

**Global food supply chains:
their importance in understanding who
manages the planet's water security
relying on water blind accounting systems**

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Why are food supply chains important?

- 1 **92%** of water consumed is embedded in food & fibre
- 2 **Farmers** 'manage' and 'mis-manage' over **90% of this water** in
- 3 **very highly politicised market supply chains** that **privilege low food prices for consumers** and **returns to powerful players in supply chains**

What do we need to do? Recognise:

- 1 The power relations in market supply chains
- 2 That farmers are the prime stewards of water resources
- 3 That consumers, investors and other players do not understand their dependence on farmers with secure livelihoods
- 4 The importance of installing reporting and accounting systems that enable secure farm livelihoods so that farmers can be good water stewards

Will there be enough water?

More people – 7 to 9 billion people by 2050

More calories & more meat, fish, milk

More food production – need to increase grain production by 2050 – 40%? 70%? 100%?

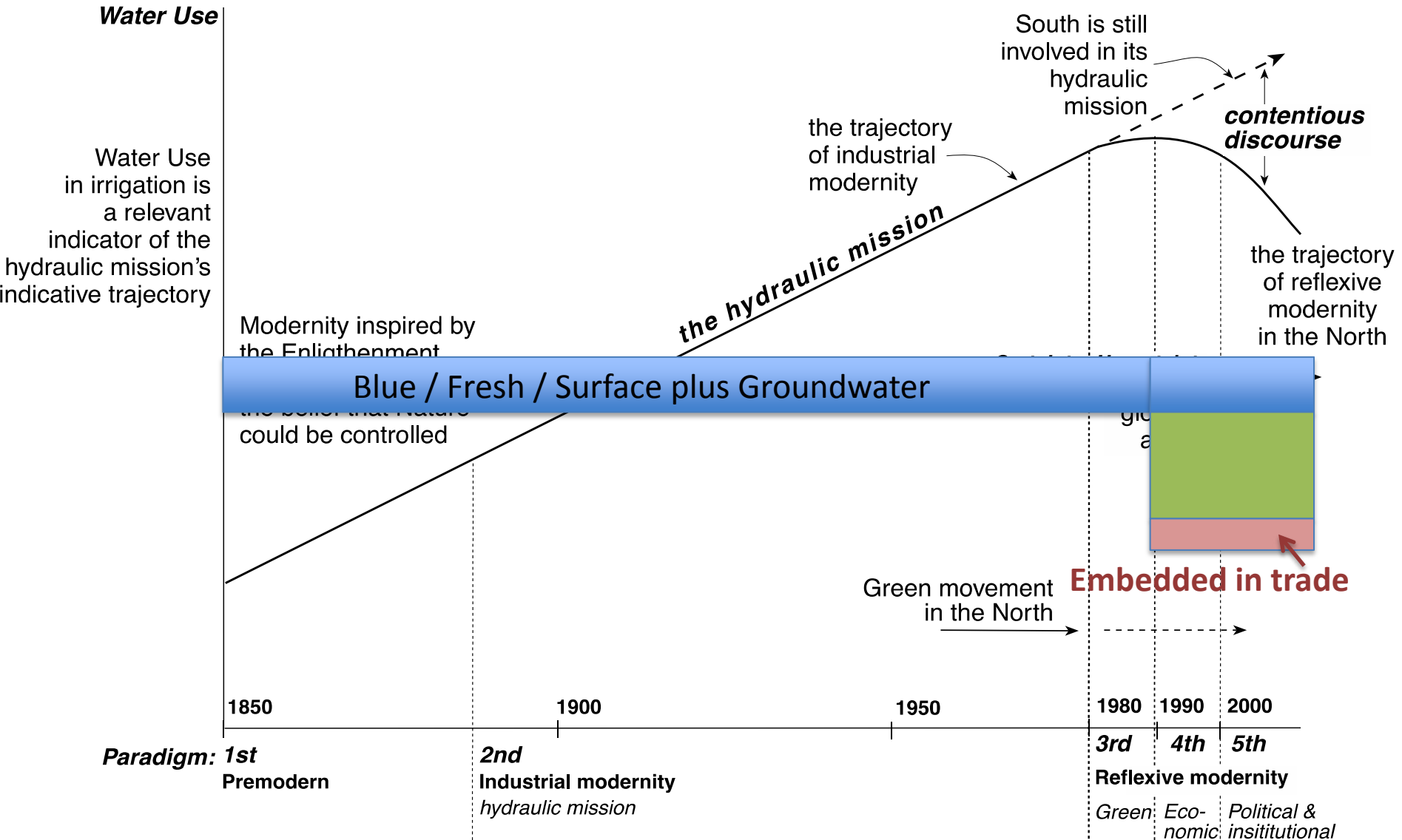
More water for food – via sustainable intensification

Pessimists are wrong but useful

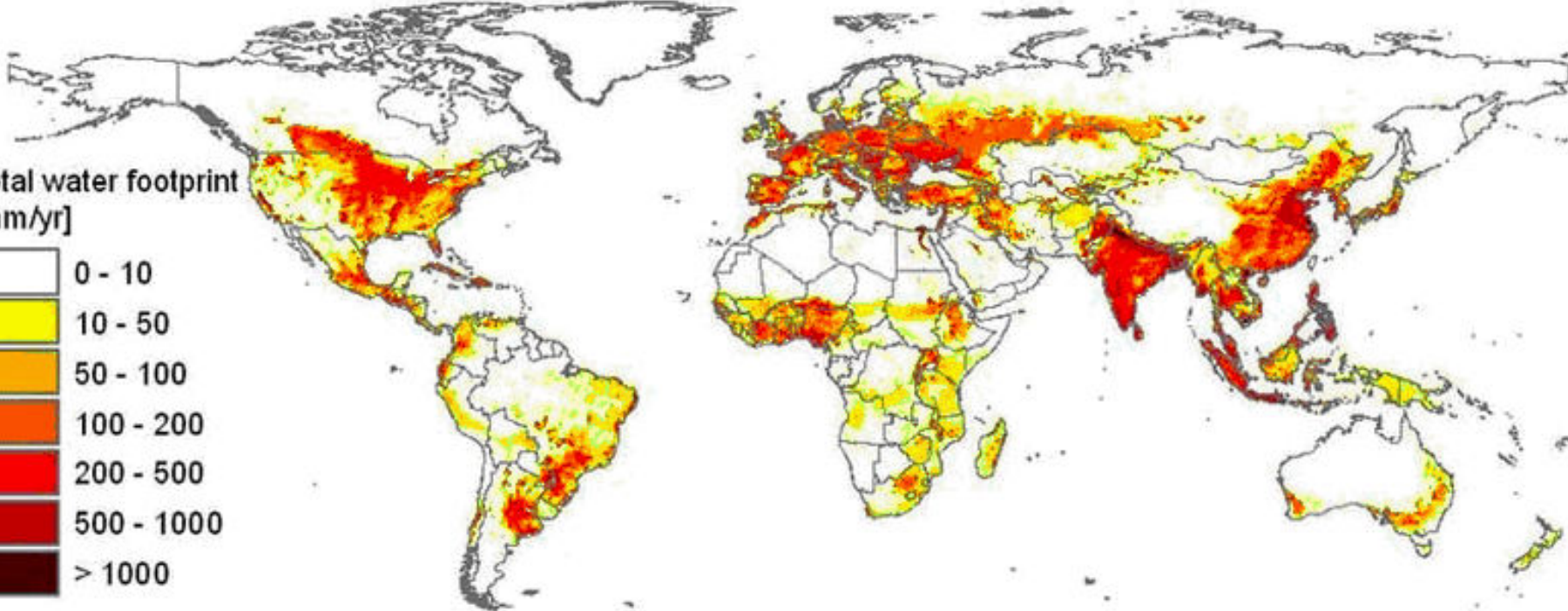
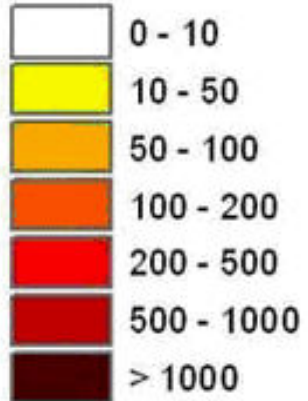
Optimists are right but dangerous?



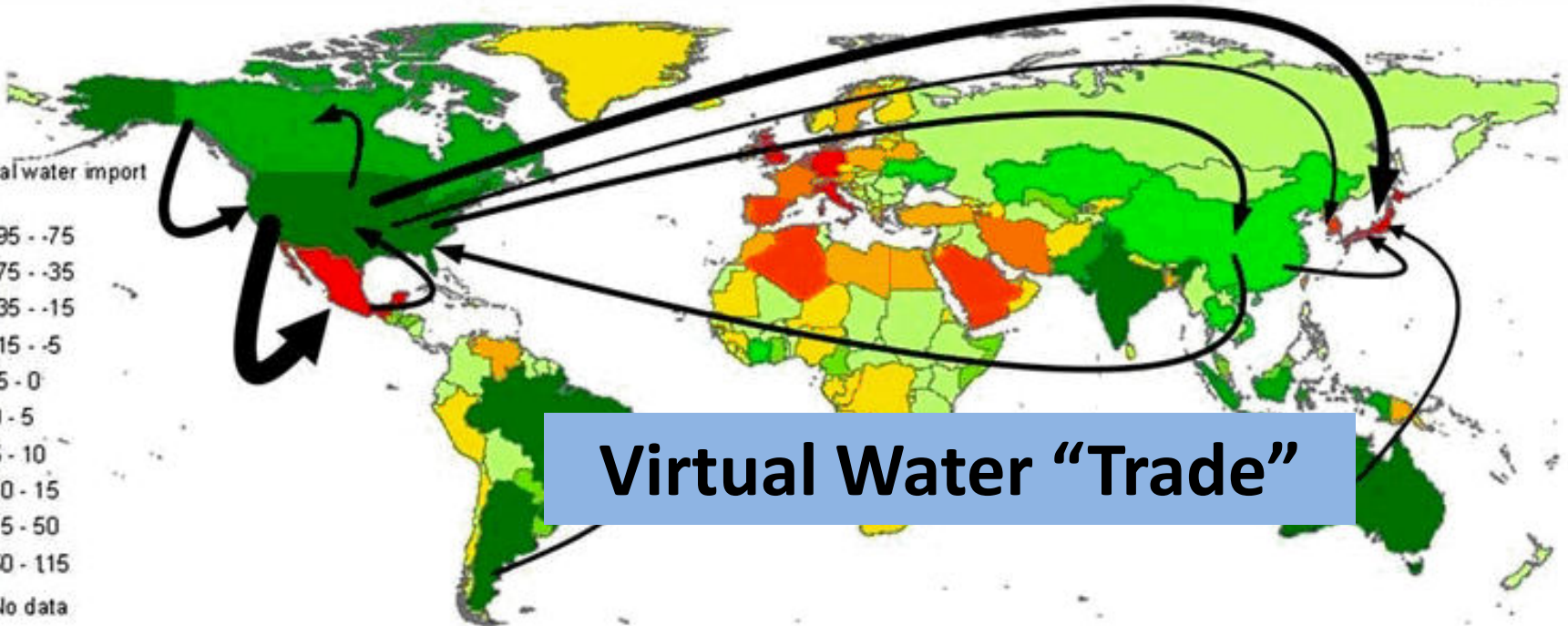
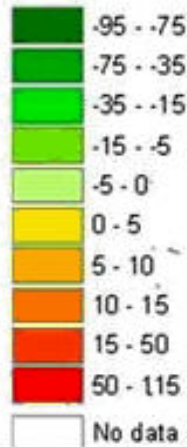
2. Previous and new development eras?



Total water footprint
[mm/yr]



Net virtual water import
[Gm³/y]

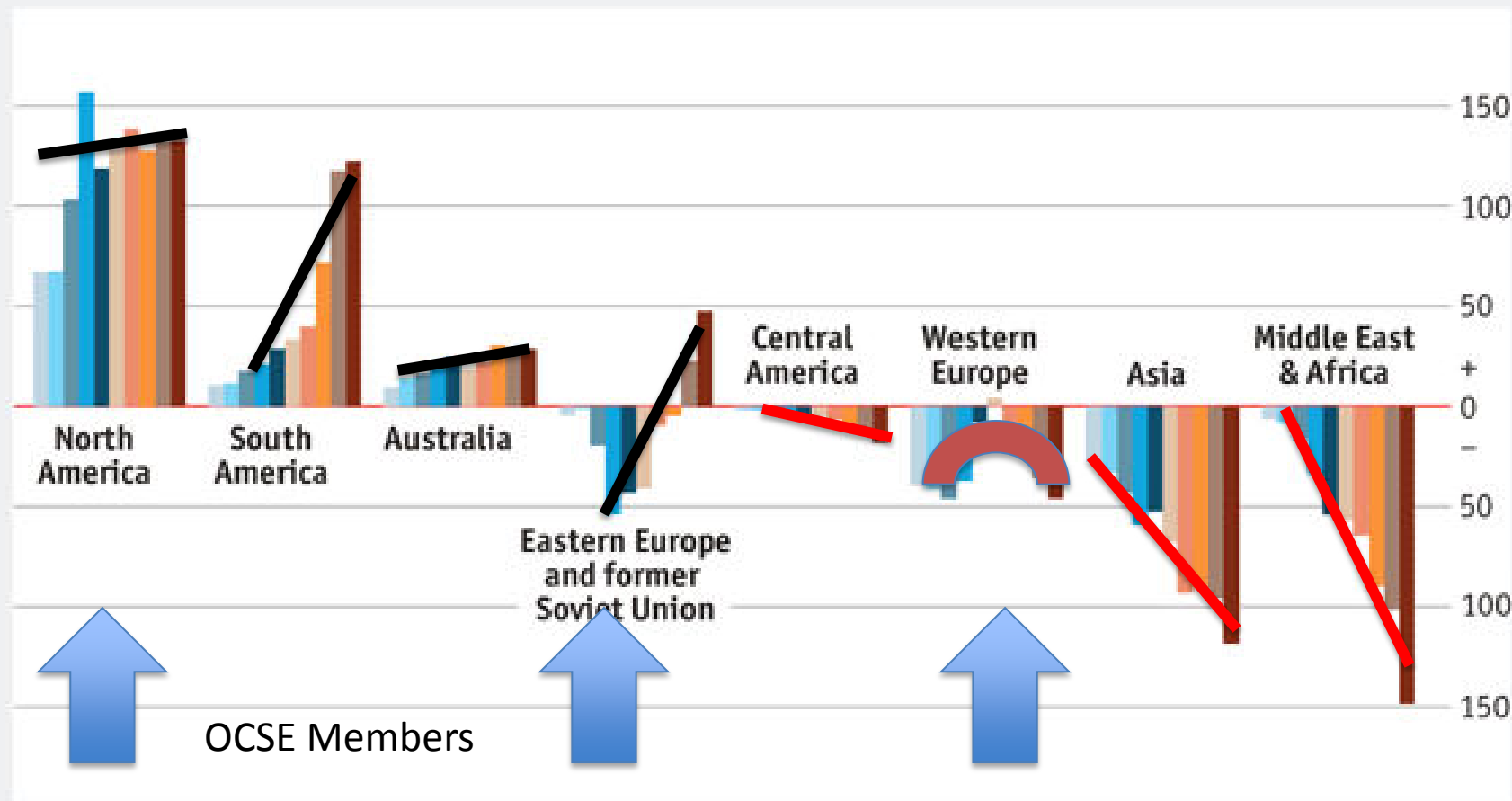


Virtual Water "Trade"

Food* surpluses and deficits

Net intra-regional trade, tonnes, m

1965 1970 1975 1980 1985
 1990 1995 2000 2005 2010



Source: Cargill

*Cereals, rice, oilseeds, meals, oils and feed equivalent of meat

Who will save the world?

Farmers

Operators of water infrastructures

The Big-Ag Seed, Fertilizer, Chemical Corporates

The Big-Food-Commodity Traders

The Big Food & Beverage Corporates

The Big Supermarkets

The Other Major Food Distributors

The State – including law & regulation

Accountants & Reporting Rules

Investors / Sustainable investment

The Food and Water NGOs – Local & International

The Multi- and Bi-Lateral Aid Agencies

Consumers

Society by adopting sound ideas and behaviour

Who has power in current supply chains

Farmers

Operators of water infrastructures

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The Big-Food-Commodity Traders

The Big Food & Beverage Corporates

The Big Supermarkets

The Other Major Food Distributors

Investors ???/Sustainable investment

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The Food and Water NGOs – Local & International

The Multi- and Bi-Lateral Aid Agencies

Consumers

Society by adopting sound behaviour

Who will secure water and food for society?

Farmers

Operators of water infrastructures

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The Big-Food-Commodity Traders

The Big Food & Beverage Corporates

The Big Supermarkets

The Other Major Food Distributors

Investors ???/Sustainable investment

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Consumers

Society by adopting sound behaviour

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If we cannot - then we have to get the state to focus benefits on farmers so that they do what we need them to do in the existing supply chains

Thank you ta1@soas.ac.uk