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ADVANCING A **NEXUS APPROACH**
TO THE SUSTAINABLE MANAGEMENT
OF **WATER, SOIL AND WASTE**



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ADVANCING A **NEXUS APPROACH**
TO THE SUSTAINABLE MANAGEMENT
OF **WATER, SOIL** AND **WASTE**

Nexus thinking for decision makers

Present and future management
challenges

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Content

1. Current challenges
2. Future challenges
3. Viewpoint of decision maker
4. Recommendations for interventions



Nexus thinking: current challenges

Challenge of water resources in relation to agriculture:

- Water demand is increasing, search for new water resources get costly
- Water quality is decreasing due to pollution, overabstraction
- Competing demands (within the sector and cross sectors)

Challenge of land in relation to agriculture:

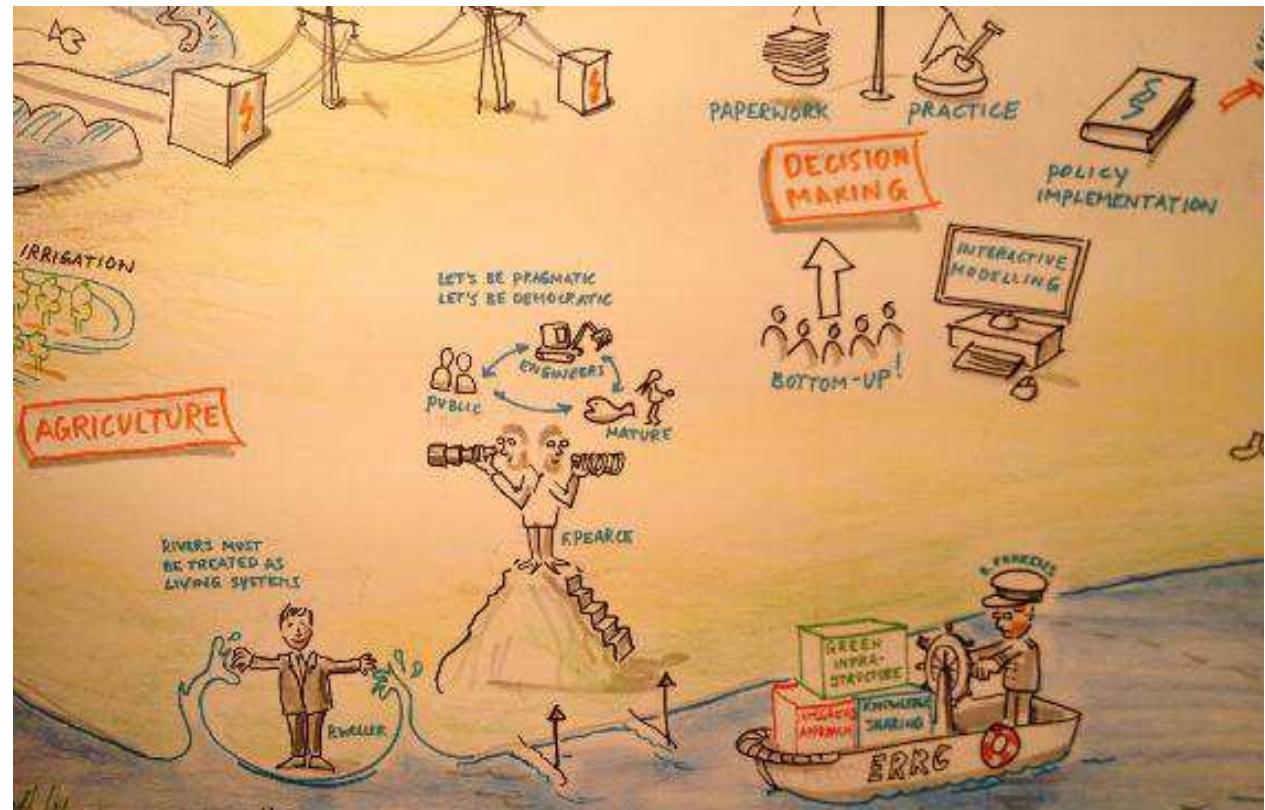
- Soil degradation (erosion, salinisation, contamination)
- Changes in land use





National level:

- water experts disconnected from land experts
- water sector plans/reforms disconnected from land use
- agrarian and land reforms disconnected from water availability
- access to land disconnected from access to water





Basin level:

- in most river basins, including the ones with advanced governance frameworks, emphasis is on management of river water resource





- **International level:**

- no land consideration in UN Convention on Non-Navigational Uses of Transboundary water courses
- no water considered in African Land Policy Framework and Guidelines
- no water emphasized in FAO Voluntary Guidelines on the Responsible Governance of Tenure of Land
- global public opinion stays blind for land-water connection, e.g. in reports on land grabbing



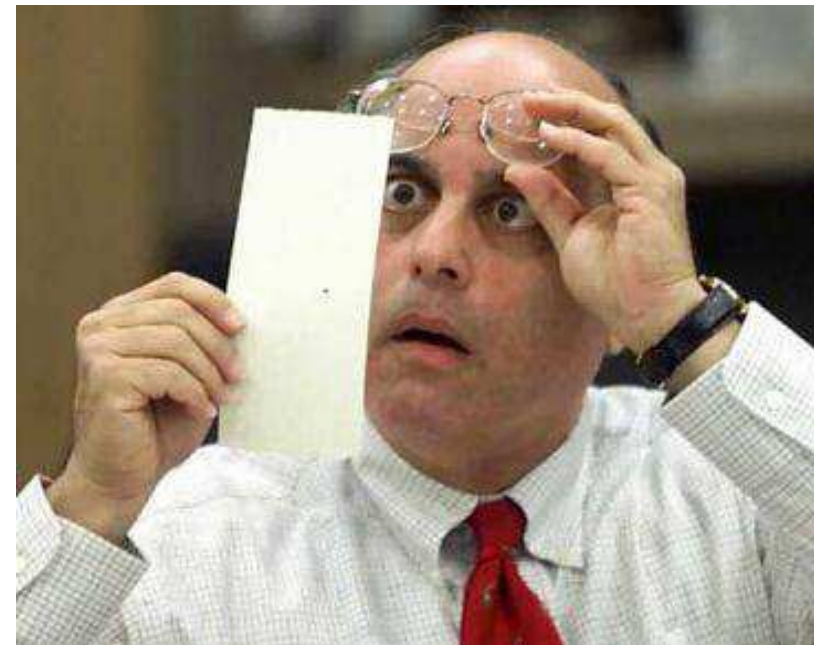


Marked spatial disconnect:

- Regions with the highest land and water potential for increased food production: Africa & L-America
- Regions where highest future food demand is anticipated: South/SE Asia
- Regions with the financial capital and tech know-how to develop land/water: Global North, emerging economies, oil-rich countries



- **Decision maker (individual):**
 - No need to think about "nexus"
 - He/she is careful in thinking about payment for his/her consumption
 - He/she is seeking to satisfy personal preferences





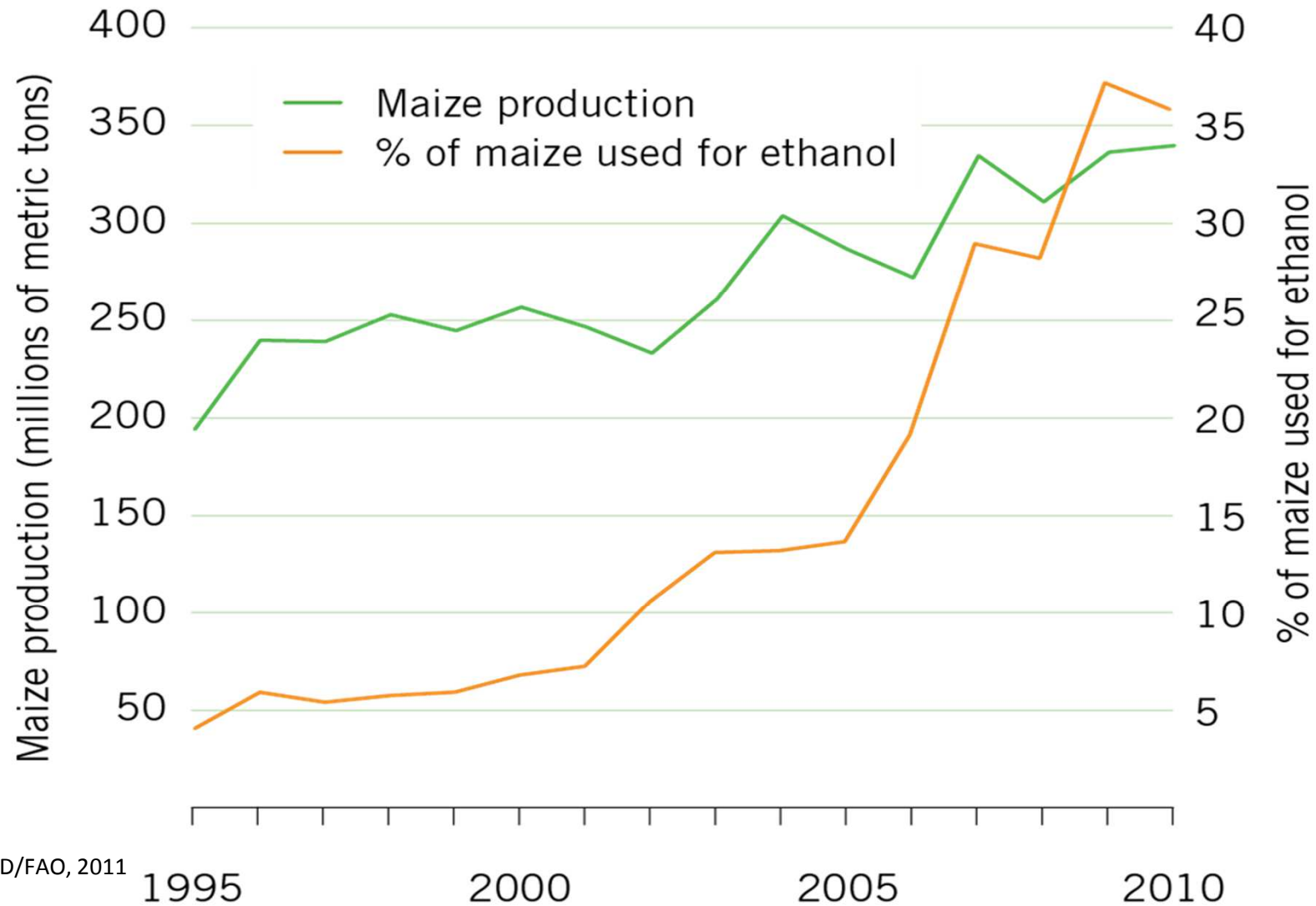
- **Decision maker (company):**
 - Need to minimise cost and maximize benefits
 - Polluter pay and User pay principles work very well to use the resources more efficient
 - Companies consider the “Nexus” if it brings savings/profits: resource saving technologies, recovery of waste, reduce waste disposal applied at company level



- **Decision maker (state):**
 - Responsible for allocation of resources in a long term
 - Creating and securing governance system of the country
 - A high interest to understand the Nexus, but a low interest to undertake institutional/legal reforms



Example of "no-nexus" thinking at company/state level:



Source: OECD/FAO, 2011



Why waste is a part of Nexus?

- Waste (*FreeDictionary* definition): An unusable or unwanted substance or material
- Waste (*Wikipedia* definition): Waste(s) is a pejorative term for unwanted materials. The term can be described as **subjective** and inaccurate because waste to one person is not waste to another





- Waste and Water/Land:
 - Threat to human health and ecosystem
 - High cost to treat it
 - Rich in nutrients (sludge)
 - Alternative use of waste water (irrigation)



NEXUS THINKING

- A number of recent studies influenced thinking on the resource nexus (World Economic Forum, Bonn Conference, SEI, SIWI, World Bank, Nairobi Nexus Dialogue convened by UNSGAB, and many others)
- It become to be easier to demonstrate the interlink of the tasks of supplying the world with water, energy, food





Nexus thinking: future challenges

- There is no corresponding „nexus“ of institutional capacities to address these interlinked issues:
 - Insufficient policy coordination and/or complex sector organizations, which impair policy integration
 - A strong supply – driven legacy
 - Missed allocation of public finance
 - Weak mechanisms for stakeholder participation





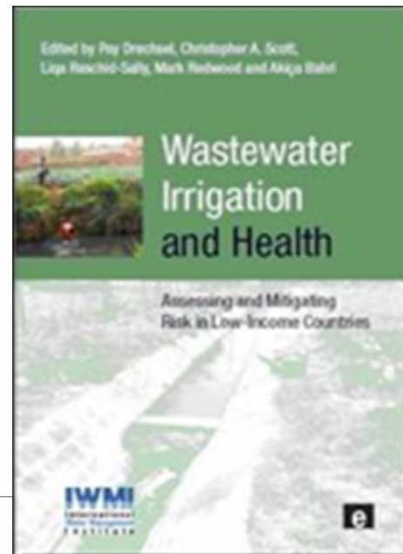
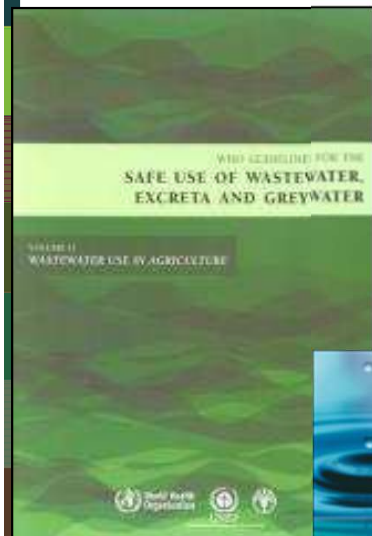
Future Challenges:

- Land and Water at the center of a new geo-political context for food security
 - Profound changes in price relativities with much local variability
 - Water - scarcer/costlier many places
 - Land – more competition
 - A more unpredictable climate
 - Future increased dependence on what can be grown – Food, Feed, Fiber and Fuel (4Fs)

What hasn't changed: The need to eat



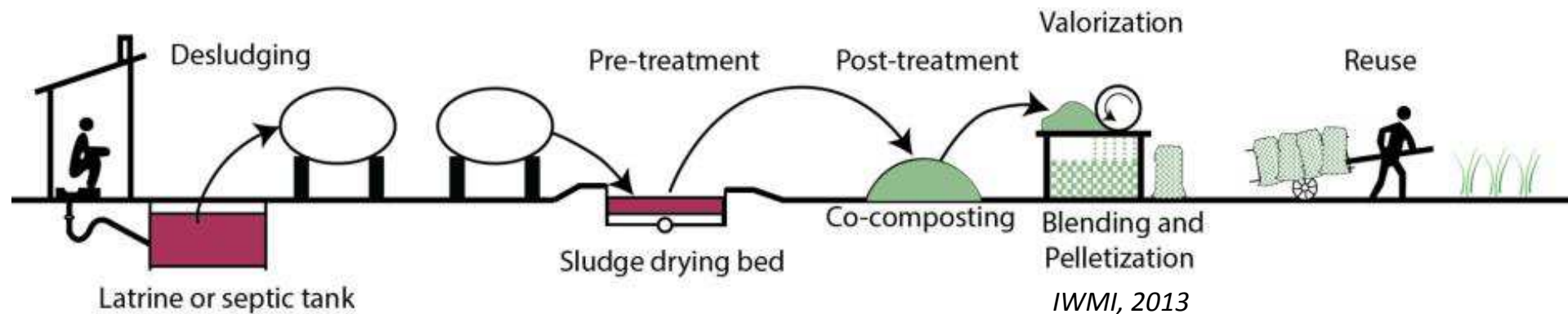
- Many organizations (led by FAO/IWMI and WHO) work on technical aspects to reuse waste (especially in irrigation)





Recommendation:

- Technical solutions exist
 - Need to move from pilot case to a broader application
 - Need to remove administrative barriers to implement





Recommendation:

- Need to move from traditional monitoring: water shortage (physical, surface, ground) to nexus-related water monitoring (climate and water cycle)
- Need to enhance capacities of institutions to address trade-offs between sectors (need to know the Nexus)
- Nexus thinking reinforce IWRM process, but we also need an evidence of how nexus approach works in practice

Challenges in the future:

Increased pressure to natural resources and increased competition between sectors will speed up implementing Nexus approach