

# Food: Challenges/Trends/Issues

- Food security (geo-political)
- Nutrition security (health)
  - -> proteins: plants animals (fish)?
  - -> individualised diets (infants, old people, sports, ...)
- Food safety (health, trade and economy)
- Land, sea, cities, ..., Mars?
- Climate change: water, temperature, pests, diseases, ...?
- Sustainability: People, Profit, Planet?



# Water: Challenges/Trends/Issues

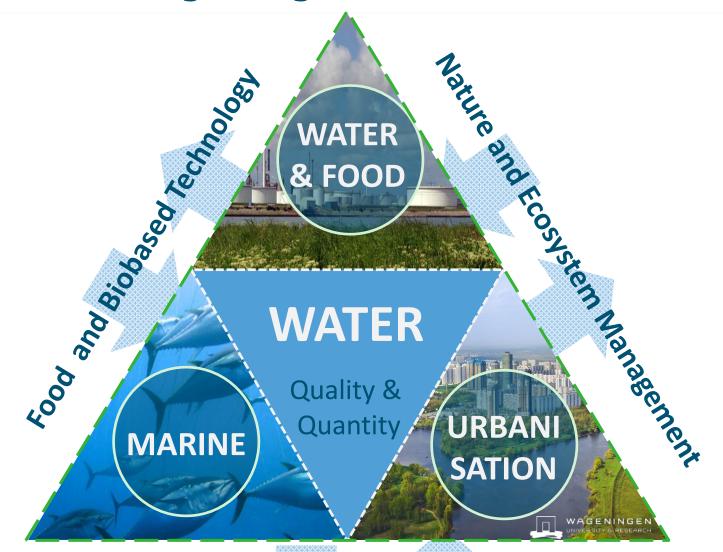
- Quantity (availability: place and time)
  - Climate Change -> Droughts -> Migration -> Refugees?
  - Water storage and irrigation -> Ecology?
  - Heavy rainfall -> flooding -> damage?

- Quality
  - Agriculture, drinking water, industry, nature, tourism, ...
  - Salinity, nutrients, new pollutants, ...

Sustainability: People, Profit, Planet?



# Water @ Wageningen





WAGENINGEN Society and the Circular Economy

# Water @ Wur: Our strengths

#### To perform an:

- integrated transdisciplinary (= together with stakeholders) system approach,
- combining fundamental and applied expertise from the social, natural and technological sciences.

we combine expertise in many temporal and spatial scales, i.e. ranging from <u>field to global level</u>.



# Wageningen University & Research: a World-class profile

"Great scores for Wageningen University"

NATIONAL TAIWAN UNIVERSITY RANKING | NTU RANKING

PERFORMANCE RANKING OF SCIENTIFIC PAPERS

FOR WORLD UNIVERSITIES 2015

#1

ShanghaiRanking's Global Ranking of Academic Subjects 2016 - Environmental Science &

#### Engineering

CheE CivE EleE EnrE EnvE MatE MecE Methodology Statistics				
World Rank	Institution	Country	Total Score	Score on PUB
1	Stanford University		737	67
2	University of Wageningen		730	93
3	University of California, Berkeley		723	80
4	Harvard University		674	68

#2

Teacher of the Year 2016: Roel Dijksma, ESG







# Water@Wageningen:

# WATER & FOOD WATER Quality & Quantity Quantity SATION

#### 1. Water-Food-Energy-Biodiversity NEXUS



- Global to Field modelling
- Delta Hinterland: River Basins
- Water stress Yield (drought floods quality effects)
- Water Nexus, Lumbricus
- Cross Sectoral Solutions





# Water@Wageningen

#### 2. Water in an Urbanizing World





- Water Safety, Provision, & Quality
- Resource Efficiency
- Nature Based Metropolitan Solutions





# 3. Sustainable use marine environment

- Blue Growth
- Coastal Eco Productivity
- Corridor North
- Integrated Solutions, Protection biodiversity, sustainable seafood provision, responsible maritime activities











# Water@Wageningen

# WATER & FOOD Quality & Quantity RBANI SATION

#### 4. Water Quality



- Macro>Micro>Nano...
- Ecology &Technology
- River Basin to Coast to Ocean
- Climate & Circular Economy Induced
- Delta plan Knowledge impulse for Waterquality and freshwater



# Water Facilities @ Wageningen

- Kraaijenhoff van den Leur Lab for Water and Sediment Dynamics
- Sinderhoeve
- AgriFarm
- AlgaePark
- MoDuTech Lab





