

The Cost of Food

Consequences of not valuing soil and water
and the people who manage them

Tony Allan, King's College & SOAS London, and David Dent

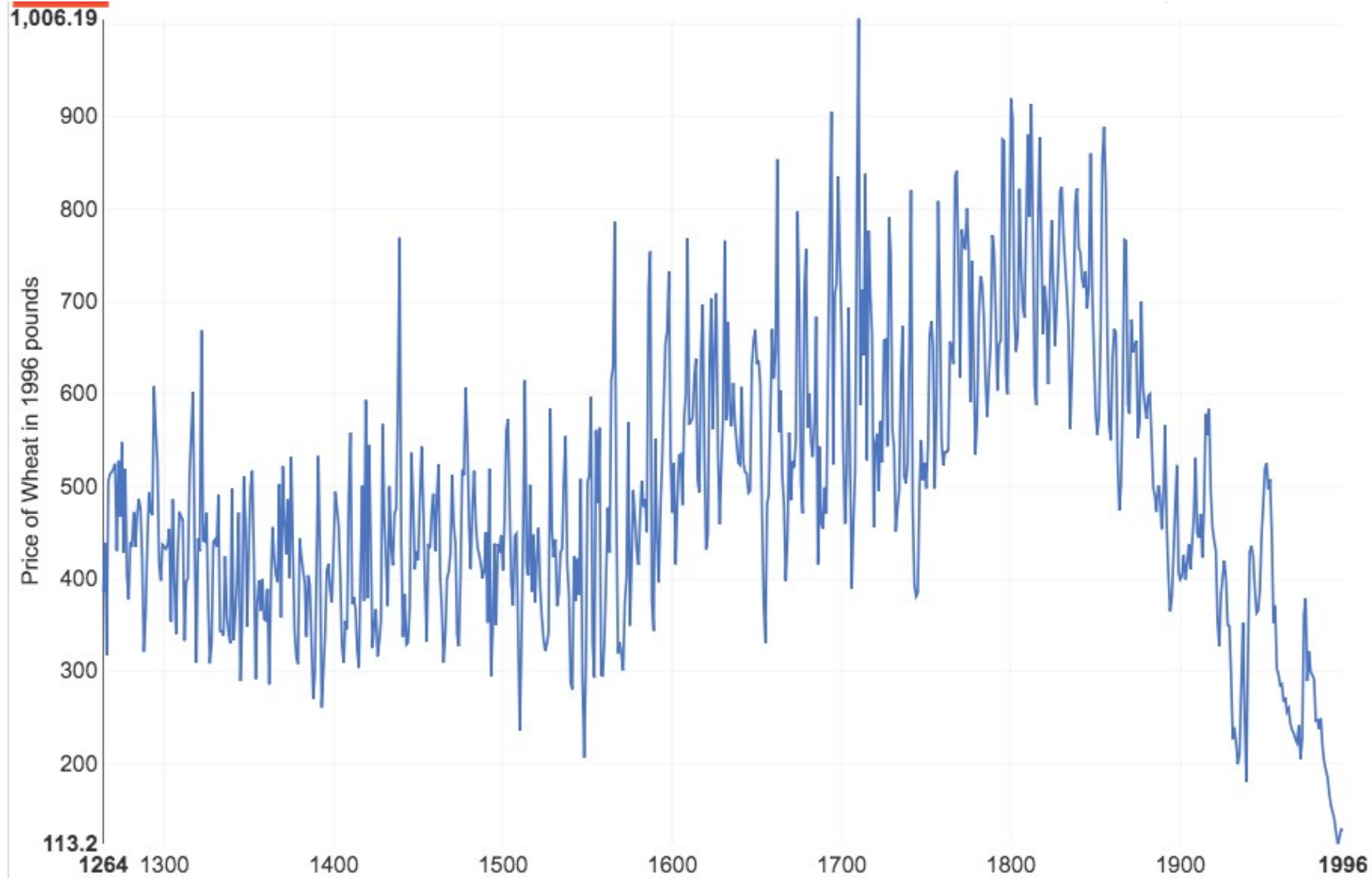
Farming for Ever, Bălți, November 2019

First

***The food system is a political economy,
not an economy.***

- 1 Historical context on international food prices
- 2 Disharmony: how we produce food
- 3 Power relations in the food system

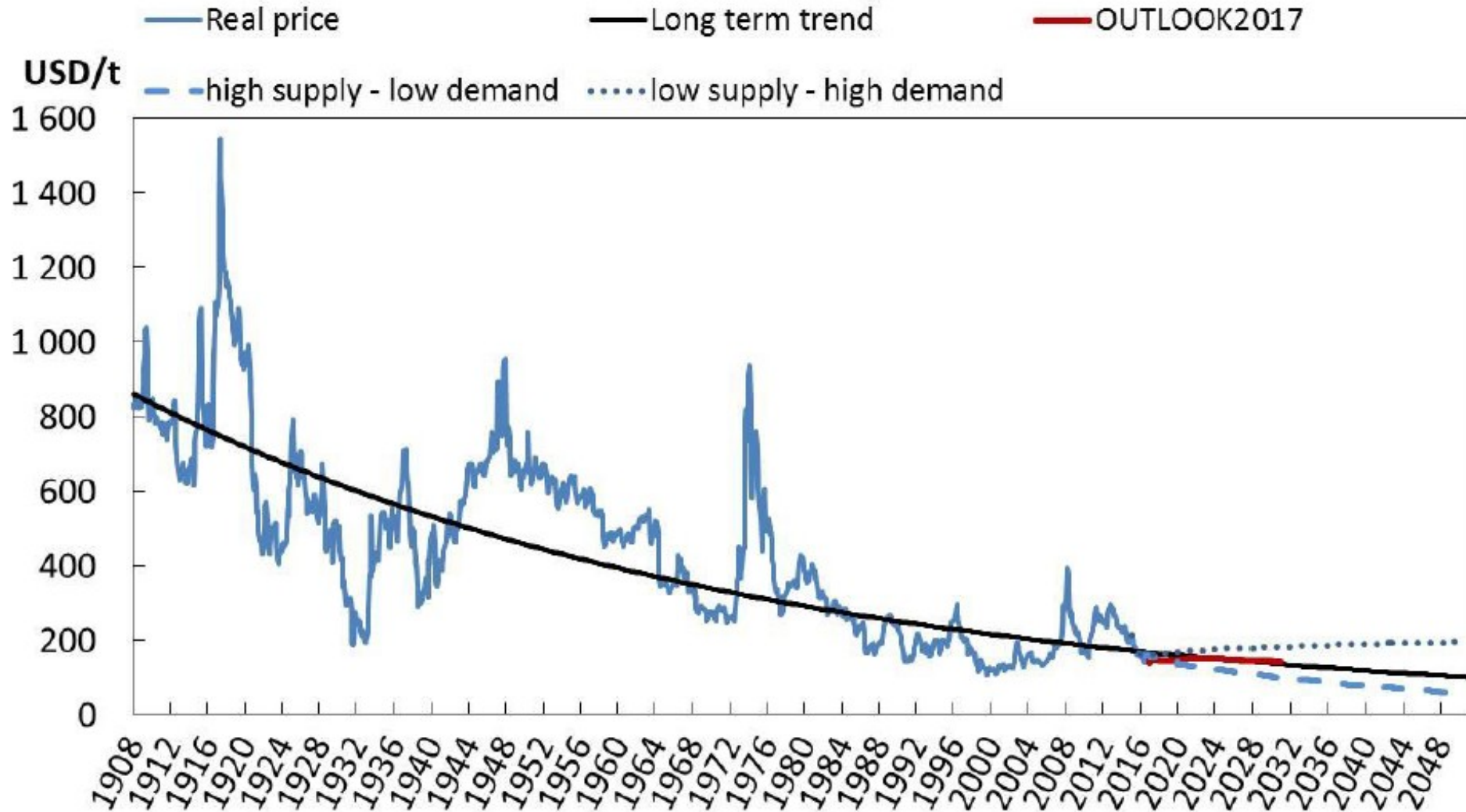
Wheat prices in constant 1996 pounds, 1264-1998



Source: Max Rosner. Data from Makridakis, Wheelwright and Hyndman, 1997

<https://ourworldindata.org/food-prices/>

Long term trends of international food prices

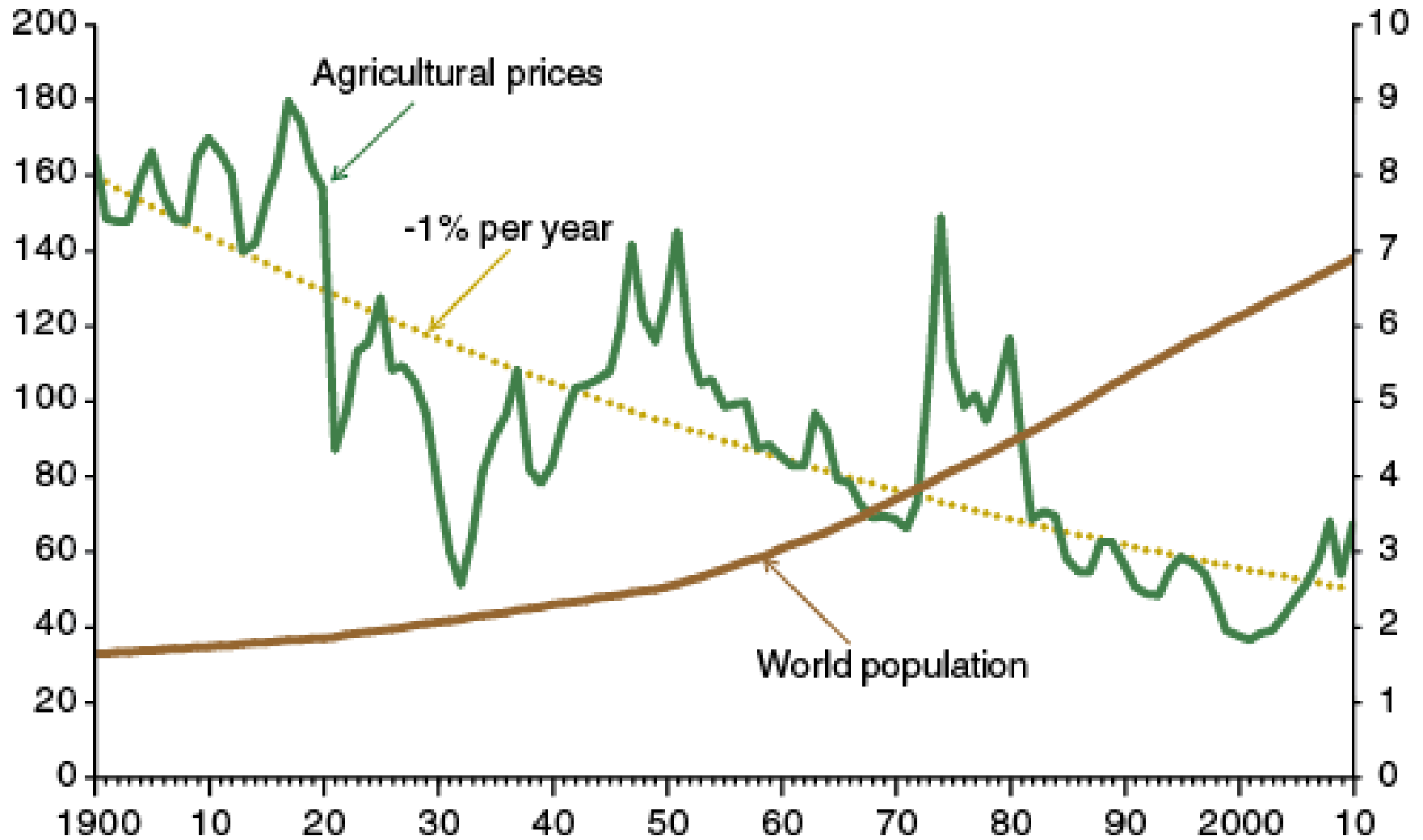


Source: Brooks, 2017 [Who said "things could change"](#).

Agricultural commodity prices & population trends, 1900-2010

Agricultural price index, 1977-79=100

World population, billions



Source: USDA Economic Research Service based on Fuglie and Ball, 2012

- 1 Historical context on international food prices
- 2 Disharmony: how we produce food**
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Water and virtual water resources in the food system

92% of water consumption
70% green & 30% blue

1% of water consumption

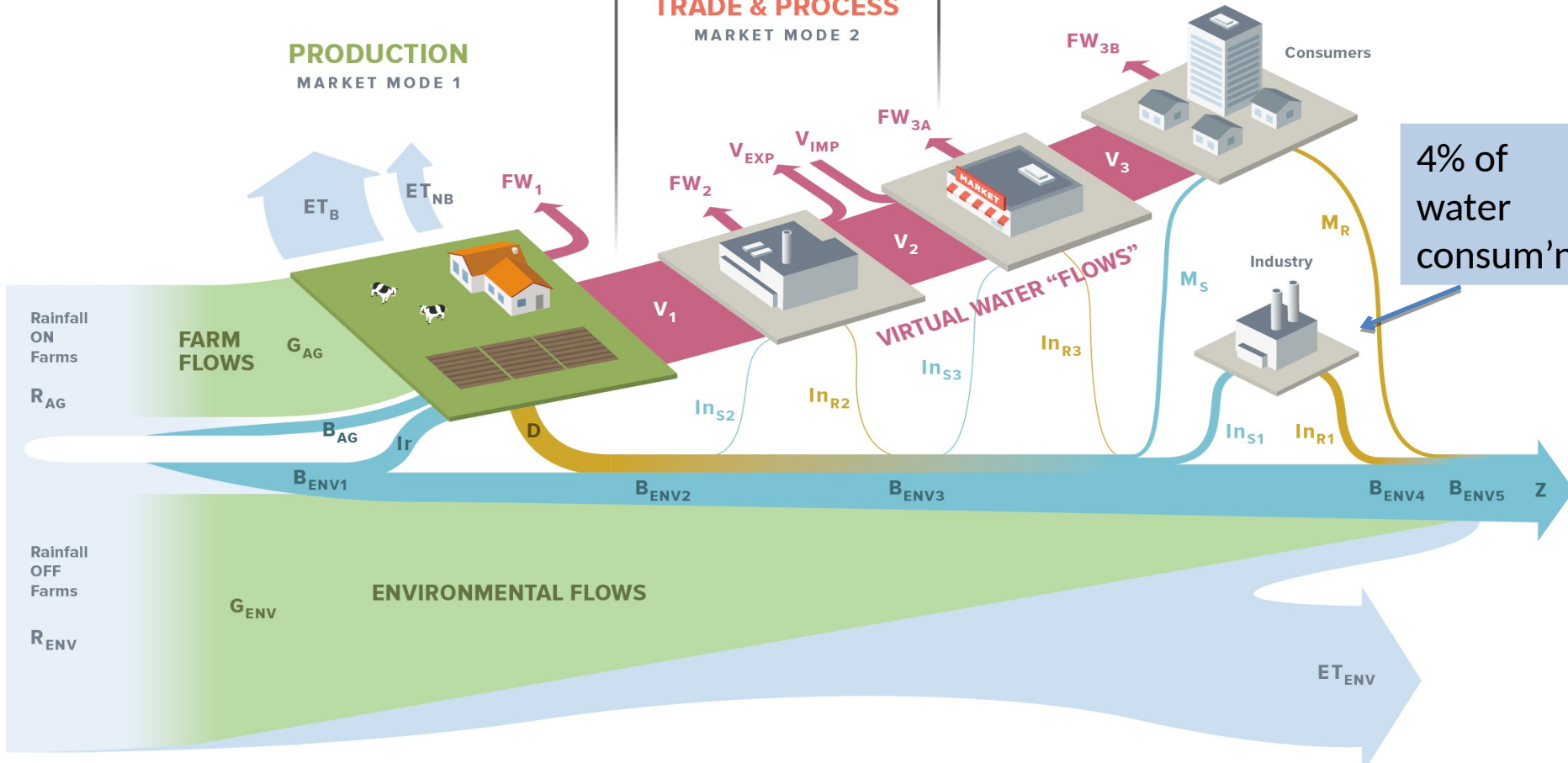
Waste 30% of food

PRODUCTION
MARKET MODE 1

TRADE & PROCESS
MARKET MODE 2

RETAIL & CONSUMPTION
MARKET MODE 3

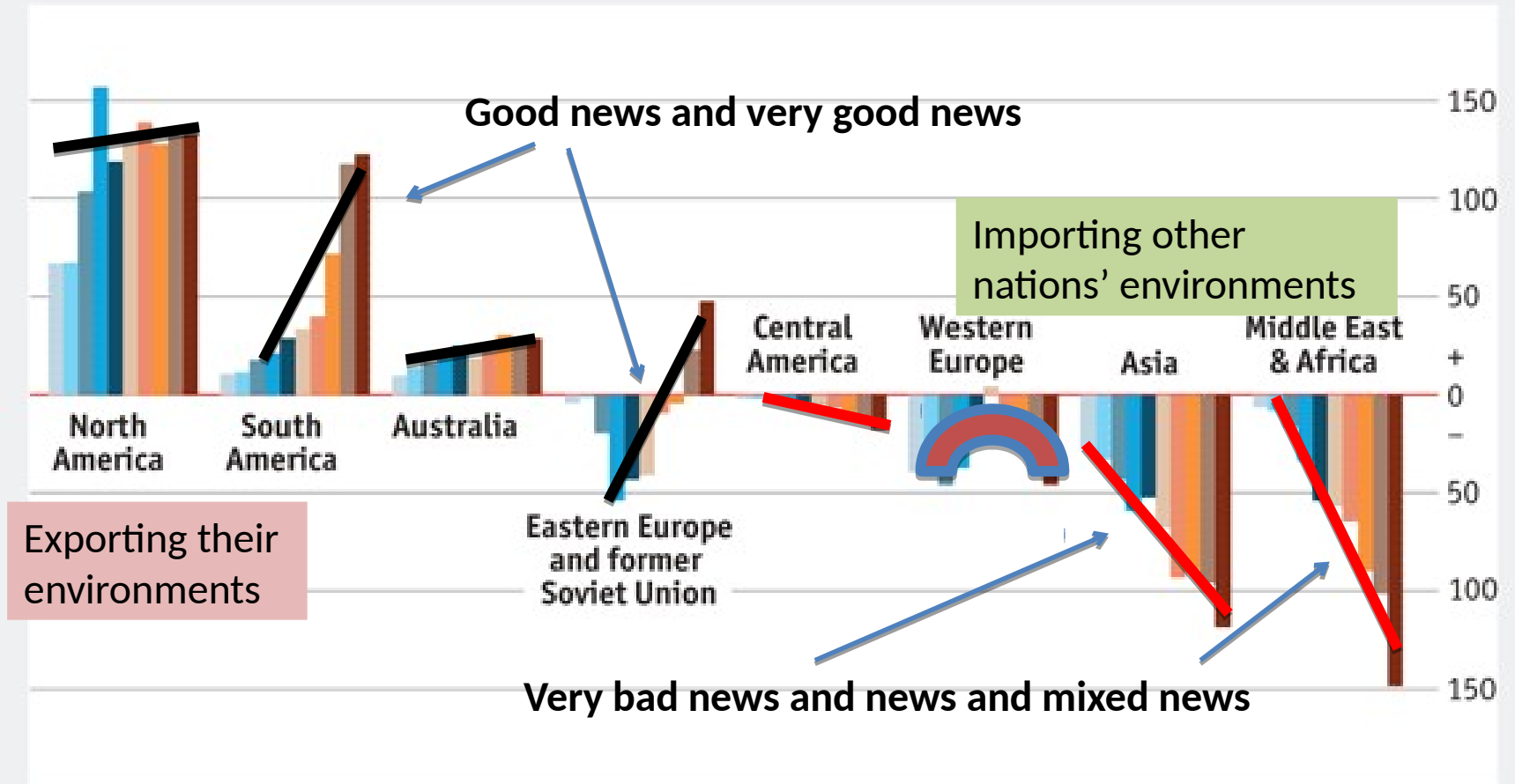
4% of water consum'n



Food* surpluses and deficits

Net intra-regional trade, tonnes, m

1965 1970 1975 1980 1985
1990 1995 2000 2005 2010



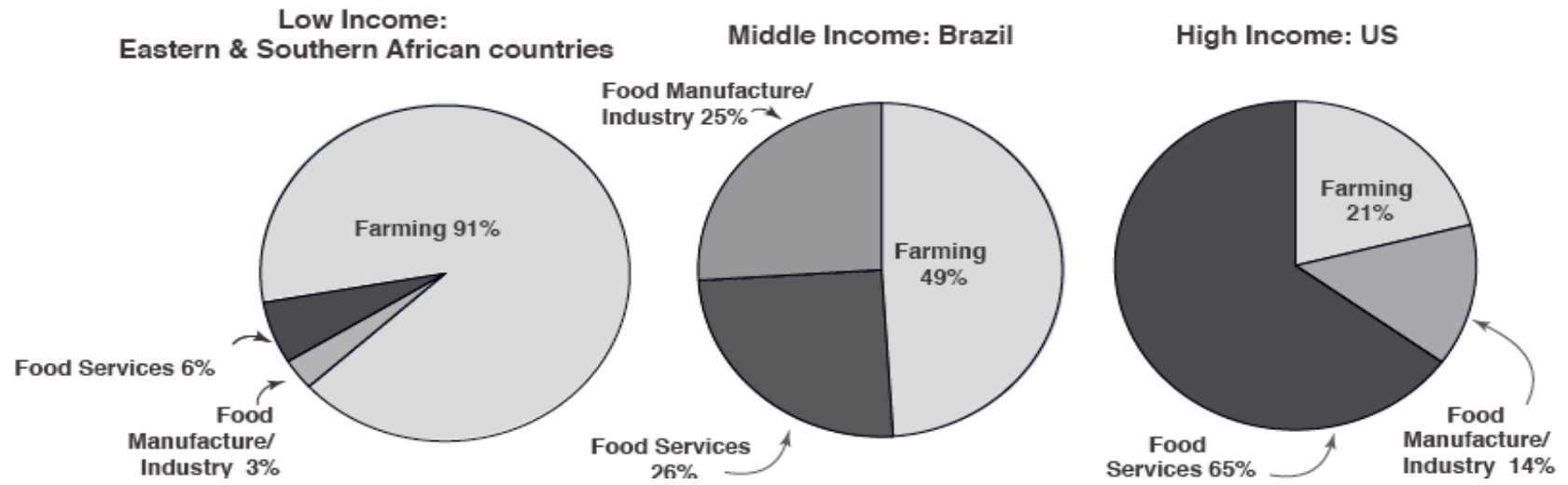
Source: Cargill

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

First

- 1 Some historical context on international food prices
- 2 Types of water and embedded water and trade
- 3 Power relations in the food system:
changing food supply chains**

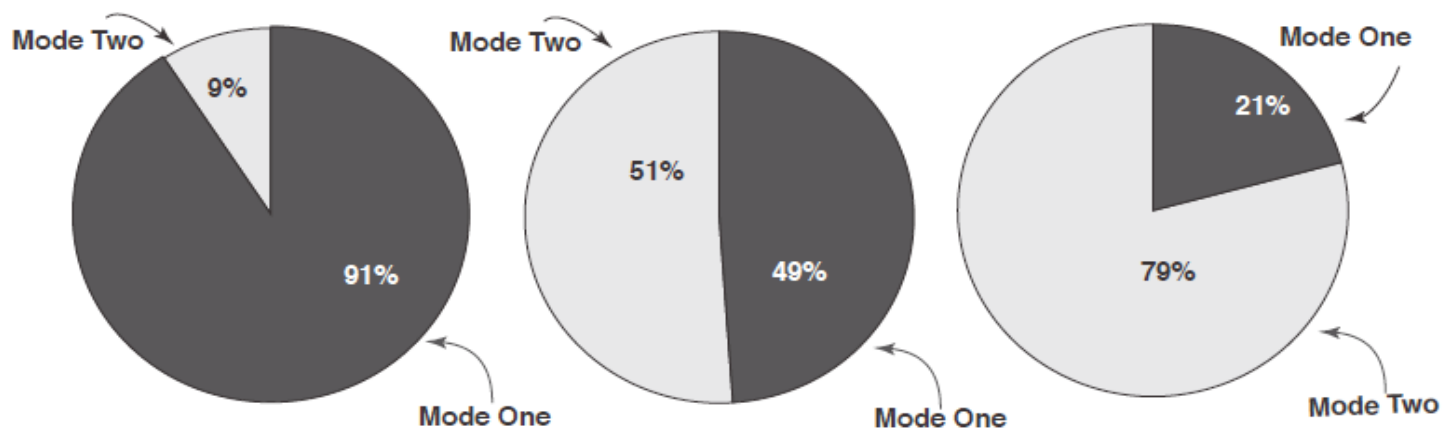
Food system jobs NOW in low-, middle-, and high-income countries AND with modernity



Pre Modern (pre-1840)

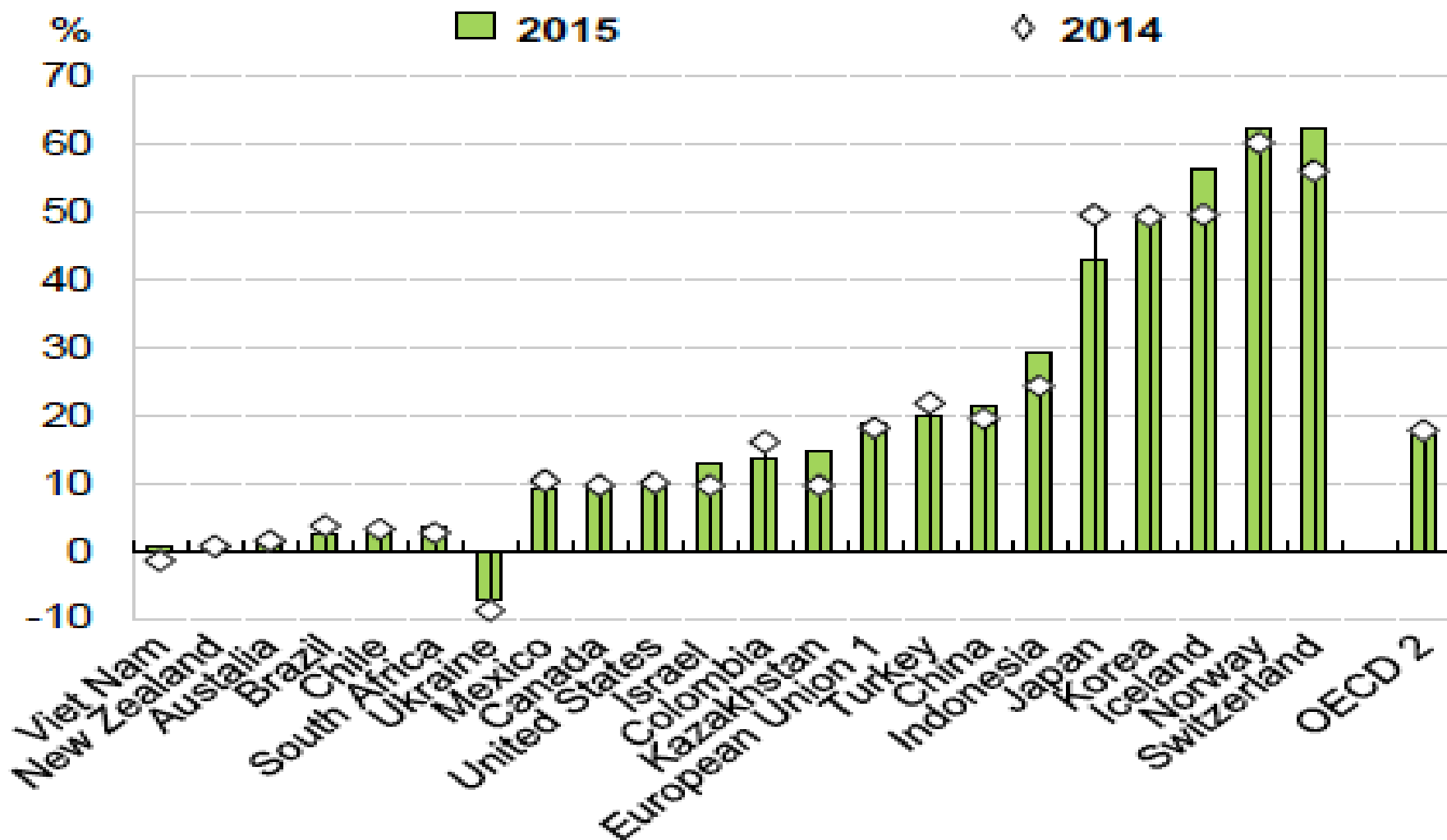
Modern (about 1940)

Late Modern (current)



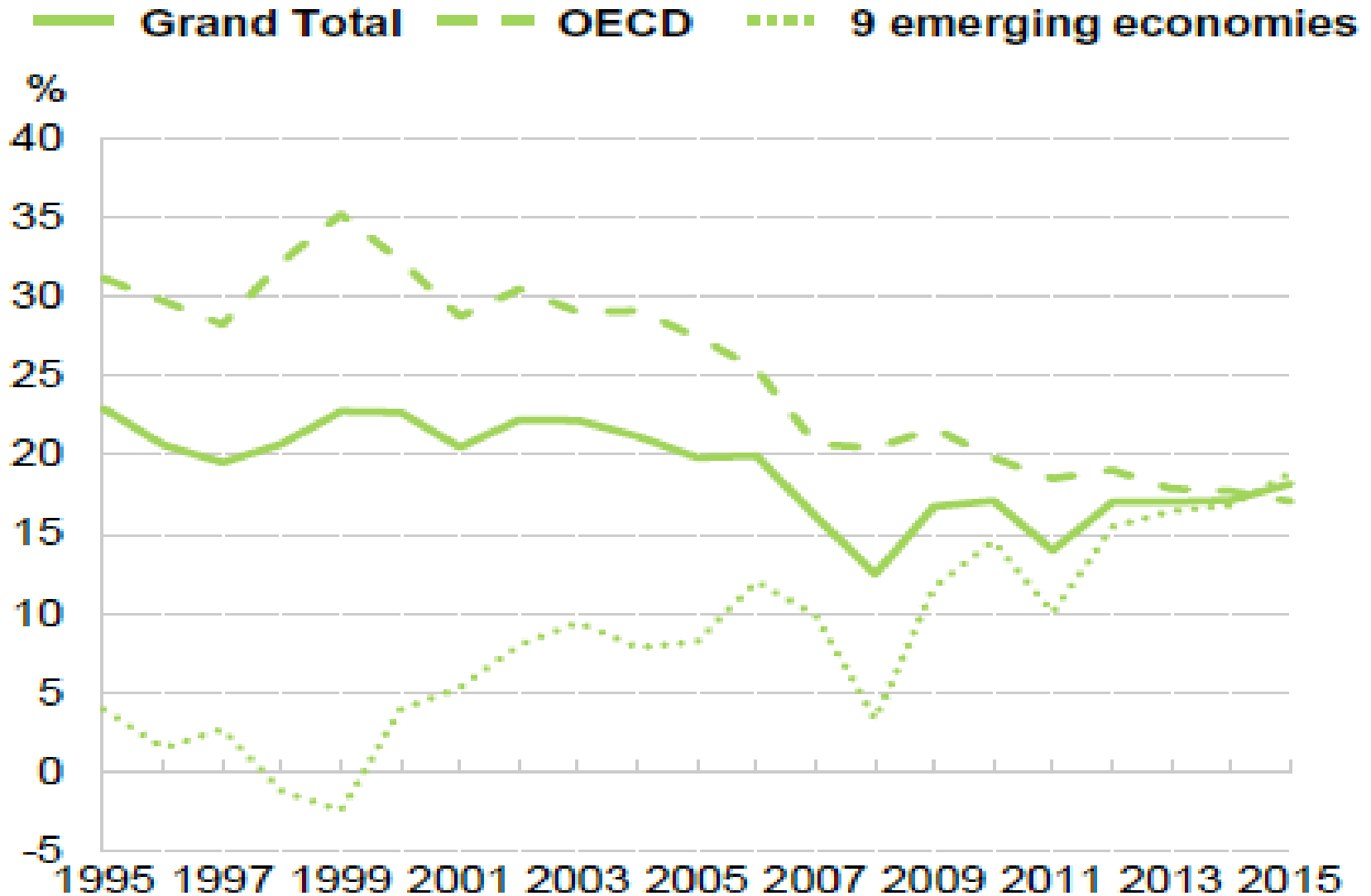
Source: Allan and others 2019, *Food, water and society*

Producer support estimate, 2014 and 2015 - percentage of gross farm receipts



Shifting producer-support, 1995-2015

- percentage of gross farm receipts



Source: Eurostat 2016

Who has power in the food system?

Farmers

Operators of water infrastructure

Big-Ag Seed, Fertilizer, Chemical Corporates

Big-Food-Commodity Traders

Big Food & Beverage Corporates

Big Supermarkets

The Other Major Food Distributors

Investors?

The State including law & regulation

Accountants & Reporting Rules

Food and Water NGOs

Multi- and Bi-Lateral Aid Agencies

Consumers

Society by adopting sound behaviour

Who could secure water and food for Society?

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

Investors ?/Sustainable investment

The State including law & regulation

Accountants & sound Accounting & Reporting Rules

The Food and Water NGOs – Local & International

The Multi- and Bi-Lateral Aid Agencies

Consumers (Voluntary regulators?)

Society by adopting sound behaviour

The food system and the political economy of the food system are:

- 1 Very old
- 2 Has to deliver under priced food
- 3 Is always very emotional
- 4 Easily politicised
- 5 Very much misunderstood and broken

The food system is misunderstood and broken because the political imperative is **to deliver under-priced food to under paid people. The way it operates had to be camouflaged.**



Thank you
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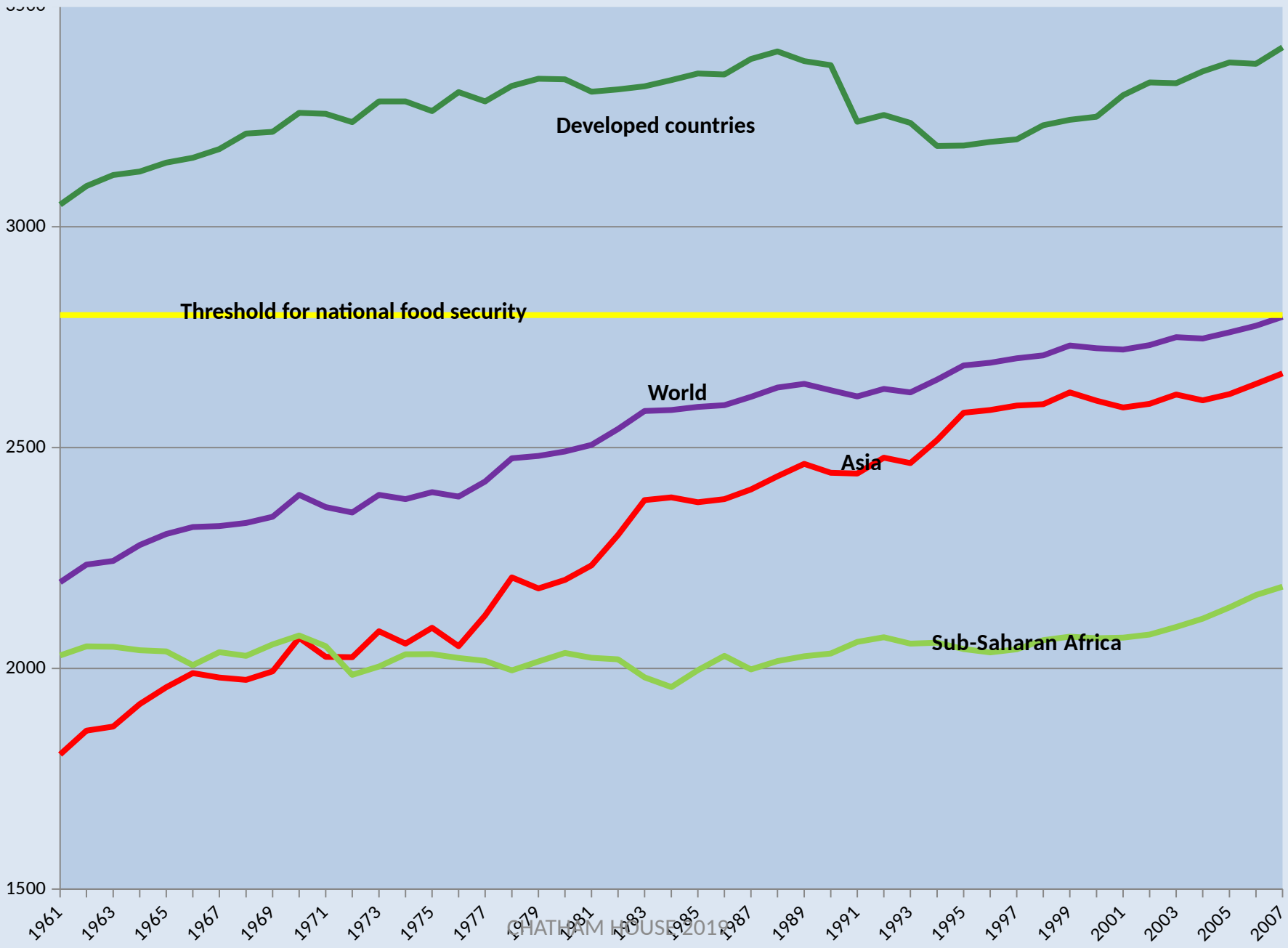
CHATHAM HOUSE 2019
It's what we suspected, he's become a vegetarian

Will there be enough water?

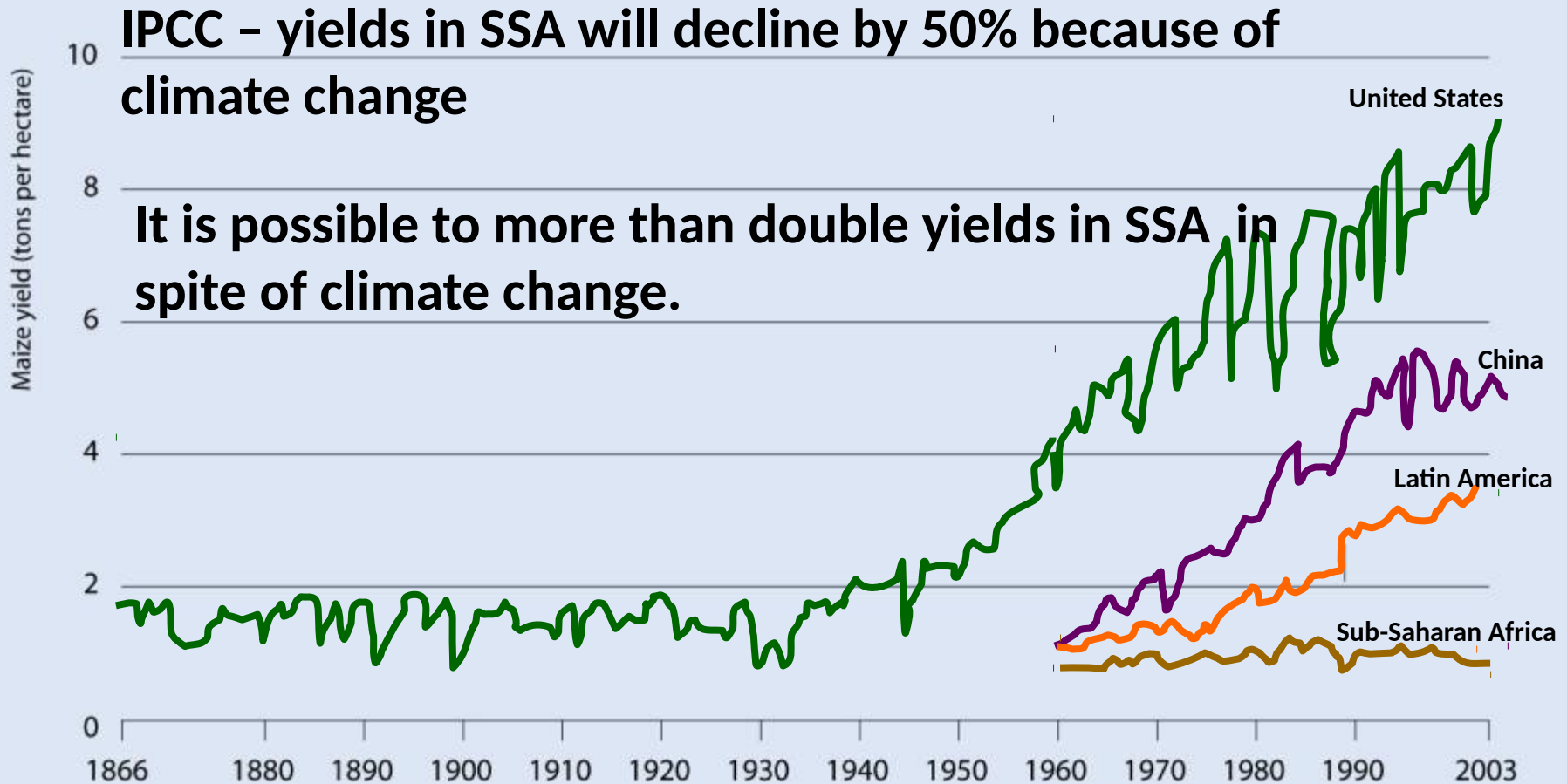


One litre of water produces one calorie on average

Food Supply in Calories

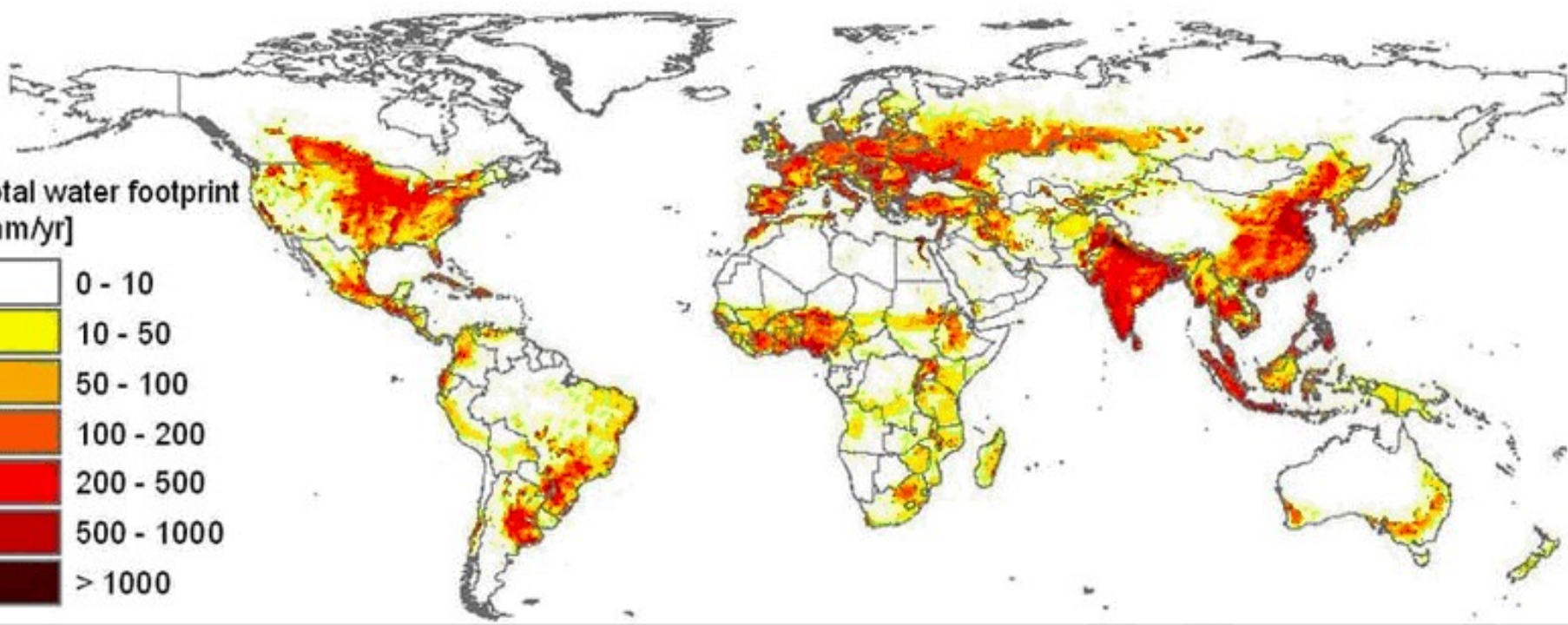
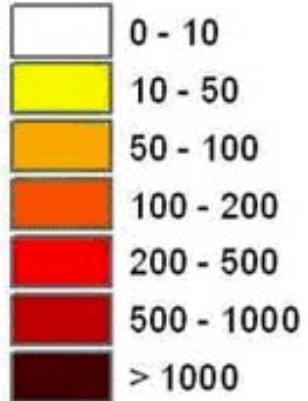


Growth in Yields

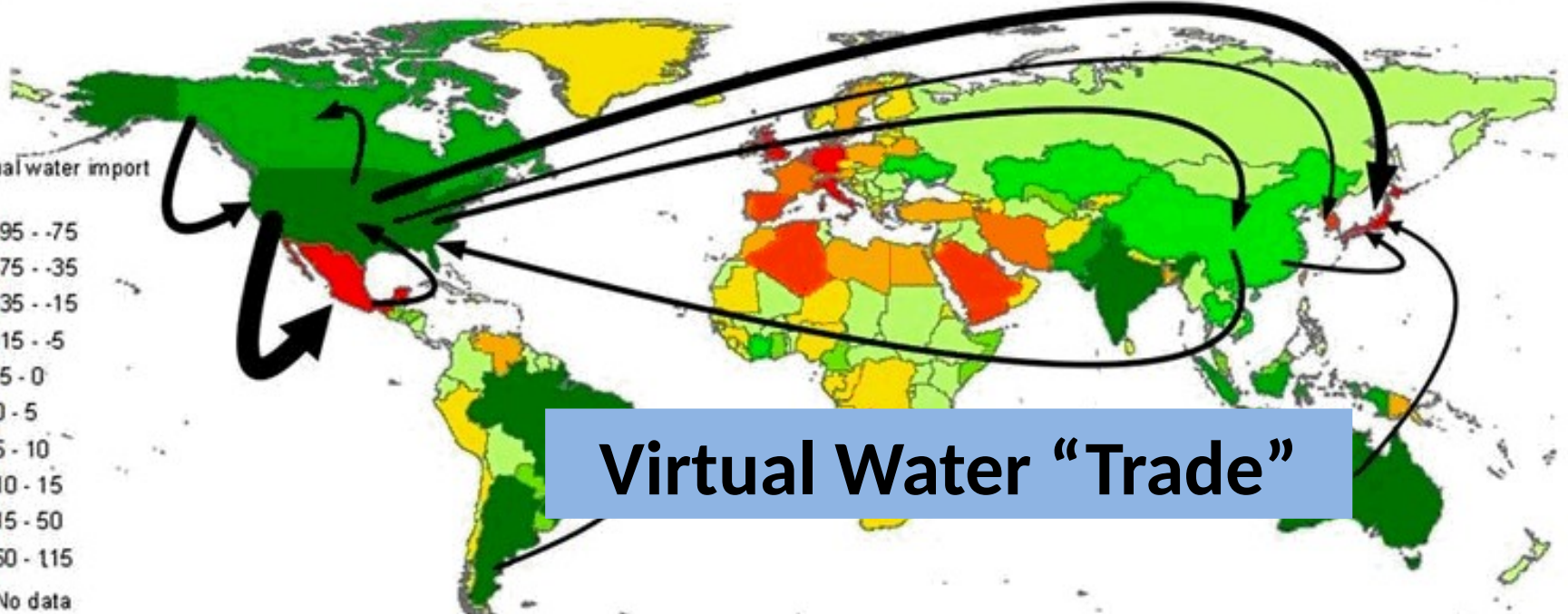
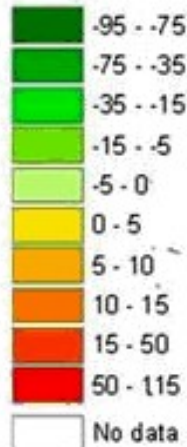


Source: U.S. data, U.S. Department of Agriculture's National Agricultural Statistics Service; all other countries and regions, FAOStat.

Total water footprint
[mm/yr]

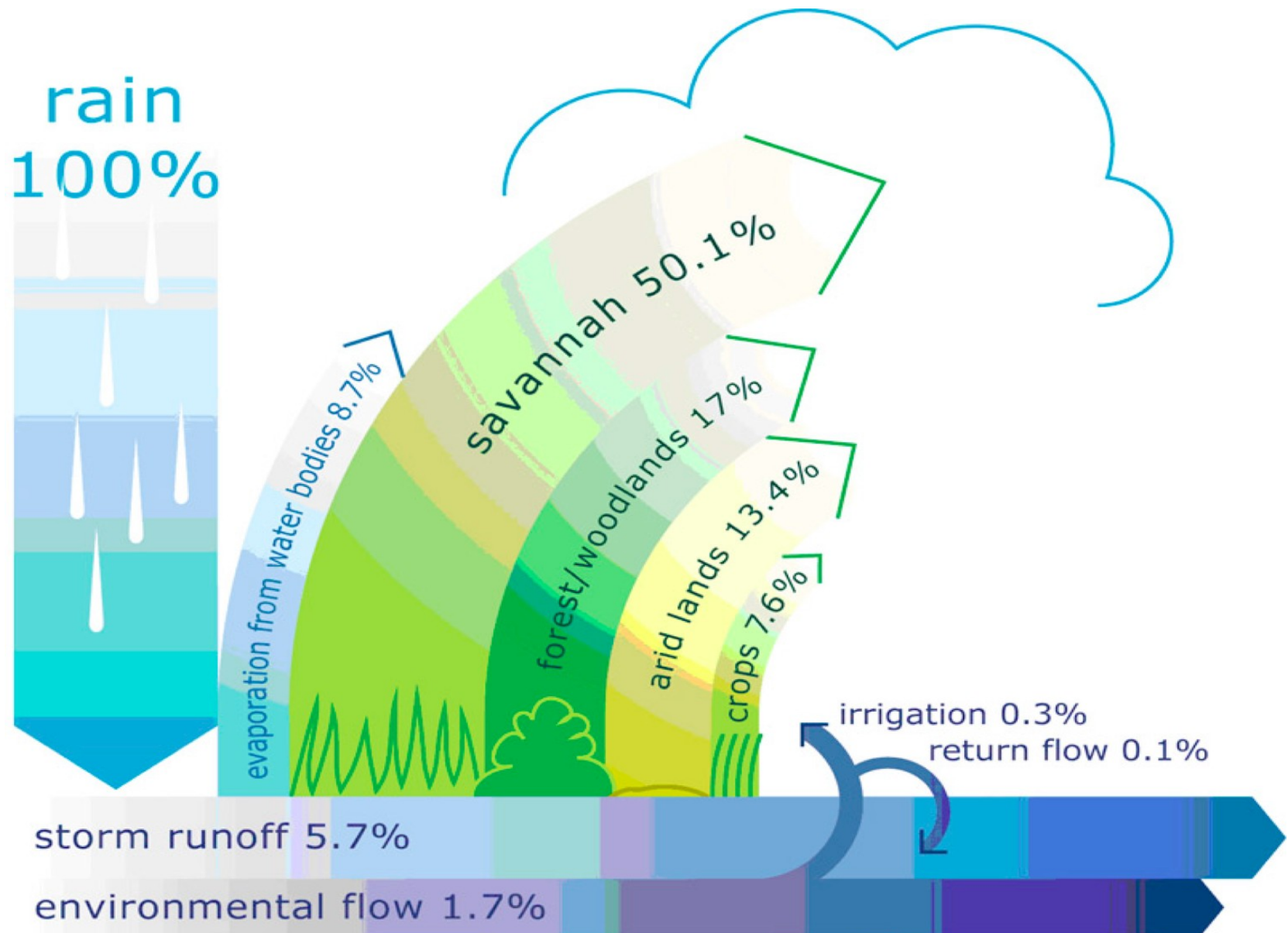


Net virtual water import
[Gm³/y]



Virtual Water "Trade"

Green Water flows in Kenya



Source: Dent et al 2007