United Nations Conference on Trade and Development

Global Commodities Forum

13 –15 September 2021, Geneva and Barbados (online)

Make every drop count: water use efficiency at different level

By

Professor Mesfin Mekonnen, PhD, University of Alabama

Make every drop count: water use efficiency at different level

UNCTAD Global Commodities Forum

Sep 13, 2021

Mesfin Mekonnen, PhD
mesfin.mekonnen@ua.edu

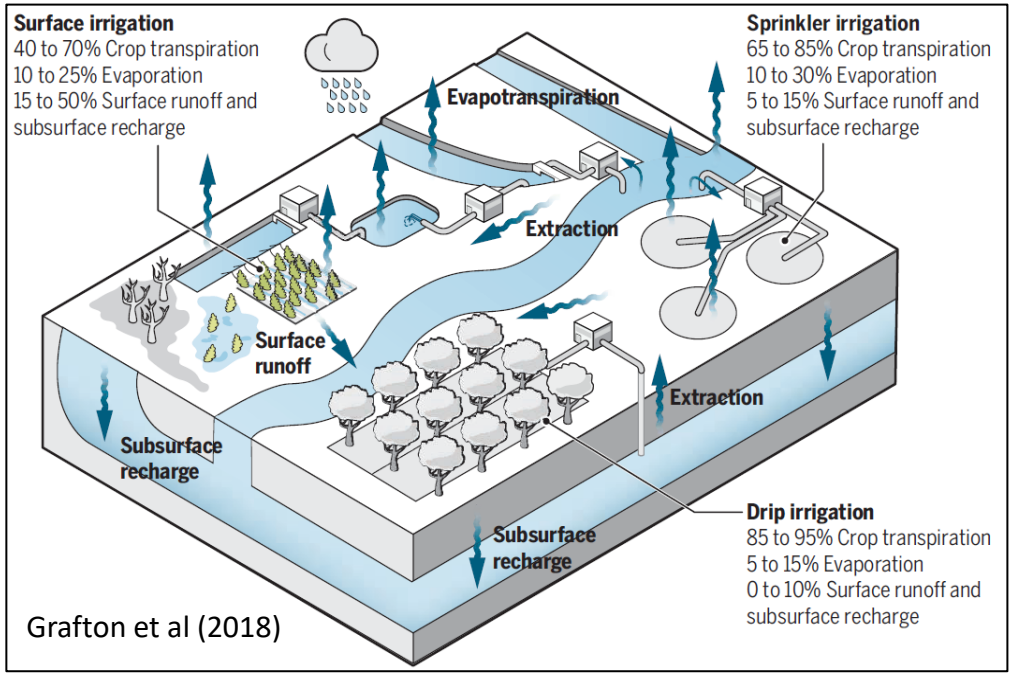
THE UNIVERSITY OF ALABAMA® | College of Engineering

Make every drop count: water use efficiency at different level

Level	Means
User/local level	Technology, water price, environmental awareness of the water user
River basin level	Allocate water where its value added is highest
Global level	Virtual water trade from water-abundant to water-scarce regions

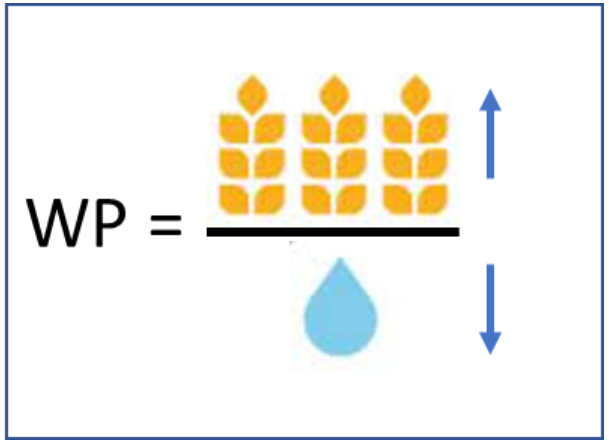
Water use efficiency at user/local level

1. Improving irrigation efficiency – irrigation efficiency paradox?



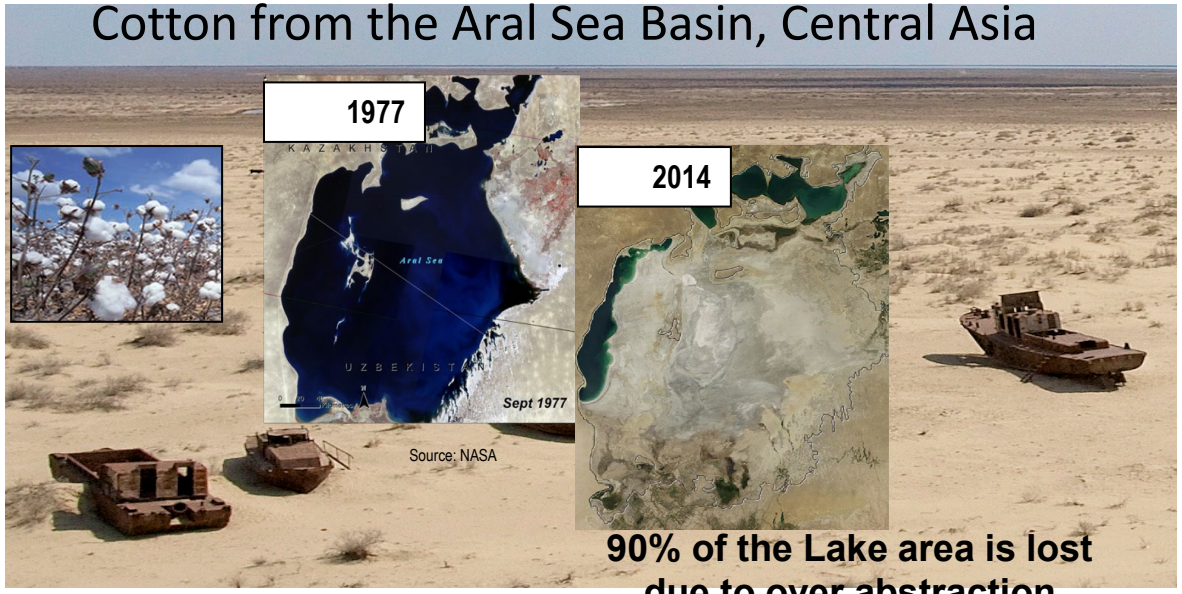
Grafton et al (2018)

2. From irrigation efficiency to improving water productivity:



3. Improve environment awareness of consumers: think beyond our plate and wardrobe!!

Cotton from the Aral Sea Basin, Central Asia

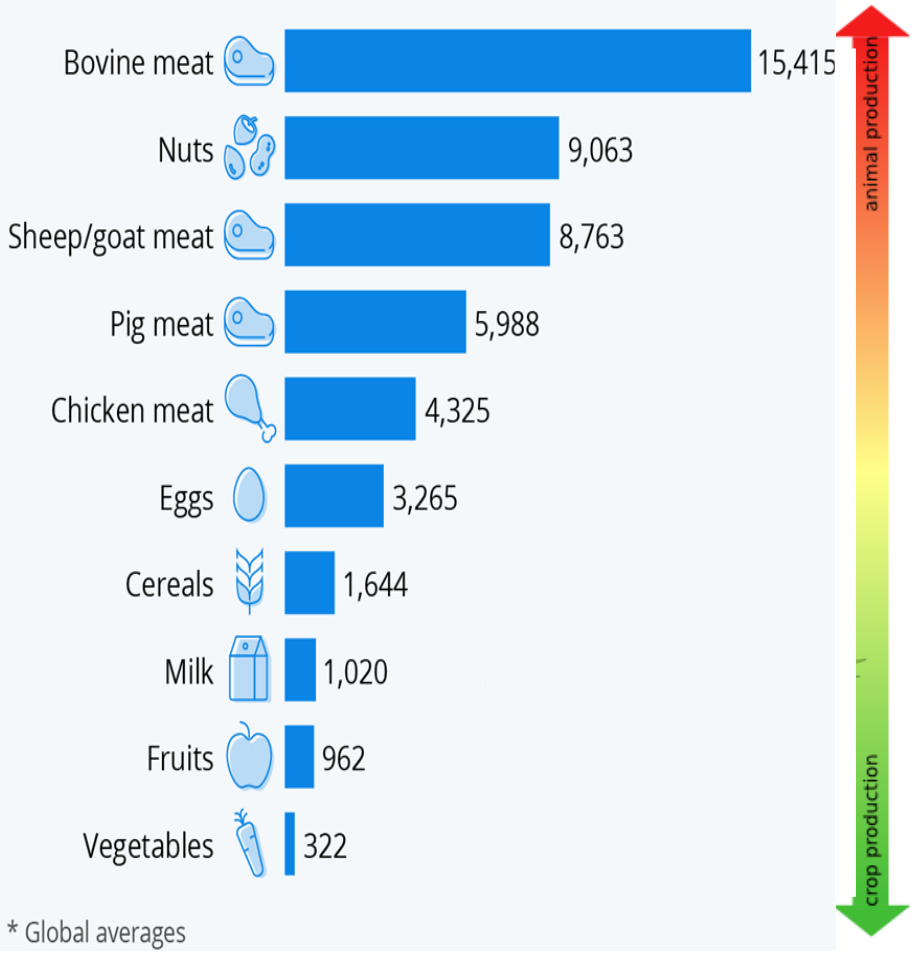


THE UNIVERSITY OF ALABAMA® | College of Engineering

The water footprint of our choices

How Thirsty is Our Food?

Liters of water required to produce one kilogram of the following food products*



* Global averages

every year around the globe

1.3 BILLION TONNES OF

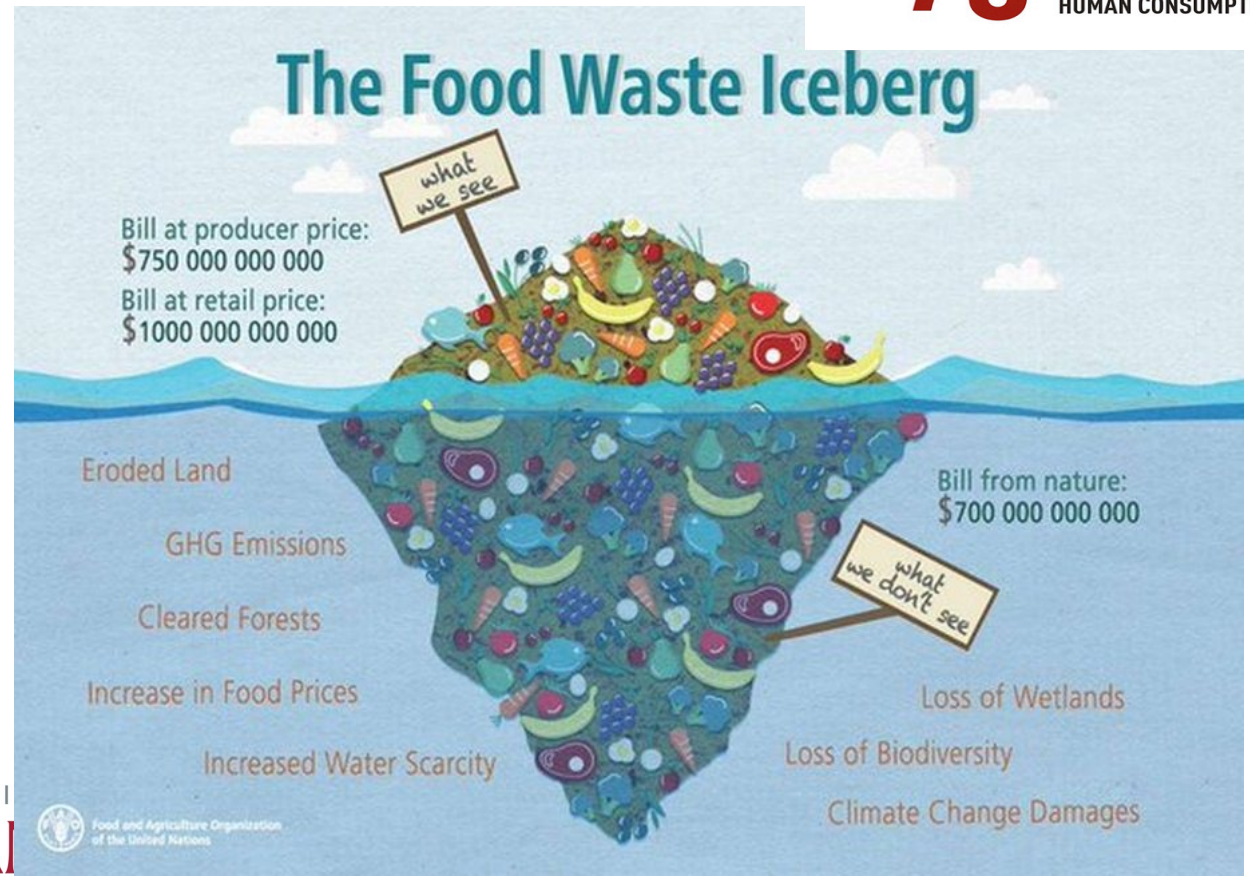
FOOD

is

lost or **wasted**

that is

1/3 **OF ALL FOOD PRODUCED FOR HUMAN CONSUMPTION**

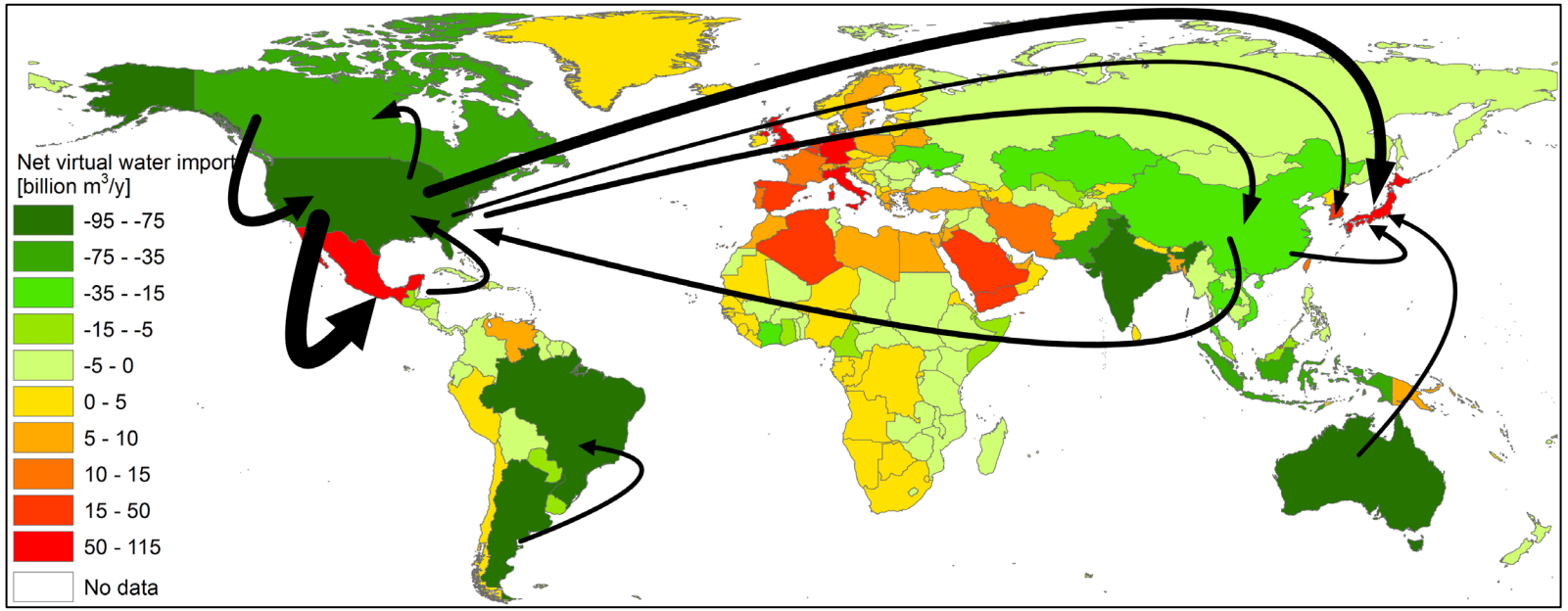


Water use efficiency at river basin level

Water allocation efficiency

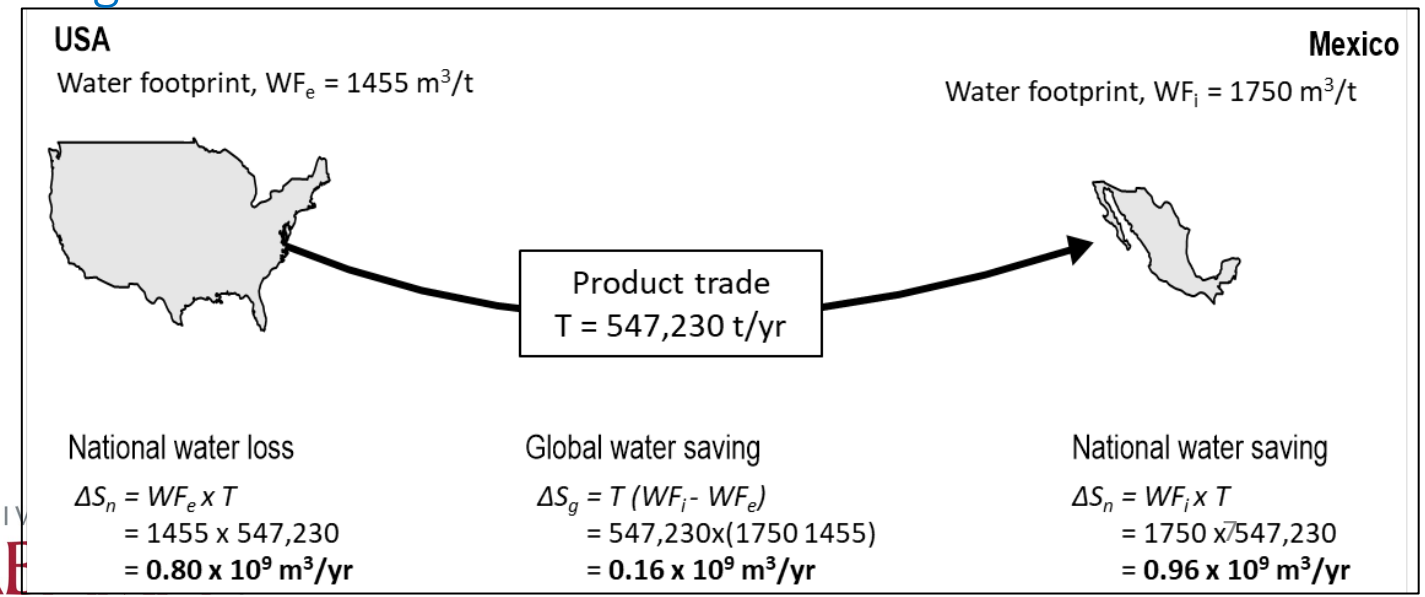
- Different potential water Productivity up- and downstream
- Agriculture vs industry/urban
- Alfalfa vs wheat

Water use efficiency at global level



Source: Hoekstra & Mekonnen (2012) The Water Footprint of Humanity, *PNAS*

Example: Global water saving through rice trade from USA to Mexico



Think globally, act locally