Follow the Water : a group work Francesca Greco

FOLLOW THE WATER

ANALYSING WATER
-- IN AGRI-FOOD SUPPLY CHAINS

-- IN NON –FOOD SUPPLY CHAINS

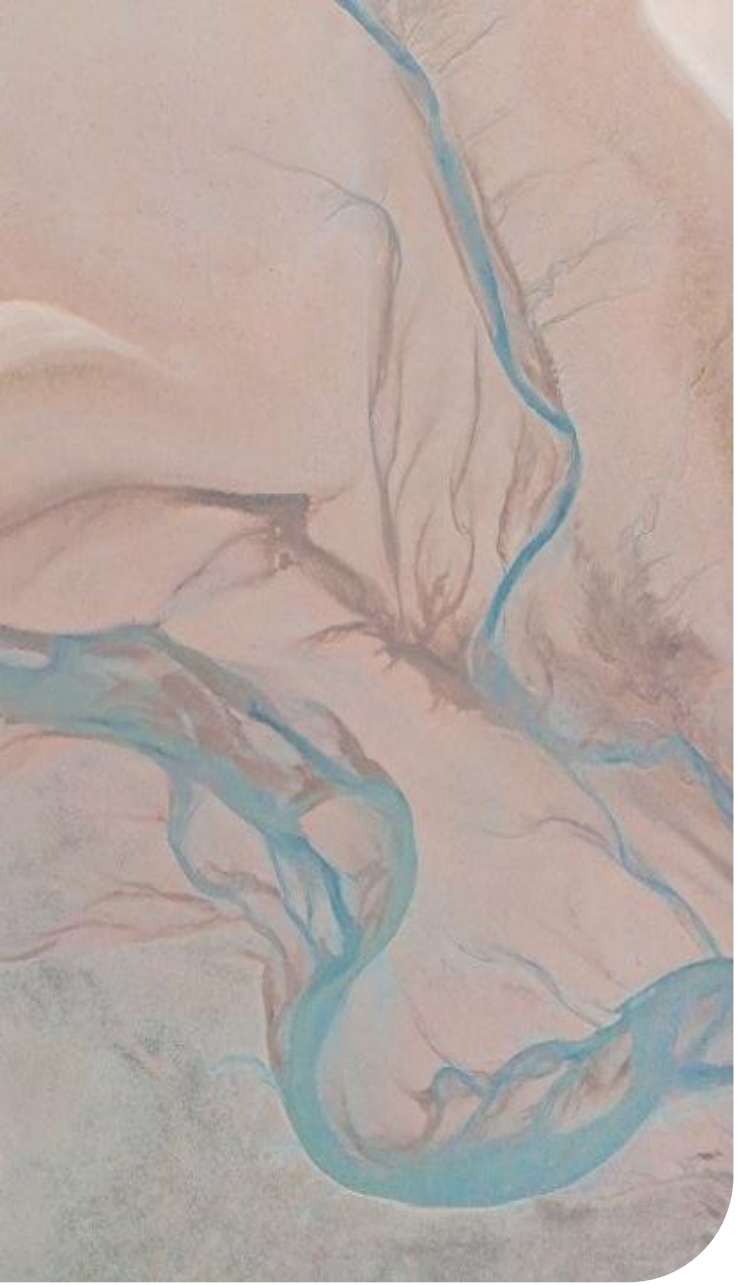
METHODS, THEORIES & APPLIED POLITICAL ECOLOGY ABOUT ENVIRONMENTAL JUSTICE OF WATER

(DAY 1 & DAY 2, 19–20 NOVEMBER 2025)

TWO-DAYS GROUPWORK AGENDA

- Methodological Foundations and Analytical Tools in Critical Hydropolitics and Hydro-social Water Geography / Critical Water Geography
- Theory and Application of the 'Follow the Water' Approach
- Political Ecology Assignment: Narrative Construction and Analysis
- Collaborative Work and Group Presentations (DAY 2)
- Final Output: Publishing 'Follow the Water' Product Sheets in a Poster

METHODOLOGICAL FOUNDATIONS AND ANALYTICAL TOOLS IN HYDRO-SOCIAL / WATER GEOGRAPHY



INTRODUCTION

Preparatory readings

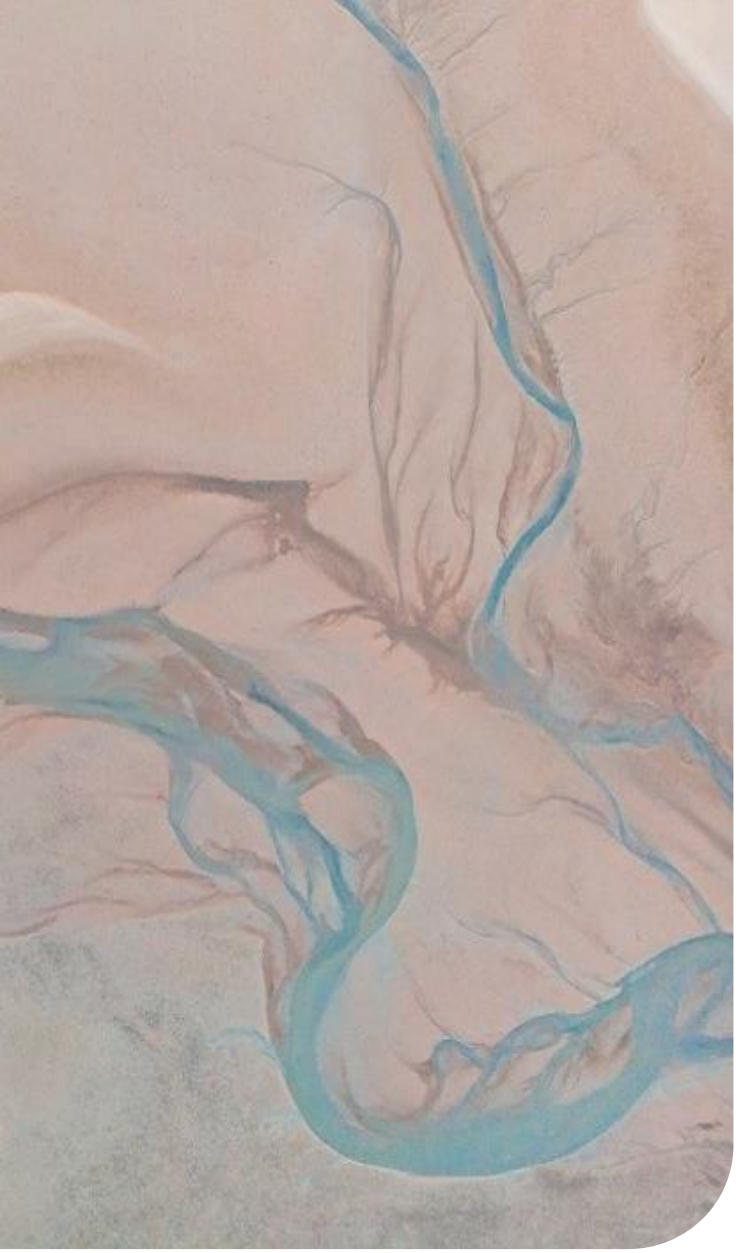
A

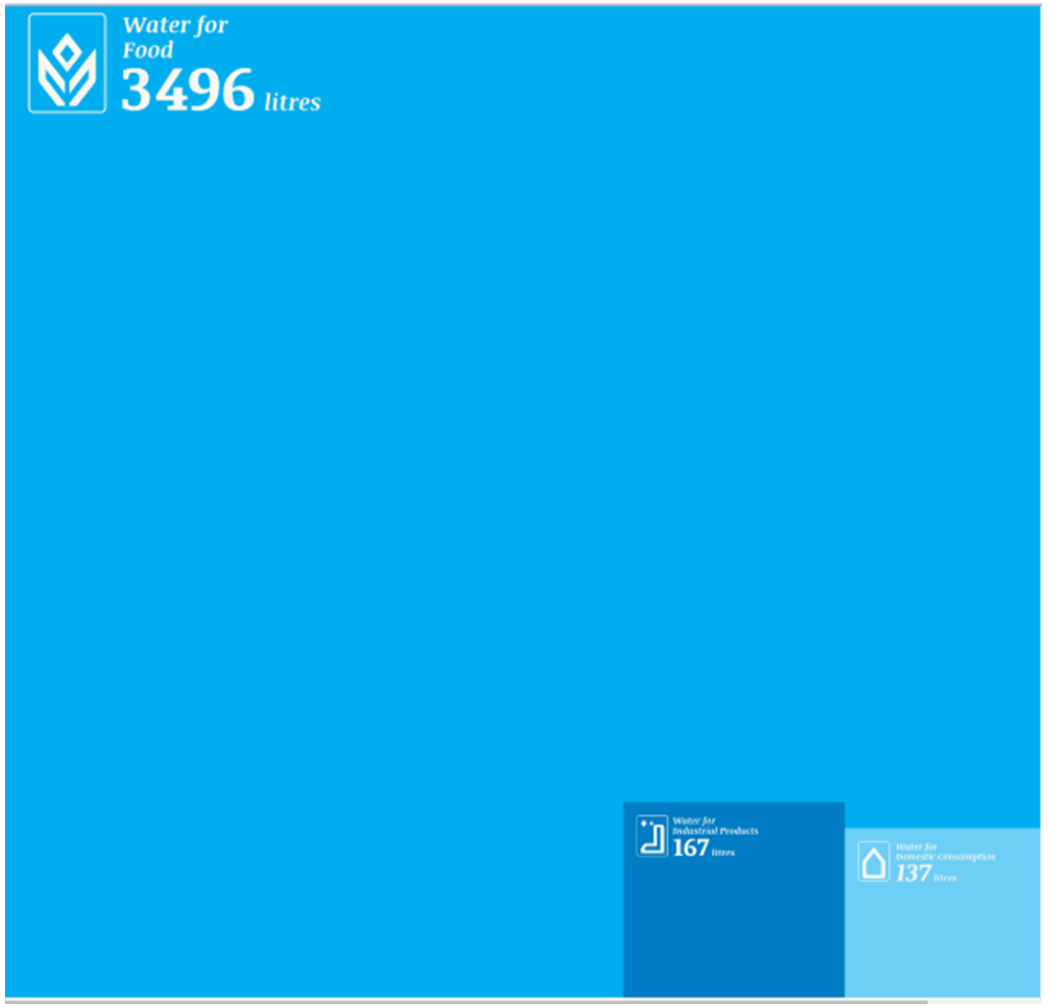
Sojamo et al. (2012) “Virtual Water Hegemony”

B

Hoogesteger, J., Vos, J., Boelens, R., Crow, B., Lu, F., & Swyngedouw, E. (2017). Introduction: Interweaving water struggles, the making of territory and social justice. In Hydrosocial Territories and Water Equity (pp. 1-7). Routledge.

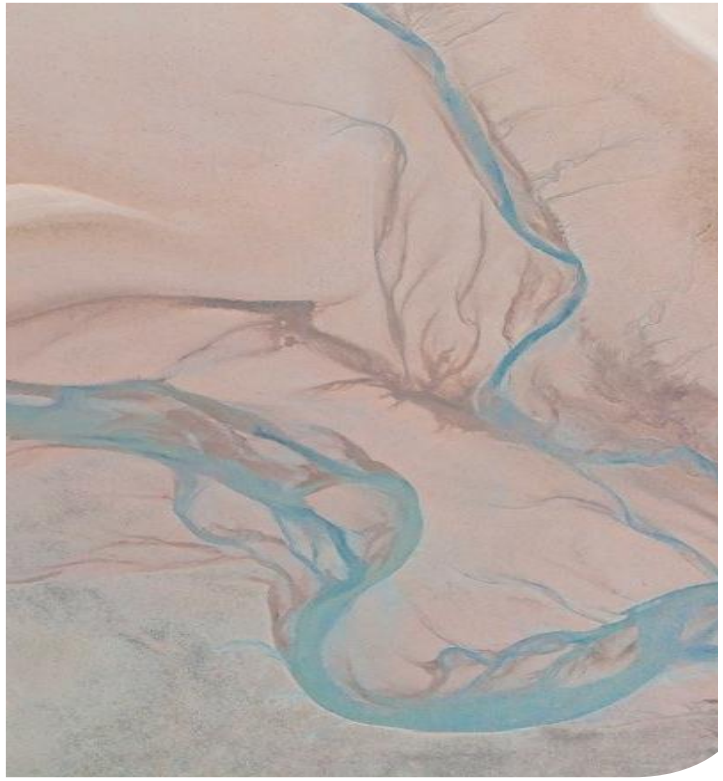
WHY FOOD-WATER IS MORE THAN NON-FOOD WATER CONSUMPTION?



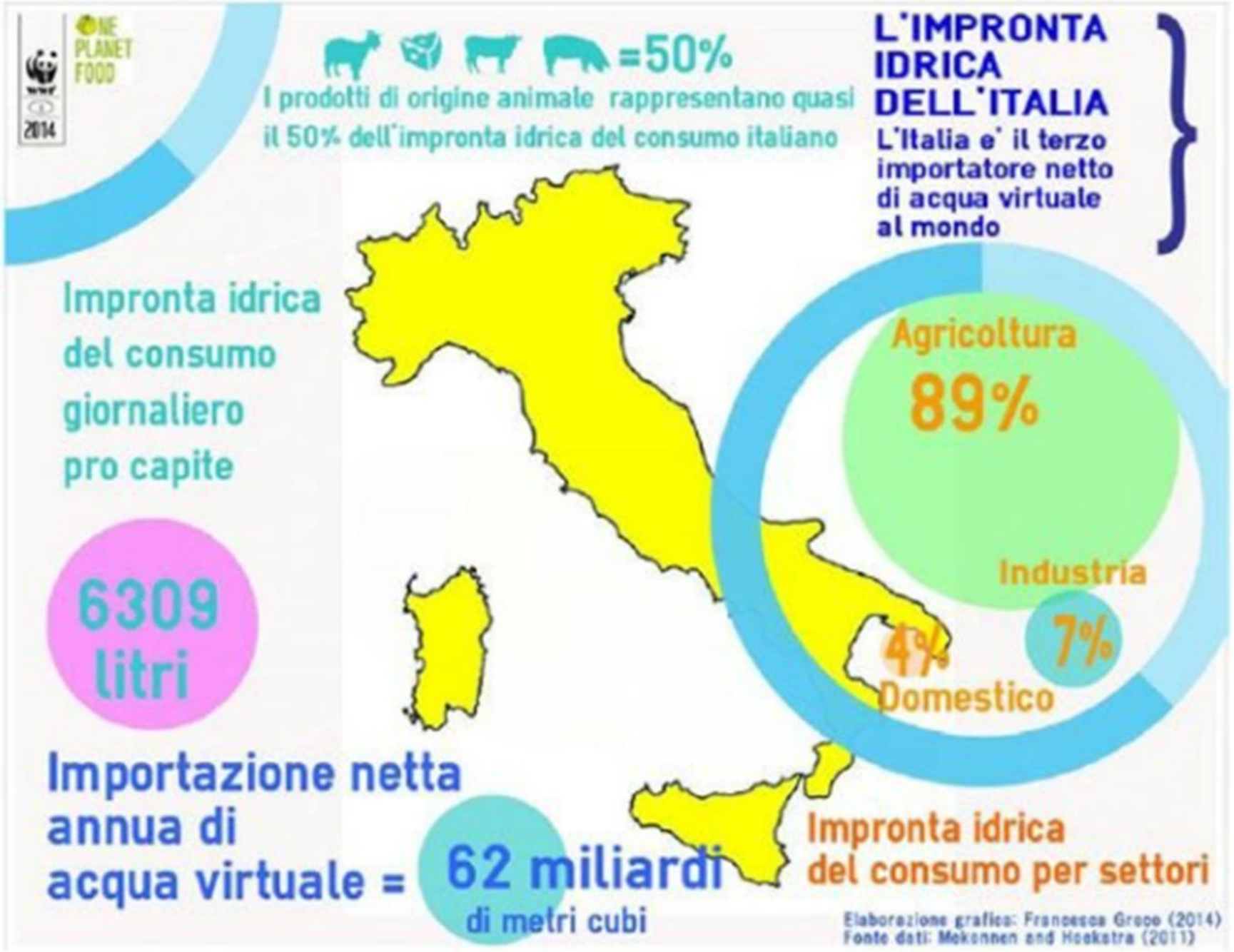


Source : thewaterweeat.com
INFODESIGNLAB
ANGELA MORELLI

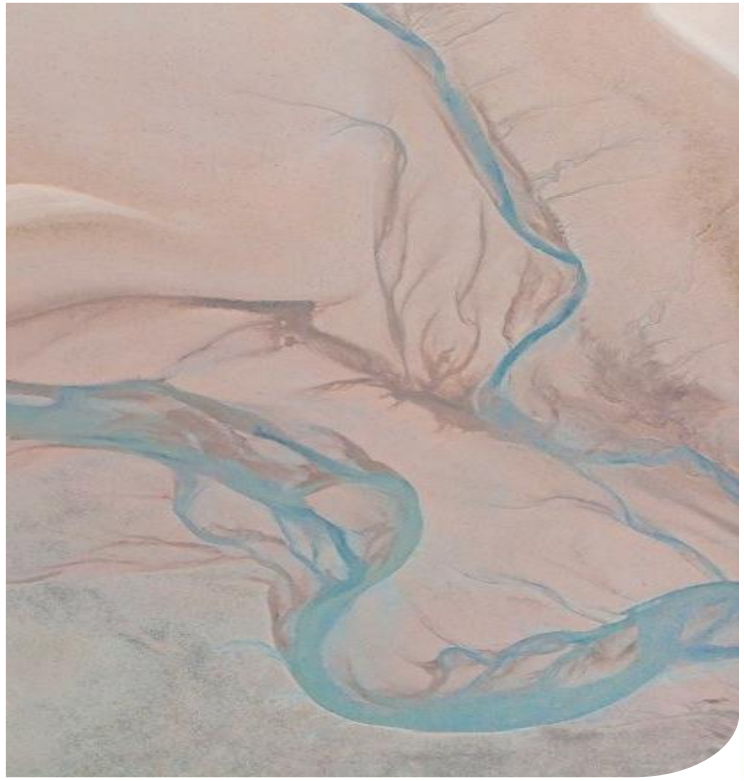
WHY SHALL I CARE OF MY VIRTUAL WATER CONSUMPTION?



Source : thewaterweeat.com
INFODESIGNLAB
ANGELA MORELLI

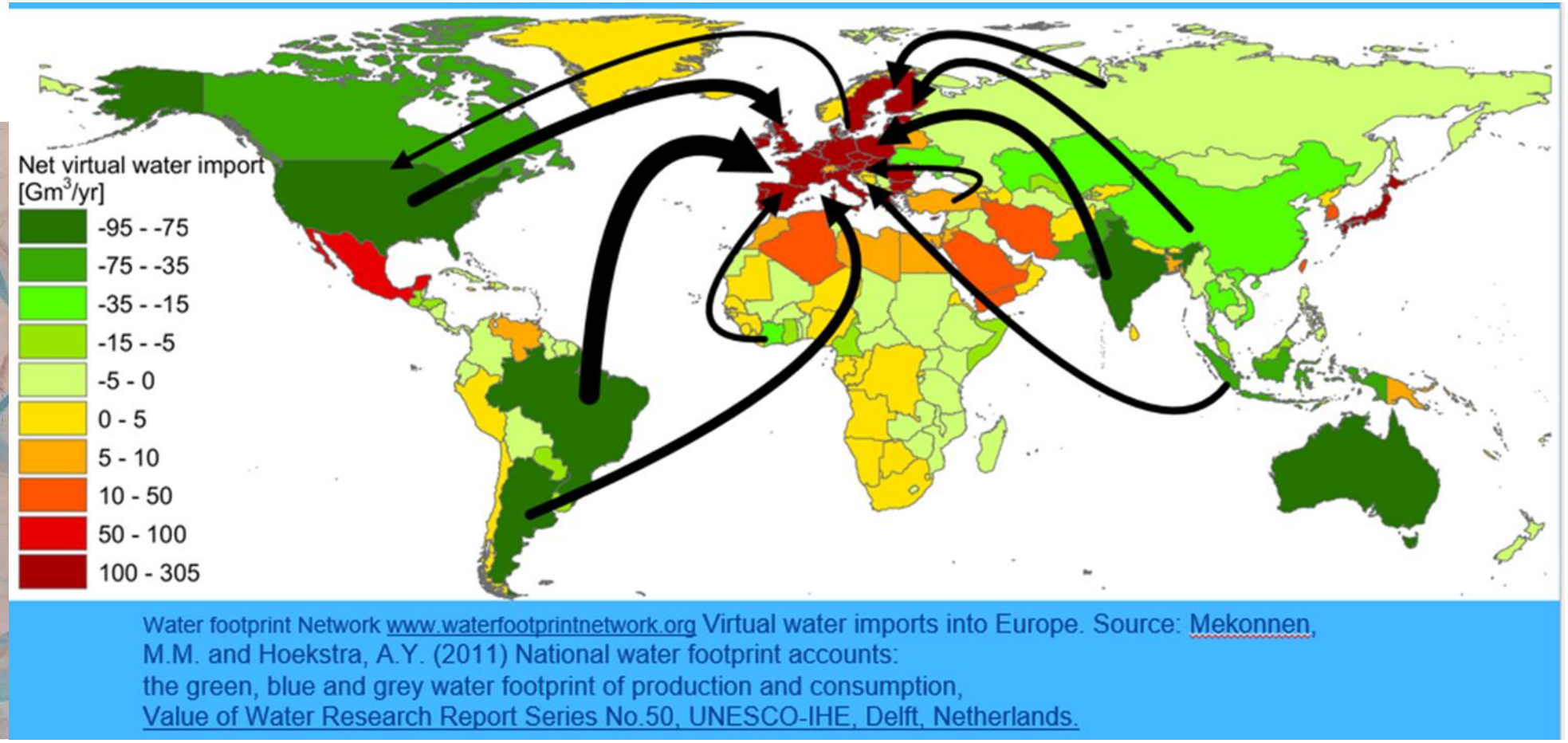


WHY SHALL I CARE OF MY VIRTUAL WATER CONSUMPTION?



Source : thewaterweeat.com
INFODESIGNLAB
ANGELA MORELLI

WHY AM I DOING THIS IN A GEOGRAPHY CLASS? WHAT ARE THE LINKS WITH ENVIRONMENTAL JUSTICE?



Water footprint Network www.waterfootprintnetwork.org Virtual water imports into Europe. Source: Mekonnen, M.M. and Hoekstra, A.Y. (2011) National water footprint accounts: the green, blue and grey water footprint of production and consumption, Value of Water Research Report Series No.50, UNESCO-IHE, Delft, Netherlands.

Source : thewaterweeat.com
INFODESIGNLAB
ANGELA MORELLI

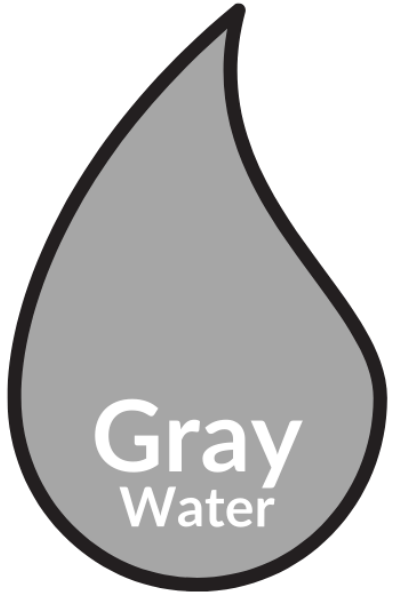
WHAT IS WATER FOOTPRINT : VIRTUAL WATER + POLLUTION ACCOUNTS

Rain water

Water from precipitation that is stored in the root zone of soil and used by plants.

Irrigation water

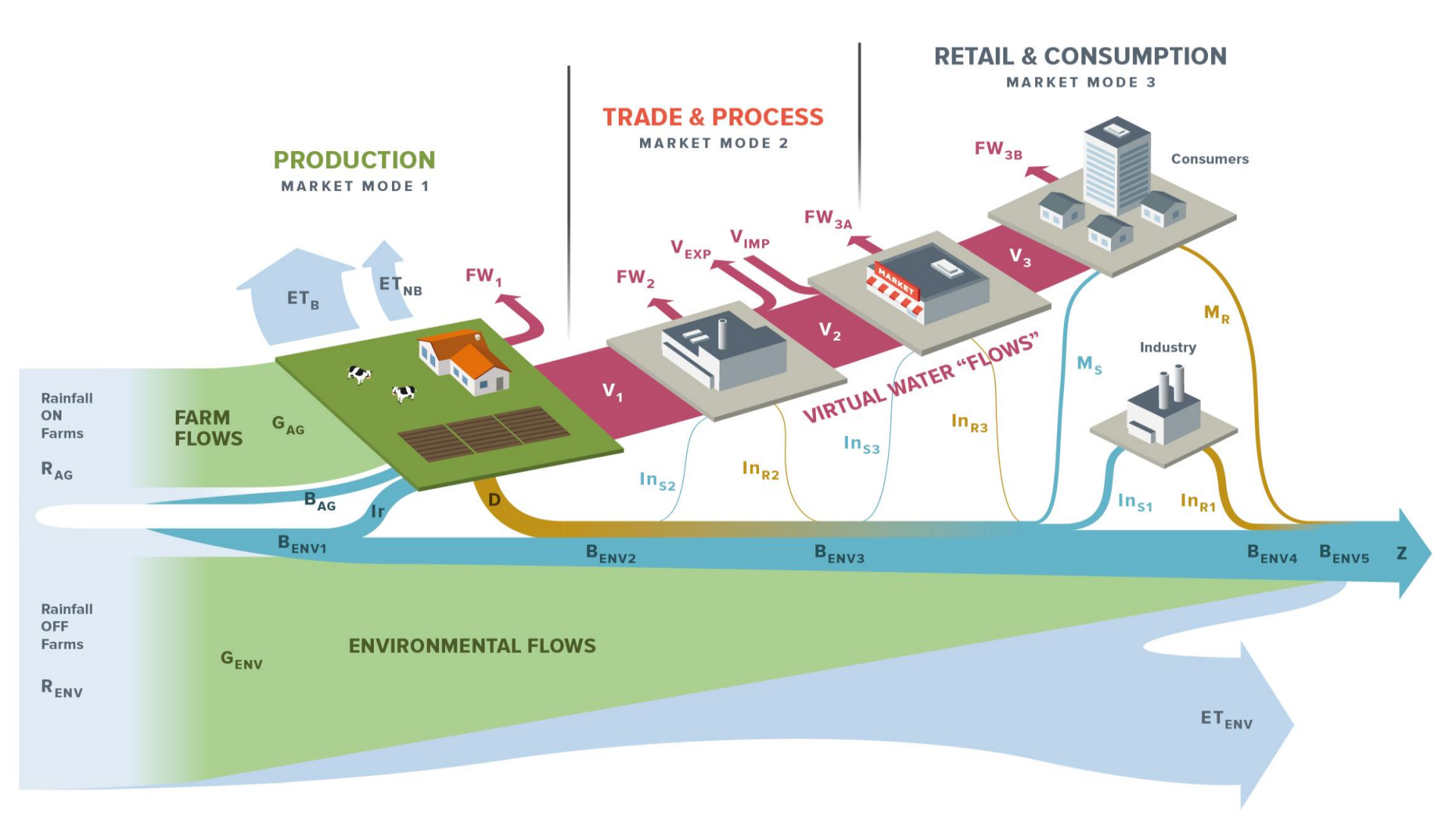
Surface or groundwater found in lakes, rivers, and aquifers.



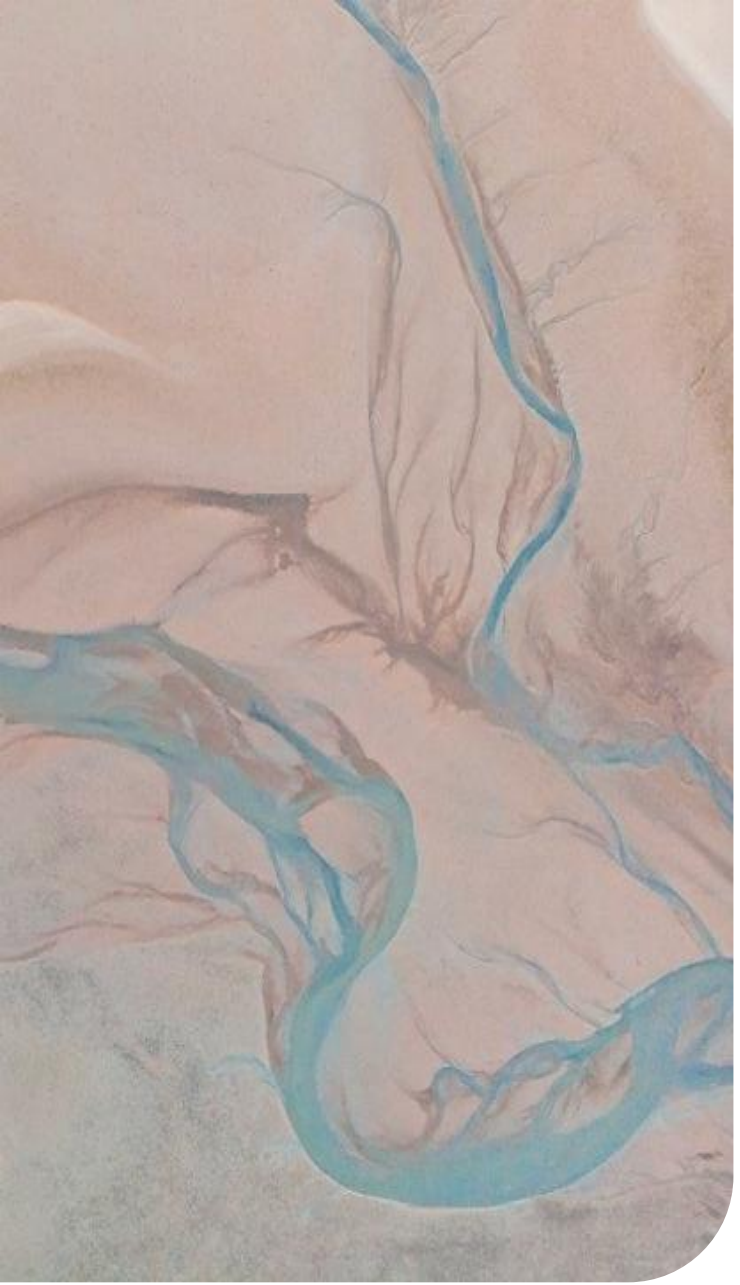
Pollution Management

The amount of fresh water needed to dilute pollutants from crop growth to maintain groundwater quality standards.

WATER AND VIRTUAL WATER RESOURCES IN THE THREE MARKET MODES OF THE FOOD SUPPLY CHAIN



Source: Bromwich et al, 2019, Food, water and society



INTRODUCTION TO THE HYDRO-SOCIAL CYCLE DERIVED FROM SOCIO-NATURE

Co-production of Water and Society

The hydro-social cycle highlights how water and society are mutually shaped through complex interactions.

Influence of Political and Social Factors

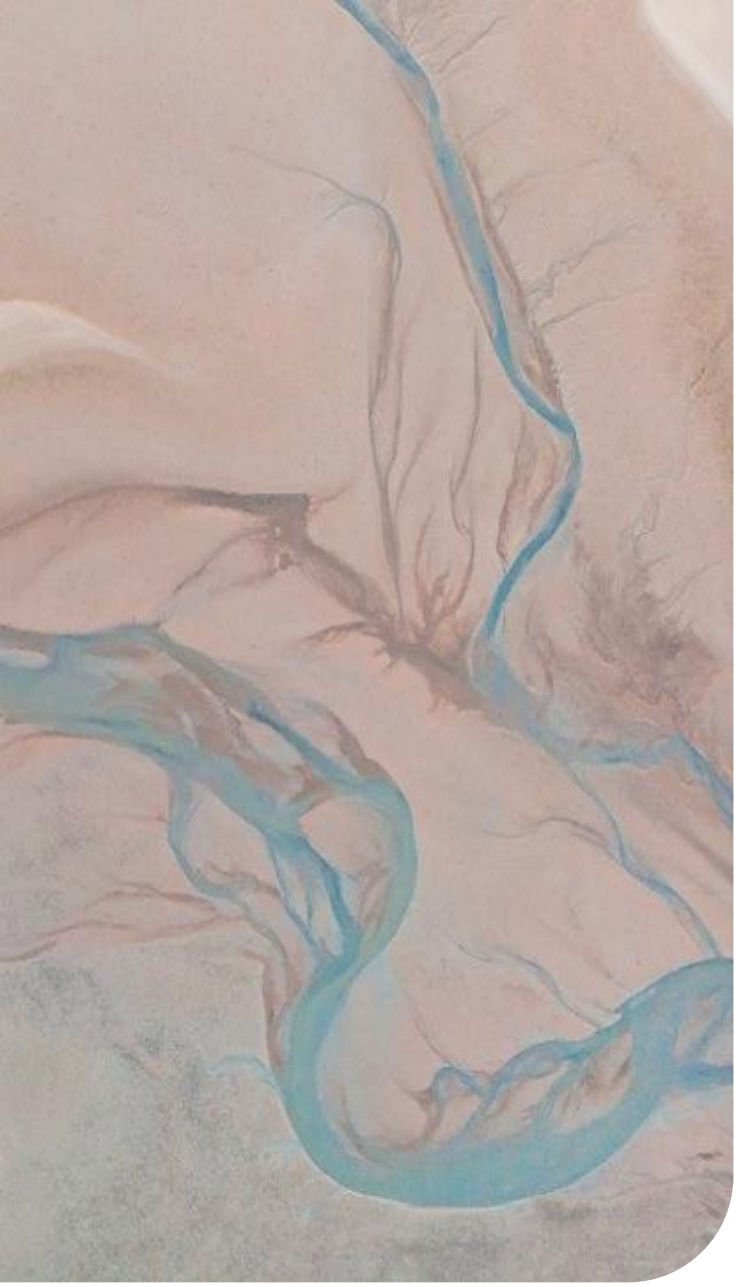
Political and social factors play a crucial role in shaping water distribution and management.

Ecological Context

Ecological conditions influence water flows and are integral to the hydro-social cycle.

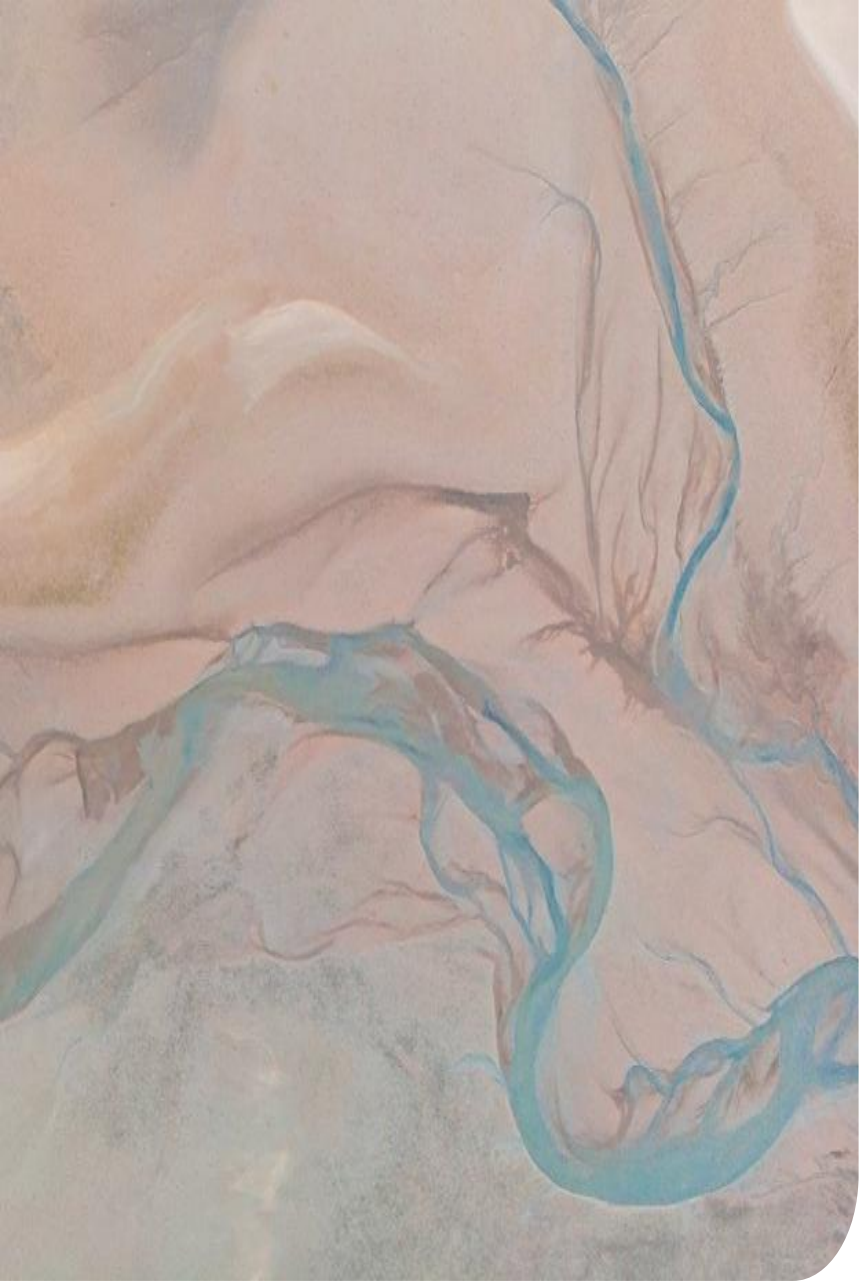
Relevance to Agri-food Systems

Understanding the hydro-social cycle is vital for managing water in agriculture and food production.



INTRODUCTION TO MAIN CONCEPTS

Concept	Key Idea	Reference
Virtual Water	Volume of water embedded in traded commodities.	Allan (1993)
Water Footprint	Measure of total freshwater use in production.	Hoekstra et al.
Hydro-social Cycle	Water and society co-produce each other.	Linton & Budds (2014)
Socio-nature	Nature and society are co-constitutive.	Swyngedouw
Hydro-hegemony	Control of shared water resources through power asymmetries.	Zeitoun & Warner (2006)
Virtual Water Hegemony	Agribusiness dominance over global water via trade and investment.	Sojamo et al. (2012)
Hydrosocial Territory	Spatial configurations of power, people, and water control.	Boelens et al. (2016)
Hydrosocial Hazardscape	Territories shaped by overlapping environmental hazards and political inequalities.	Political ecology literature
Contested Hydrosocial Territory	Space where multiple actors struggle over water meanings and flows.	Boelens et al.
Water Appropriation / Grabbing	Capture of water for commercial or political gain.	Mehta et al. (2012)



EXPLORING SOCIO-NATURE AND ITS RELEVANCE

Definition of Socio-nature

Socio-nature describes the inseparable relationship between society and the natural environment as a unified system.

Hydro-social Cycle Lens

Hydro-social cycle approach and research highlight how water management is deeply embedded in social relations and power structures.

CRITICAL HYDROPOLITICS AND CONCEPTUAL FRAMEWORKS

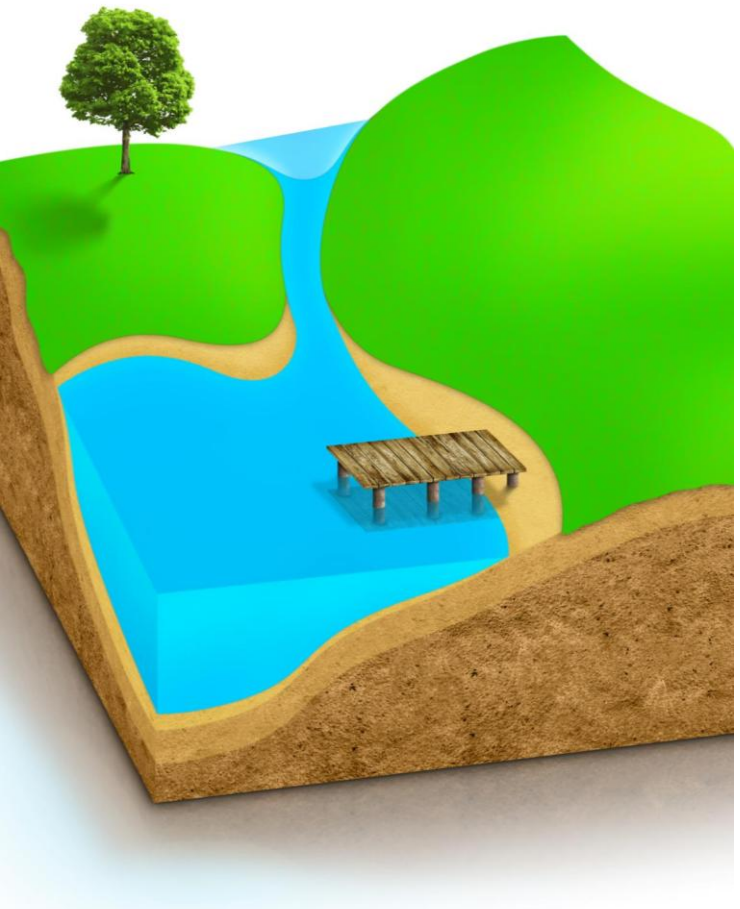
CRITICAL HYDROPOLITICS: Power Dynamics in Water

Critical hydropolitics explores how power influences control over water resources and access inequalities. It derives from International Relations and Geo Politics. Focus: water conflicts among countries on shared water bodies

Hydro HegemonyThe concept concentrates on the power of riparian states in a same river or water body, to access and control water resources . The concept concentrates on countries as HEGEMONS.

Virtual Water Hegemony

Non state actors (large multinational companies or state-led investment funds) are able to mobilize large quantities of water for intensive irrigation and export-led agriculture. This overlaps with water extractivism and water grabbing, as a concept, but its main focus is on the HEGEMONS in the AGRI FOOD SECTOR



OPERATIONAL CONCEPTS: HAZARDSCAPES, TERRITORIES, HYDRO-HEGEMONS, VIRTUAL WATER HEGEMONS, AND WATER GRABBING

Hazardscapes and Risks

Hazardscapes highlight water-related risks shaped by social and environmental factors impacting communities (Tzunami, floods, droughts)

Hydro Social Territories and Spatial Control

Hydro Social Territories refer to the spatial control and governance over water resources across regions.

Hydro-hegemons and Dominance

Hydro-hegemons represent dominant actors who control key water resources and influence distribution, be it a state or a non-state actor (multinational company).

Virtual Water Hegemons and Water Grabbing

Virtual water hegemons control water embedded in goods through irrigation&trade, while water grabbing involves appropriation of water resources. Overlapping concepts.

THEORY AND APPLICATION OF THE 'FOLLOW THE WATER'

OVERVIEW OF THE 'FOLLOW THE WATER' THEORY

Tracing Virtual Water

The theory tracks water embedded in products (virtual water) and practices to reveal hidden water flows (virtual water trade) and impacts (water footprint).

Social and Environmental Impacts

Following water flows uncovers social and environmental impacts linked to water resource use in agri-food systems and non-food systems

Critical Perspective on Resource Use

The approach offers a critical lens for understanding water use and sustainability in agriculture (food) and non-food supply chains

INTEGRATING CONCEPTS: POLITICAL ECOLOGY, 'FOLLOW THE THING', VIRTUAL WATER & WATER FOOTPRINT

Tracing Water in Products

Follow the flow of virtual water embedded in everyday products to understand resource use and impact.

Socio-Political Dimensions

Political ecology highlights how water access and control are influenced by social and political factors.

Environmental Implications

Water footprints measure environmental impacts, emphasising sustainable water use across regions and industries.

WHAT IS FOLLOW THE WATER METHOD

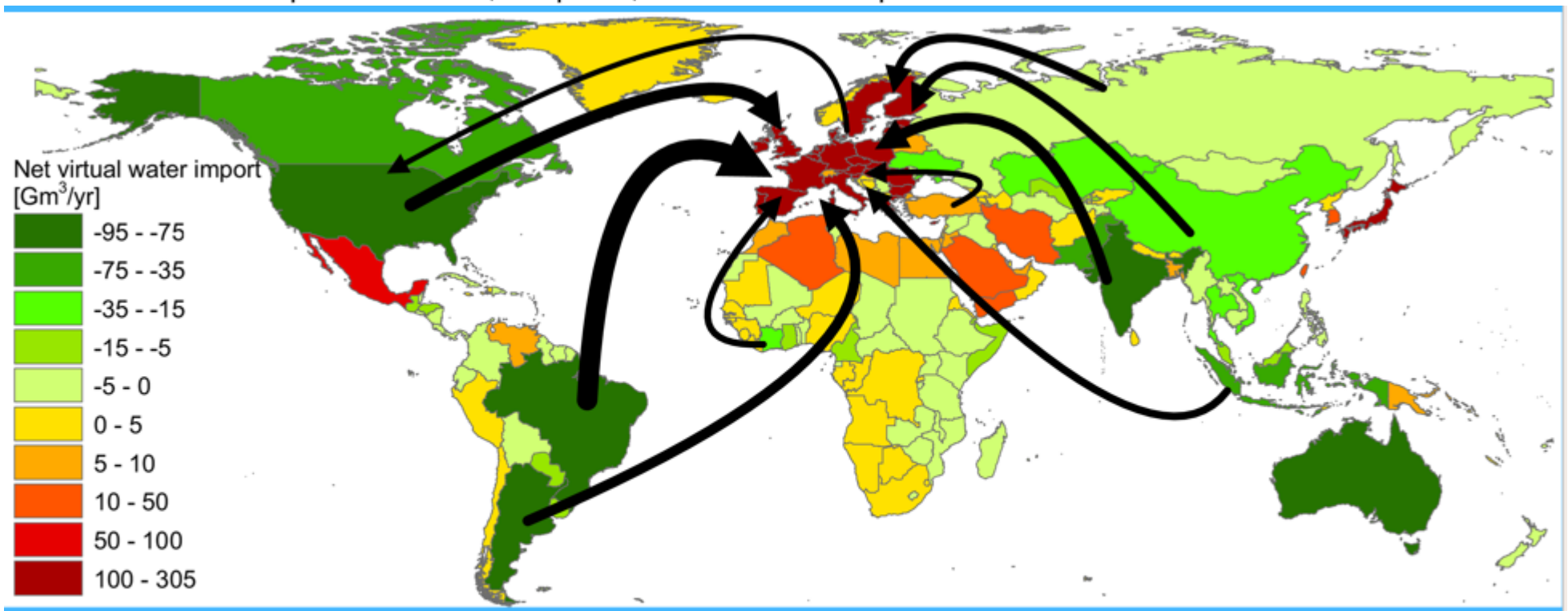
Adapted from "Follow the Thing" (Cook 2004). Steps:

1. **Identify** a traded food commodity.
2. **Trace** its production, export, and consumption flows.
3. **Quantify** its virtual content and water footprint.
4. **Contextualise** with socio-political and ecological data.
5. **Interpret** through political ecology concepts (power, justice, hegemony, hydro-social lens).
6. **Narrate**the story of water from source to market.
7. **Operationalizing Water Justice**: Identify winners and losers, water hegemons and water oppressed

WHAT IS FOLLOW THE WATER METHOD

Adapted from "Follow the Thing" (Cook 2004). Steps:

1. **Identify** a traded food commodity.
2. **Trace** its production, export, and consumption flows.



Water footprint Network www.waterfootprintnetwork.org Virtual water imports into Europe. Source: Mekonnen, M.M. and Hoekstra, A.Y. (2011) National water footprint accounts: the green, blue and grey water footprint of production and consumption, Value of Water Research Report Series No.50, UNESCO-IHE, Delft, Netherlands.

WHAT IS FOLLOW THE WATER METHOD

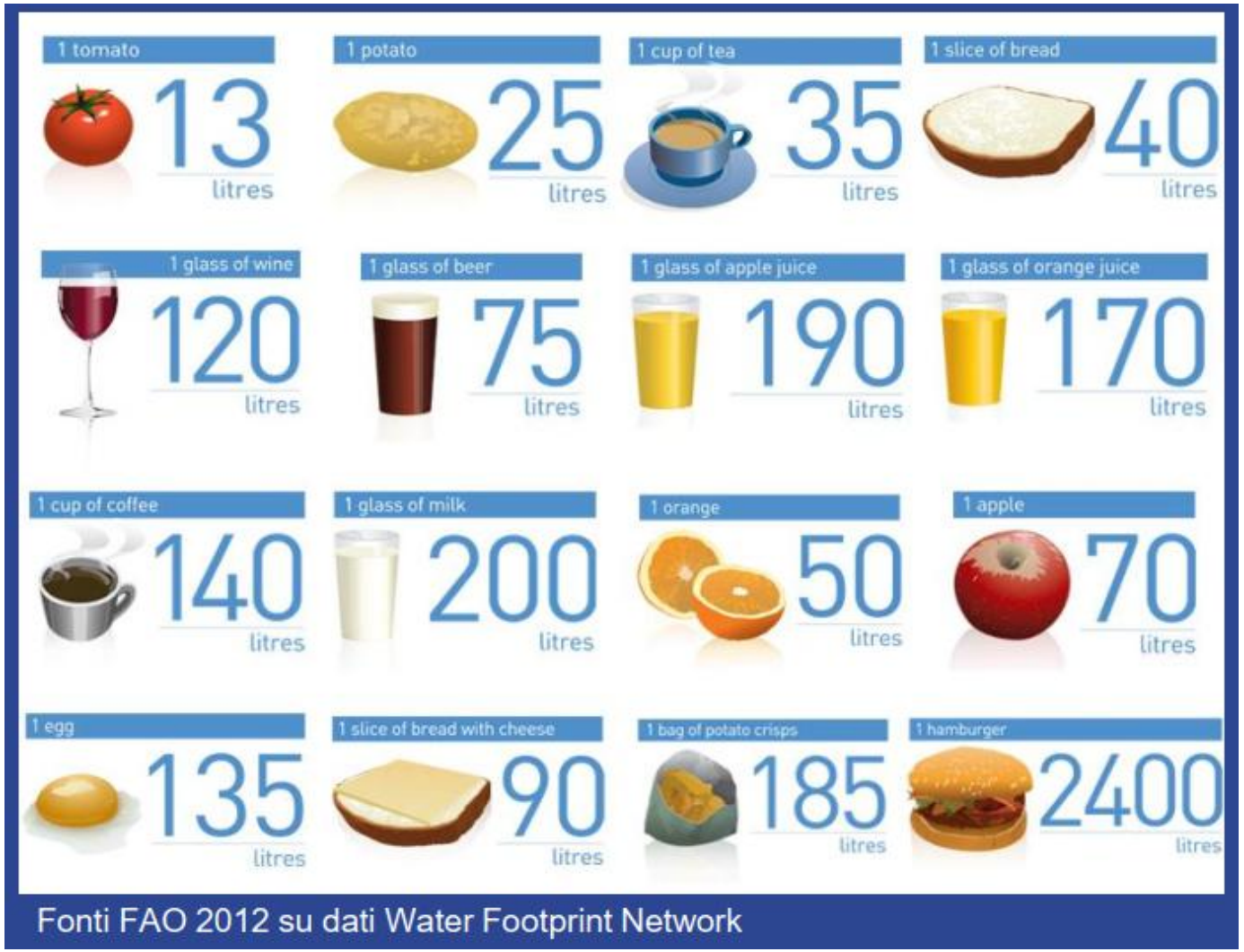
Adapted from "Follow the Thing" (Cook 2004). Steps:

3. **Quantify** its virtual content and water footprint.

WHAT IS FOLLOW THE WATER METHOD

Adapted from "Follow the Thing" (Cook 2004). Steps:

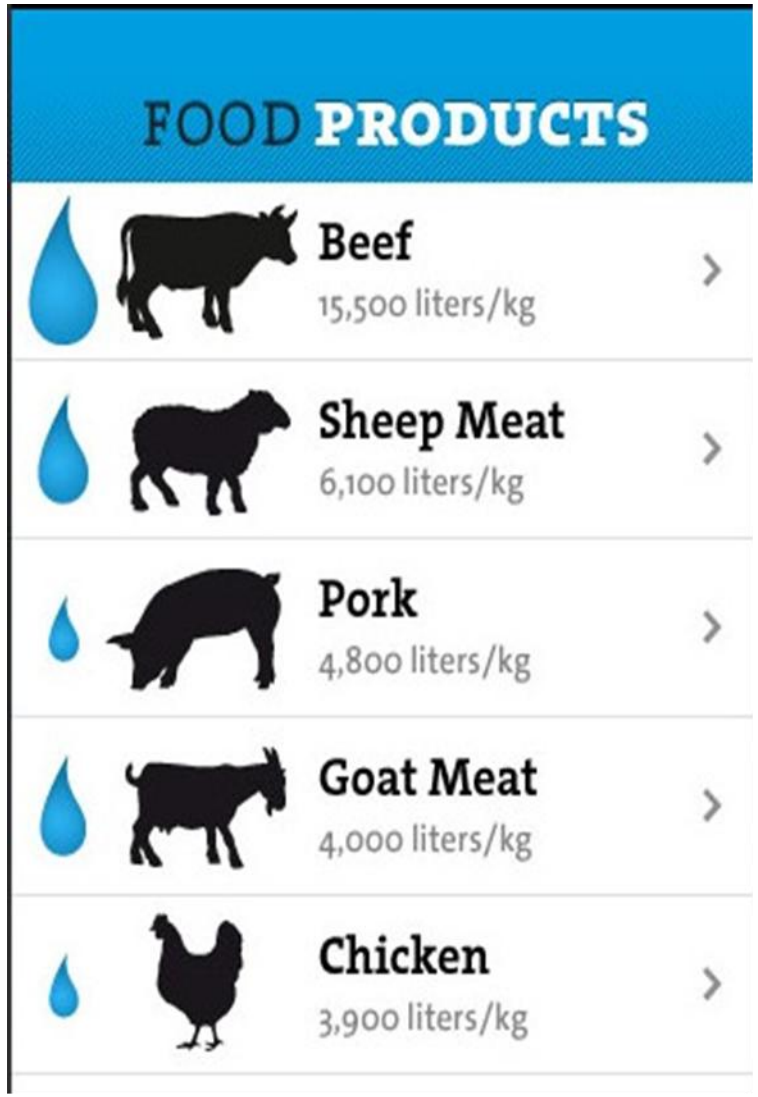
3. **Quantify** its virtual content and water footprint.

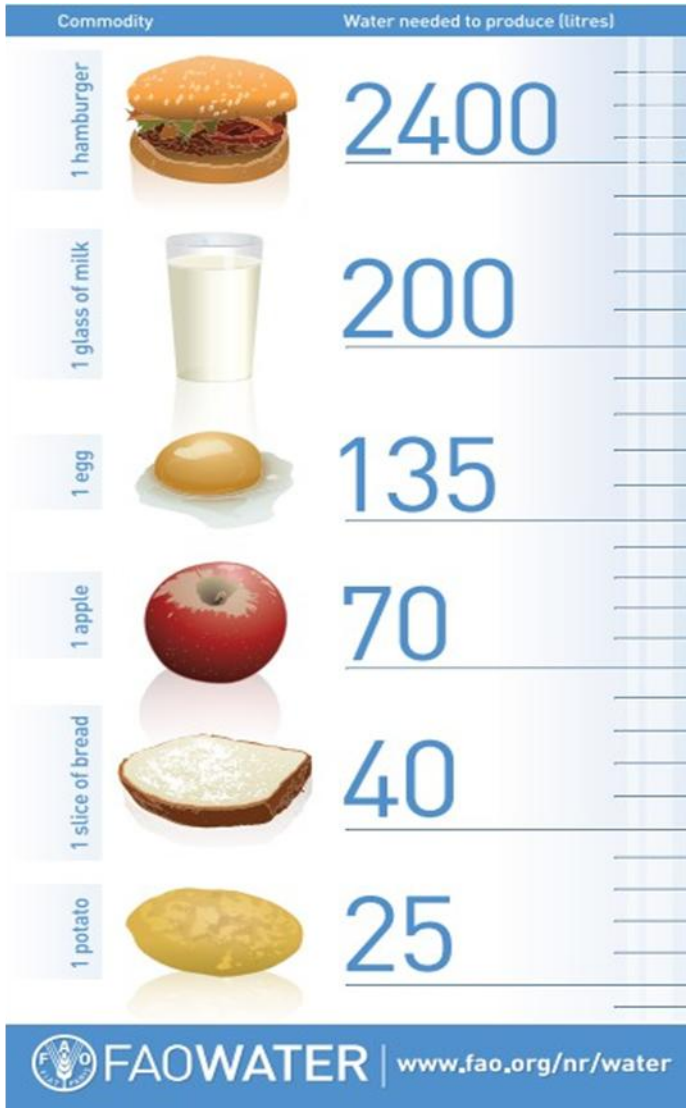


WHAT IS FOLLOW THE WATER METHOD

Adapted from "Follow the Thing" (Cook 2004). Steps:

3. **Quantify** its virtual content and water footprint.





VIRTUAL WATER AND WATER FOOTPRINT AS ANALYTICAL TOOLS

Virtual Water Concept

Virtual water measures the volume of water embedded in products during production and manufacturing processes.

Water Footprint Analysis

Water footprint evaluates total water use and environmental impact throughout the lifecycle of products and services.

Supply Chain Water Stress

Both tools help analyse water consumption and stress within supply chains to promote sustainable water management.

WHAT IS FOLLOW THE WATER METHOD

Adapted from "Follow the Thing" (Cook 2004). Steps:

4. **Contextualise** with socio-political and ecological data.

POLITICAL ECOLOGY OF WATER IN AGRI-FOOD SUPPLY CHAINS AND NON-FOOD SUPPLY CHAINS

Power Relations in Agri-food

Political ecology explores how power shapes decision-making in agri-food supply chains affecting resources and communities.

Environmental Consequences

Agri-food systems impact the environment through resource use and ecological changes driven by political factors.

Water Access and Control

Water distribution in agri-food systems reveals socio-political dynamics influencing who controls and benefits from resources.

4. **Contextualise** with socio-political and ecological data.

Indian village women from Banaras in northern Uttar Pradesh state shout slogans as they demand the closure of Coca-Cola factories due to fears over groundwater poisoning during a protest in New Delhi. RAVEENDRAN/AFP/GETTY IMAGES

https://www.thehindu.com/sci-tech/energy-and-environment/water-wars-plachimada-vs-coca-cola/article19284658.ece

POLITICAL ECOLOGY OF WATER IN AGRI-FOOD SUPPLY CHAINS AND NON-FOOD SUPPLY CHAINS

Power Relations in agri food and non-food water industries

Political ecology explores how power shapes decision-making in food and non-food supply chains affecting resources and communities.

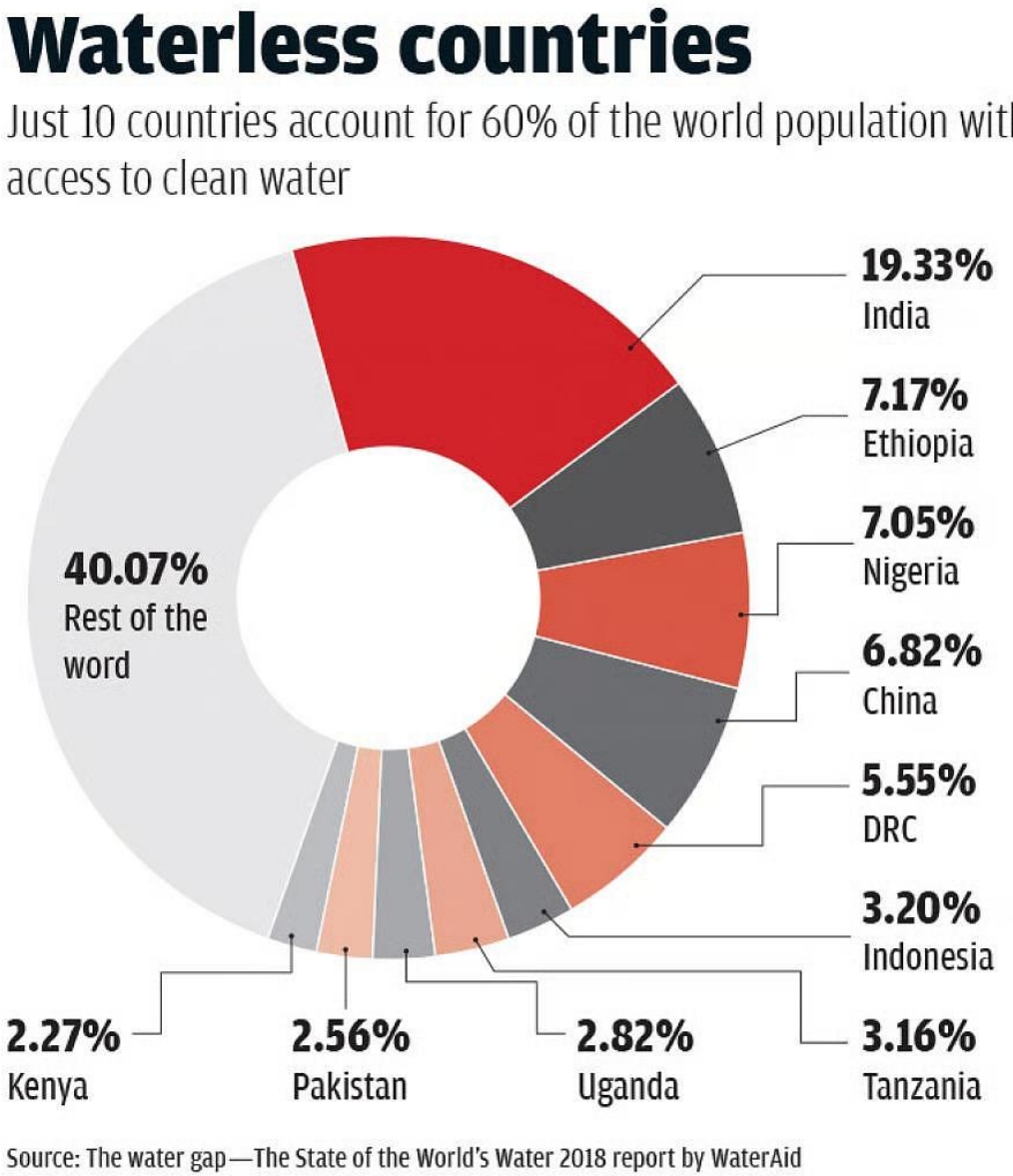
Environmental Consequences

Agri-food industry or non-food industry impact the environment through resource use and ecological changes (pollution, overexploitation, change in land use and land cover leading to more water-related hydrological risks of drought and floods)

Water Access and Control: water grabbing, water extractivism, water overexploitation, export-led intensive irrigation

Water distribution in agri-food systems reveals socio-political dynamics influencing who controls and benefits from resources.

4. **Contextualise** with socio-political and ecological data.



POLITICAL ECOLOGY OF WATER IN AGRI-FOOD SUPPLY CHAINS AND NON-FOOD SUPPLY CHAINS

Power Relations in agri food and non-food water industries

Political ecology explores how power shapes decision-making in food and non-food supply chains affecting resources and communities.

Environmental Consequences

Agri-food industry or non-food industry impact the environment through resource use and ecological changes (pollution, overexploitation, change in land use and land cover leading to more water-related hydrological risks of drought and floods)

Water Access and Control: water grabbing, water extractivism, water overexploitation, export-led intensive irrigation

Water distribution in agri-food systems reveals socio-political dynamics influencing who controls and benefits from resources.

5. **Interpret** through political ecology concepts (power, justice, hegemony, hydro-social lens).

HOW DO I USE CONCEPTS OF WATER POLITICAL ECOLOGY?

HOW POLITICAL ECOLOGY OF WATER IN FOOD (AND NON-FOOD) SUPPLY CHAINS CAN BE USED?

HOW CAN I OPERATIONALIZE THESE CONCEPTS ?

5. **Interpret** through political ecology concepts (power, justice, hegemony, hydro-social lens).

Concepts	WATER POLLUTION OR WATER SUBTRACTION / INFRINGMENT OF HR TO WATER	WATER RELATED RISKS : FLOODS AND DROUGHTS	MEGA PROJECT	WATER GRABBING / export led intensive irrigation	CONTESTATION	NON-CONTESTED: SILENT
Contested Hydro Social Territories	x	x	x		x	
Hydro-Hazardscapes		x			x Valencia floods	x
Hydro-Social Cycle lens	x	x	x	x	x	
Virtual Water Exports				x	X (1 case)	x
Virtual Water Hegemons	x			x	X (Hazelnuts in Vico Lake and Bolsena)	x

5. **Interpret** through political ecology concepts (power, justice, hegemony, hydro-social lens).

Concepts	WATER POLLUTION OR WATER SUBTRACTION / INFRINGMENT OF HR TO WATER	WATER RELATED RISKS : FLOODS AND DROUGHTS	MEGA PROJECT	WATER GRABBING / export led intensive irrigation	CONTESTATION	NON-CONTESTED: SILENT
Contested Hydro Social Territories	x	x	x		x	
Hydro-Hazardscapes		x			x Valencia floods	x
Hydro-Social Cycle lens	x	x	x	x	x	
Virtual Water Exports				x	X (1 case)	x
Virtual Water Hegemons	x			x	X (Hazelnuts in Vico Lake and Bolsena)	x

5. **Interpret** through political ecology concepts (power, justice, hegemony, hydro-social lens).

FOLLOW THE WATER METHOD

Finding virtual water exports and water injustice cases

To UNSILENCE WATER SUBALTERNITIES AND WATER INJUSTICE

						NON-CONTESTED: SILENT
						x
Virtual Water Exports				x	X (1 case)	x
Virtual Water Hegemons	x			x	X (Hazelnuts in Vico Lake and Bolsena)	x

WHAT IS FOLLOW THE WATER METHOD

Adapted from "Follow the Thing" (Cook 2004). Steps:

6. **Narrate** the story of water from source to market.

WHAT IS FOLLOW THE WATER METHOD

Adapted from "Follow the Thing" (Cook 2004). Steps:

6. **Narrate** the story of water from source to market.

- "We used to have enough for maize. Now the wells are dry."
- "The foreign buyers don't see the water leaving with every truckload."

BRAINSTORMING POTENTIAL CASE STUDIES

Collaborative Identification

Engaging as a team to identify relevant case studies for the 'follow the water' approach.

Agri-Food Product Diversity

Considering a variety of agri-food products to address water-related challenges across contexts.

Geographical Contexts

Exploring case studies across different regions to capture diverse water challenges and solutions.

CHOSE YOUR "WATER JUSTICE" CASE RELATED TO A GLOBALLY TRADED GOOD

DO YOU KNOW A CASE OF WATER JUSTICE IN YOUR COUNTRY? OR IN OTHER COUNTRIES YOU WOULD LIKE TO EXPLORE?

CAN YOU THINK OF A PRODUCT (FOOD OR NON FOOD PRODUCT) WHICH IS WATER-INTENSIVE?

BRAINSTORMING
POTENTIAL CASE STUDIES

JEANS

T-SHIRTS

STRAWBERRIES

ALMONDS

AVOCADO

ANYTHING YOU HAVE IN MIND?

BRAINSTORMING ON WATER JUSTICE

WHAT IS WATER JUSTICE FOR YOU?

HOW DO I GOOGLE "WATER JUSTICE" ?

1) ATLAS OF ENVIRONMENAL JUSTICE / look for WATER

1. Access and affordability of water for locals

    % of population with access to safe drinking water
    Average water price as % of household income
    Incidence of water shut-offs

2. Participation and governance of people in water-related issues and distribution:

    Representation of marginalized groups in water decision bodies
    Presence of community water councils
    Existence of right-to-water legal frameworks

3. Quality of water and health issues related to water:

    Frequency of contamination exceedances (e.g., nitrates, heavy metals)
    Waterborne disease incidence

4. Distribution and allocation of water (Women/ Men/ minorities/ disadvantaged and marginalized groups, urban/rural population).

    Per-capita water allocation by sector or region
    Volume of irrigation water per hectare by crop type
    Share of water rights held by smallholders vs. corporations

5. Environmental sustainability

POLITICAL ECOLOGY OF WATER USING FOLLOW THE WATER METHOD. ASSIGNMENT: NARRATIVE CONSTRUCTION AND ANALYSIS

DISTRIBUTION AND BRIEFING ON PRODUCT SHEETS

Product Sheets Overview

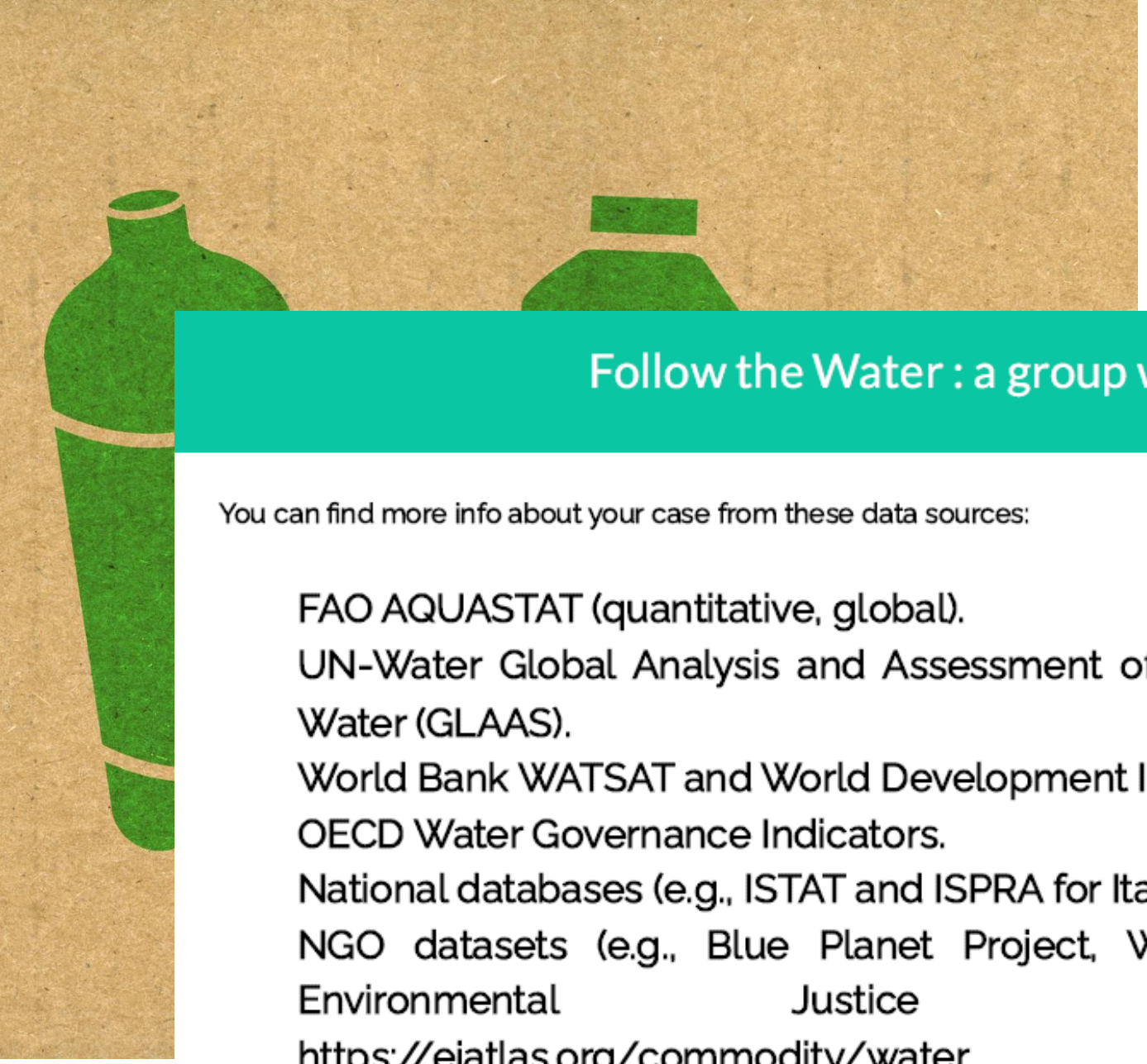
Product sheets contain detailed information about various agri-food items for participant reference.

Narrative Construction Aid

These sheets help build narratives by providing essential background on each agri-food product. You can alo engage with non-food products (You will find an example in your booklet: mining industry and their water footprint)

Water-Related Supply Chain Analysis

Sheets enable focused analysis of water issues in supply chains for sustainable management.



BRIEFING ON PRODUCTS:
FIND MORE HERE:

Follow the Water : a group work

You can find more info about your case from these data sources:

FAO AQUASTAT (quantitative, global).
UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS).
World Bank WATSAT and World Development Indicators.
OECD Water Governance Indicators.
National databases (e.g., ISTAT and ISPRA for Italy).
NGO datasets (e.g., Blue Planet Project, Water Justice Atlas from Environmental Justice Atlas dataset: https://ejatlas.org/commodity/water

USE OF MOCK INTERVIEWS AND CONTEXTUAL STORIES

Mock Interviews Purpose

Mock (fake) interviews simulate real conversations to explore stakeholders' views on water use in agri-food systems. Image you are there: in the field. Investigating on a case of water injustice

Contextual Stories Role

Contextual stories provide qualitative context about socio-environmental factors influencing water use in agri-food chains.

Follow the Water : a group work

DAY 1, HOUR 3 FORMING GROUPS AND PRESENTING GROUP ASSIGNMENT

Goal: Construct a *political ecology narrative* of a product's water journey, using 1–2 theoretical lenses from the lectures, pertaining to hydro-social theories and hydro-hegemony theories

Deliverables

- 1-Poster Presentation with "Follow the Water" narrative which includes
- Water footprint calculation (estimate or secondary data, academic papers)
- Visual map or AI-generated image of trade and virtual water trade (optional: geo -spatial tool)
- Final presentation (10 minutes per group).

PRODUCT SELECTION INFO

Group	Product	Origin	Key Conflict Theme	Suggested Theoretical Lens	
A	Avocado	Mexico (Michoacán)	Over-extraction for export; local water conflicts	Hydro-hegemony, virtual water hegemony	Sojamo et al. (2012) "Virtual Water Hegemony"
B	Tomato	Southern Spain (Almería)	Water scarcity and migrant labor exploitation	Hydrosocial territory, hydro-social hazardscape	Boelens et al. (2016) "Hydrosocial Territories" "Water grabbing"
C	Almond	California, USA	Groundwater depletion; privatized water rights	Water footprint, hydrosocial cycle	Zwarteveen & Boelens (2014) "Water Justice"
D	Quinoa	Bolivia	Export-led water and soil conflicts; Indigenous claims	Socio-nature, contested hydrosocial territory	Vos & Hinojosa (2016) "Virtual Water Trade and Contestation"
E	Zinc and lithium	Bolivia, Chile Argentina	Human right to water, pollution	Contested hydro-social territories, Water Justice	Zwarteveen & Boelens (2014) "Water Justice" Hydro social lens Contested hydro social territories

Follow the Water : a group work

GENERAL INFO TO START WITH

AVOCADO

Mexico is the world's largest producer of avocados, which originate in this region and are grown year-round. Avocado cultivation is fundamental to the Mexican economy, and most production takes place in the area known as the "Avocado Belt," which mainly includes the states of Michoacán and Mexico State. Among the most common varieties are Hass, Fuerte, and Bacon.

https://middlebury.figshare.com/articles/thesis/Green_Gold_The_Political_Ecology_of_the_Avocado_Agribusiness_in_Mexico/26129020

https://www.researchgate.net/publication/383948366_Green_Gold_The_Political_Ecology_of_the_Avocado_Agribusiness_in_Mexico

TOMATO

Almería is a major European tomato-growing region, famous for its extensive greenhouse cultivation and a wide variety of tomatoes, including the unique RAF tomato, known for its sweet, crunchy texture. The region's climate, specific water salinity, and advanced farming techniques contribute to the quality of its tomatoes, which are harvested between November and March.

https://www.foodunfolded.com/article/the-environmental-impacts-of-greenhouse-agriculture-in-almeria-spain

https://www.mdpi.com/2673-4060/4/3/39

ALMOND

California is the world's leading producer of almonds, growing about 80% of the global supply and 100% of the U.S. commercial supply, with the San Joaquin Valley as the primary growing region. The state's favorable Mediterranean climate, rich soils, and infrastructure support this massive industry, which is also California's top agricultural export crop. However, the industry faces challenges such as high water demand, especially during droughts, and environmental issues like waste and stress on bee populations used for pollination.

https://escholarship.org/content/qt8vc1k18h/qt8vc1k18h_noSplash_bac321faea966acdb1fee5e73f44937a.pdf

https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=5928&context=dissertations

Follow the Water : a group work

QUINOA

Bolivia is the world's leading producer and exporter of quinoa, traditionally grown in the Andean highlands and considered the 'gold of the Andes'. Bolivian quinoa, particularly 'quinua real', has seen its value increase thanks to growing global popularity, which has enabled many farmers to improve their livelihoods. The perception of quinoa in Bolivia has changed from a food for the poor to a valuable nutritional product, thanks in part to national promotional campaigns.

https://www.researchgate.net/publication/318112807_Impacts_of_the_production_and_export_of_Quinoa_in_Bolivia

ZINC AND LITHIUM FROM BOLIVIA CHILE ARGENTINA/ MINING INDUSTRIES

Bolivia's mining industry includes both zinc and lithium, though its lithium reserves are far more significant globally. The country has the world's largest lithium reserves, primarily in the Salar de Uyuni, but its production has been limited due to a historical focus on natural gas and state control, despite a new push for industrialization and significant investments from foreign companies, particularly from China and Russia. In contrast, Bolivia has a long-established zinc mining industry, with major export products including zinc, silver, and tin, and is currently investing in new refining capacity, such as a new zinc refinery in Oruro.

Zinc is one of the most versatile and widely used metals in modern industry. It's a critical mineral that is used in a vast array of products, from construction materials to life-saving medical devices. Zinc is used in industrial products for **galvanization**, **alloy production** (like brass), **die-casting** for automotive and electronics, and in the manufacturing of **zinc oxide** which is used in paints, rubber, and ceramics. It is also vital in products like batteries and for corrosion protection in applications such as roofing and marine vessels.

https://www.spglobal.com/commodity-insights/en/news-research/latest-news/metals/101221-glencore-to-sell-bolivian-zinc-mines-to-santacruz-silver-mining-to-leave-bolivia

https://earthworks.org/blog/report-warns-santacruz-silver-of-serious-human-rights-violations-at-bolivia-mine-ahead-of-agm/

https://www.culturalsurvival.org/news/all-eyes-bolivia-indigenous-resistance-countrys-mining-wasteland-0

https://www.tandfonline.com/doi/full/10.1080/10455752.2023.2197245

Follow the Water : a group work

YOUR OUTPUTS

Each poster includes:

- Local context summary (500 words minimum)
- Water footprint (liters/kg) of the item you chose
- Actors (farmers, corporations, government, consumers) with media audio video and newspaper articles reporting the narratives
- Narrative clues and mock interview quotes from the actors as if you were a researcher in the field
- A MAP of virtual water trade (main exporter, main importers)

COLLABORATIVE WORK AND GROUP PRESENTATIONS (DAY 2)

Follow the Water : a group work

DAY 2

Presentation GROUP WORK (Day 2, Hour 1 & 2) with the support of facilitator (Greco).

Each group prepares:

Product introduction, supply chain and trade actors (companies, countries involved)Water footprint dataPolitical ecology analysis using hydro social lens and terminologiesNarrative (storyline or infographic)Applied concept(s) among the ones explained in day 1

Final Graphic Output

Each group creates a *"Follow the Water- Product Sheet"* (1 page Powerpoint in a POSTER format , free size – no limit), integrating:

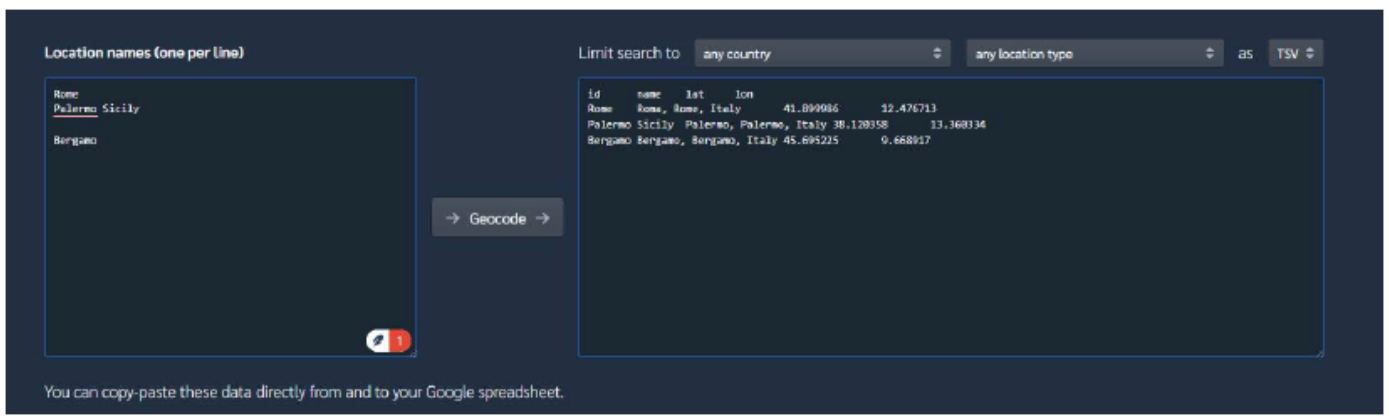
- Product name
- Map
- Water footprint
- Conflict narrative
- Concept(s) applied
- AI-generated image or infographic (optional)

Follow the Water : a group work

GEOSPATIAL TOOL (OPTIONAL – ONLY IF YOU HAVE TIME)

- of flows (origin–destination) using geospatial tools
  -- find latitude and longitude of your location using https://www.flowmap.blue/geocoding

  - Write the name of the place in the left black box
  - Copy LAT and LON numbers from the corresponding black box on the right



After finding latitude and longitude, use

This spreadsheet to produce your map

Follow the Water : a group work

DAY 2: HOUR 3: FINAL PRESENTATIONS FROM THE GROUPS

Evaluation (20 points total):

- Conceptual clarity (5)
- Coherence of narrative (5)
- Data use (3)
- Critical reflection (5)
- Map of exporter and importers with numbers of quantities when possible
- Creativity/visuals (2)

TIMING: 10 minutes for each poster.

This booklet and the outputs from the students will be prepared for upload to Marie Curie website JustWATER as open-source teaching materials.

GUIDED TEAM WORK AND SUPERVISOR SUPPORT

Guidance

I will provide advice to teams, enhancing problem-solving and decision-making skills.

Fostering Critical Thinking

Collaboration encourages critical thinking to analyse challenges and develop effective solutions.

Methodological Rigor or awareness of error : disclosure

Supervisors ensure adherence to structured methods for consistent and reliable results.

Supporting Narrative Development

Guidance aids the creation of clear and coherent narratives throughout the session

PREPARATION AND REFINEMENT OF 'FOLLOW THE WATER' PRODUCT SHEETS

Feedback-driven Refinement

Teams use feedback to improve product sheets, focusing on clarity and accuracy of information.

Enhancing Analytical Insights

Improving analytical depth to better connect theory with practical applications in water-related products.

Integrating Theory and Practice

Combining theoretical knowledge with practical feedback to create comprehensive product sheets.

DAY 1 : HOUR 3: GROUP PRESENTATIONS

Group Presentations

Groups share their findings and narratives with everyone. Aim is to prove that concepts have been understood and applied, even if it is a mock case study

FINAL OUTPUT: PUBLISHING 'FOLLOW THE WATER' PRODUCT SHEETS IN A POSTER

CRITERIA FOR PUBLISHABLE CONTENT

Poster Size with infinite length (one PPT slide)

Content must meet the only standard of being a PPT slide

Clarity of Content

Information should be clear and easy to understand for the target audience without ambiguity.

Analytical Depth

Content requires thorough analysis and insight to provide meaningful and valuable information available from real cases and real datasets

Relevance to Audience

Material must be relevant and plausible / similar to reality

Example for a POSTER Template

Product: Avocado (Mexico)
Water footprint: 2,000 L/kg
Conflict summary: Intensive avocado farming in Michoacán depletes aquifers and triggers conflicts between growers, Indigenous communities, and cartels.
Local voices (mock interviews):

- "We used to have enough for maize. Now the wells are dry."
- "The foreign buyers don't see the water leaving with every truckload."

Suggested reading: Sojamo et al. (2012); Boelens et al. (2016).
Concepts: Virtual Water Hegemony, Hydrosocial Territory.

CONCLUSION

USE OF THE METHOD

The presentation covered methods, theory, and applied political ecology for analysing water in agri-food and non-food supply chains called FOLLOW THE WATER

GROUP WORK

Collaborative efforts have produced valuable insights to advance understanding of basic concepts on political ecology of water and hydropolitis . Ability to provide a practical applications in this field.

Research Practice Simulation

Final outputs mock the and simulate a real research in the field of water justice, political ecology of water, virtual water hegemony. The workgroup contributes to reinforce critical thinking and skills in political ecology of supply chains.