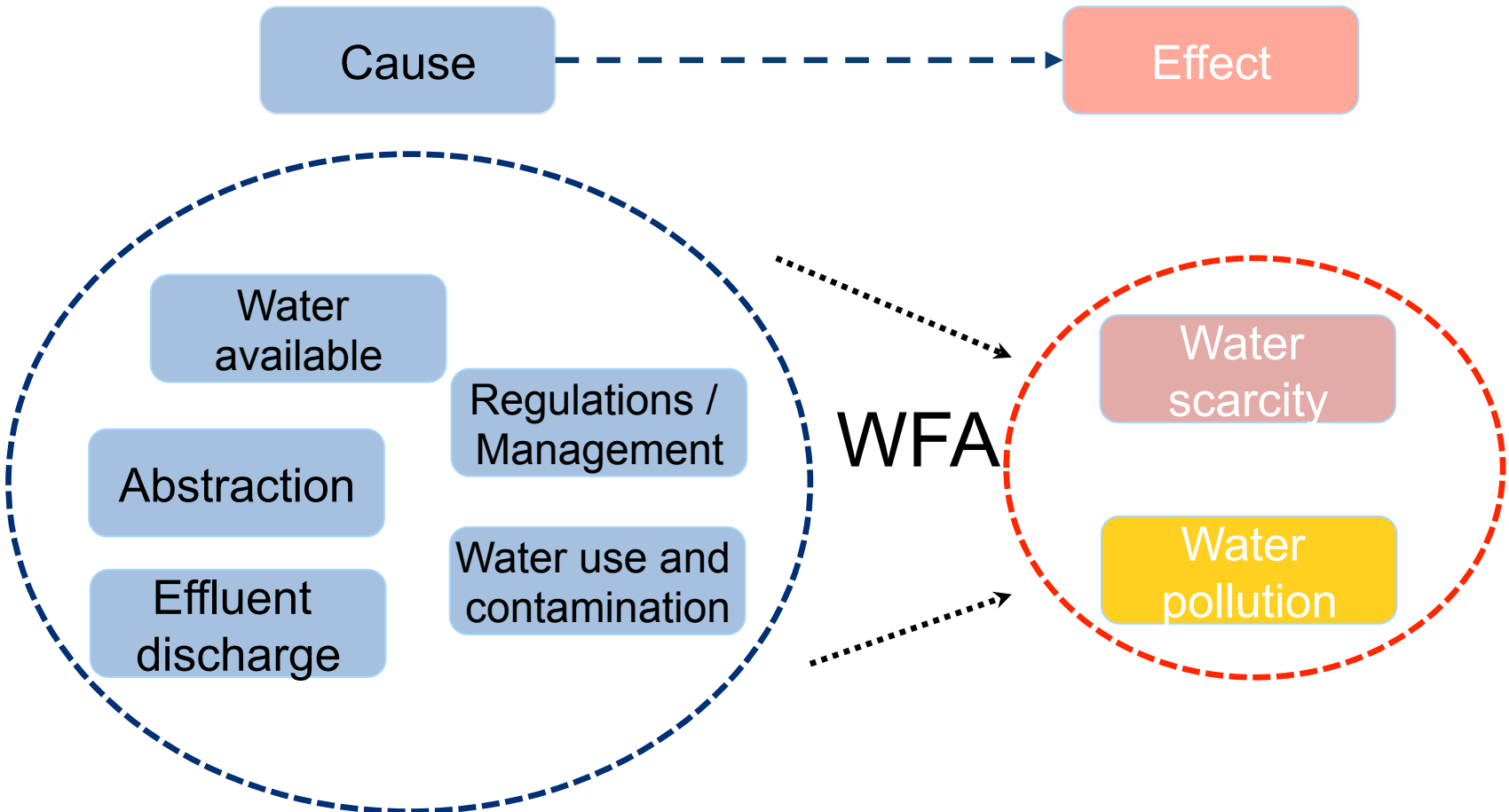
Total Blue WF within the Cluster (Konabari) Area



Total Blue WF of the Textile Industry in the Cluster (Konabari) Area



WFA of Hertfordshire North London Area, UK Environment Agency



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Thank you

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