



OCP Policy Center Conference series

# The Energy Water Nexus : Challenges and Regulations

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# From challenges to policies

- From FS challenges to “global” debates
  - Poverty and FS
  - Agriculture and FS
  - Resource scarcity and FS
  - Trade and FS
  - Governance and FS
- From global debates to domestic policies
  - Regional integration
  - Factor based policies

# Five topics

| Topic             | Argument  | References                                       | Counterargument  | References  |
|-------------------|---|--|--|---|
| Poverty           | Food insecurity is a consequence of income and poverty  | Sen 1998<br>Smith et al. 2000<br>Tomlinson, 2011 | There is a weak correlation between poverty and hunger in Central America            | E. Espindola et al., 2005                           |
| Agriculture       | Because food insecurity mainly affects small farmers, small holder productivity is the key driver | HLPE, 2013                                       | Yield gaps have been reduced thanks to capitalism in agriculture                     | DFID, 2004<br>WEF, 2013 report<br>Mc Kinsey reports |
| Trade             | Trade is a factor of food security  | D. Brooks et al., 2013                           | World market unreliability and stabilisation policies are in the same vicious circle | Ph. Gouel, 2011, 2012                               |
| Resource scarcity | Food insecurity is a consequence of resource scarcity   | UNCTAD, 2013                                     | Induced innovation can reduce the impact (from prospection to recycling)             | J.Simon<br>B. Lomberg<br>WEF reports .              |
| Governance        | Food security is a global governance problem  | H. Page, 2013                                    | Food security is a consequence national governance failures                          | R. L. Paalberg, 2002                                |

# Questions on agricultural models

- Where to focus development efforts – high potential areas where development options are greater or poorer areas where the potential and options are less but the incidence of poverty is greatest?
- Who to focus on – the poorest smallholders who produce for subsistence and have limited engagement with markets, or larger-scale farmers whose success can be an engine of growth and generate wealth and jobs for rural households?
- What to do in less favoured areas – should agriculture be promoted amongst poor households in areas of low agricultural potential that are remote from markets and inputs supplies? Or should the focus be on employment generation to enable poor households to buy in food?
- What role for technology – should primacy in development efforts be given to yield raising technology or to less intensive approaches that minimise variation?
- Which crops – should the emphasis be on?

# Net buyers

| Country                          | Category     | Commodity    | % Net buyers | Source             |
|----------------------------------|--------------|--------------|--------------|--------------------|
| <b><i>Sub-Saharan Africa</i></b> |              |              |              |                    |
| Zambia                           | Smallholders | Staples*     | 46           | World Bank (2007)  |
| Mozambique                       | Smallholders | Maize        | 63           | Jayne et al.(2006) |
| Kenya                            | Smallholders | Maize        | 62           | Jayne et al.(2006) |
| Ethiopia                         | Smallholders | Maize & teff | 73           | Jayne et al.(2006) |
| <b><i>Latin America</i></b>      |              |              |              |                    |
| Guatemala                        | Smallholders | Maize        | 97           | Authors            |
| Bolivia                          | Smallholders | Staples      | 70           | World Bank (2007)  |
| Peru Sierra                      | Farmers      | Maize        | 93           | Authors            |
| <b><i>Asia</i></b>               |              |              |              |                    |
| India                            | Smallholders | Rice         | 74           | Authors            |
| Bangladesh                       | Smallholders | Staples      | 59           | World Bank (2007)  |
| Vietnam                          | Smallholders | Staples      | 40           | World Bank (2007)  |
| Cambodia                         | Smallholders | Staples      | 32           | World Bank (2007)  |
| <b><i>Unweighted average</i></b> |              |              | <b>64</b>    |                    |

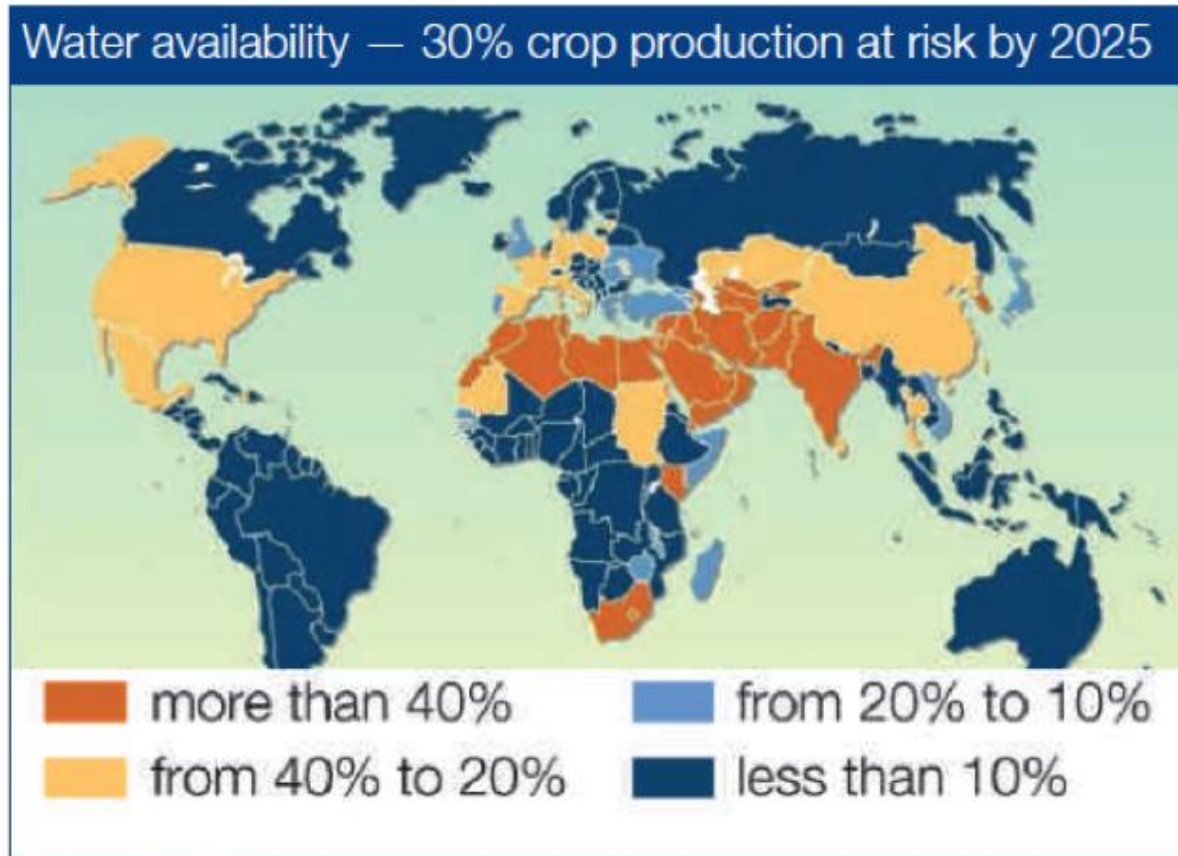
# WEF and private sector

- Companies that are Industry Partners of the Forum. The 17 global companies that championed the initiative are Archer Daniels Midland, BASF, Bunge, Cargill, The Coca-Cola Company, DuPont, General Mills, Kraft Foods, Metro, Monsanto Company, Nestlé, PepsiCo, SABMiller, Syngenta, Unilever, Wal-Mart Stores and Yara International.
- The initiative addresses the major challenges of global food and agricultural sustainability based on a vision of agriculture as a positive contributor to food security, environmental sustainability and economic opportunity. To advance progress toward that vision, this roadmap outlines a framework for action to implement business-led and market-based solutions that are explicitly linked to national development priorities.

# Models and FS components

|              | Capital intensive Model 1                         | Comments                          | Smallholder Model 2  | Comments                     |
|--------------|---|-----------------------------------|--|------------------------------|
| Availability | High increase in yields at high costs             | Russia<br>Ukraine<br>Kazakhstan   | Moderate increase in yields at reasonable costs                                | Supported by UN agencies     |
| Access       | Indirect  | Through income and employment     | Direct household consumption and short distance markets                        |                              |
| Utilisation  | Public food safety                                | Expensive and not always reliable | Traditional "precautions"  |                              |
| Permanence   | In the long run, intensification is a risky model | See Agrimonde scenario below      | In the long run integration is more efficient in terms of resource consumption | See Agrimonde scenario below |

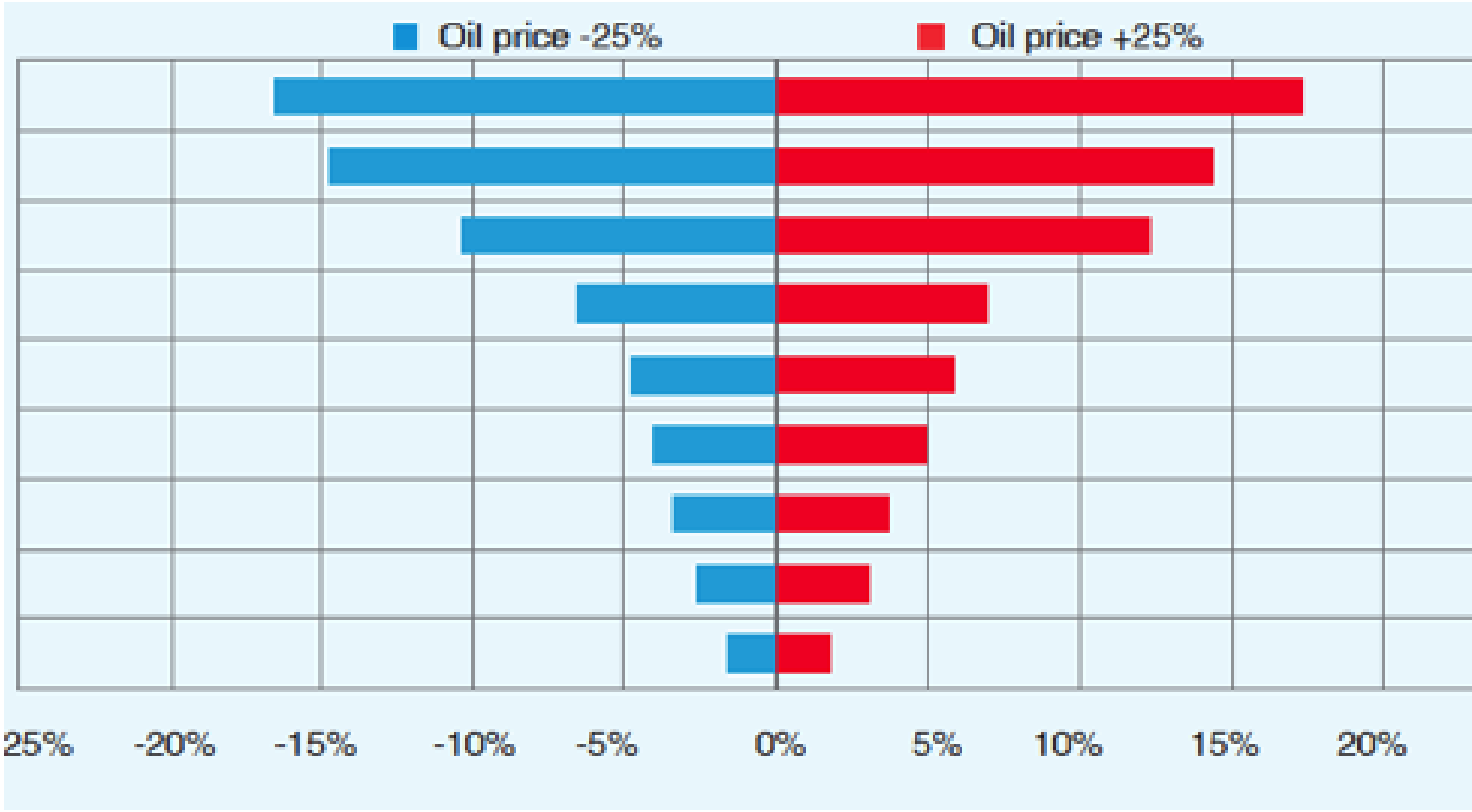
# Resources



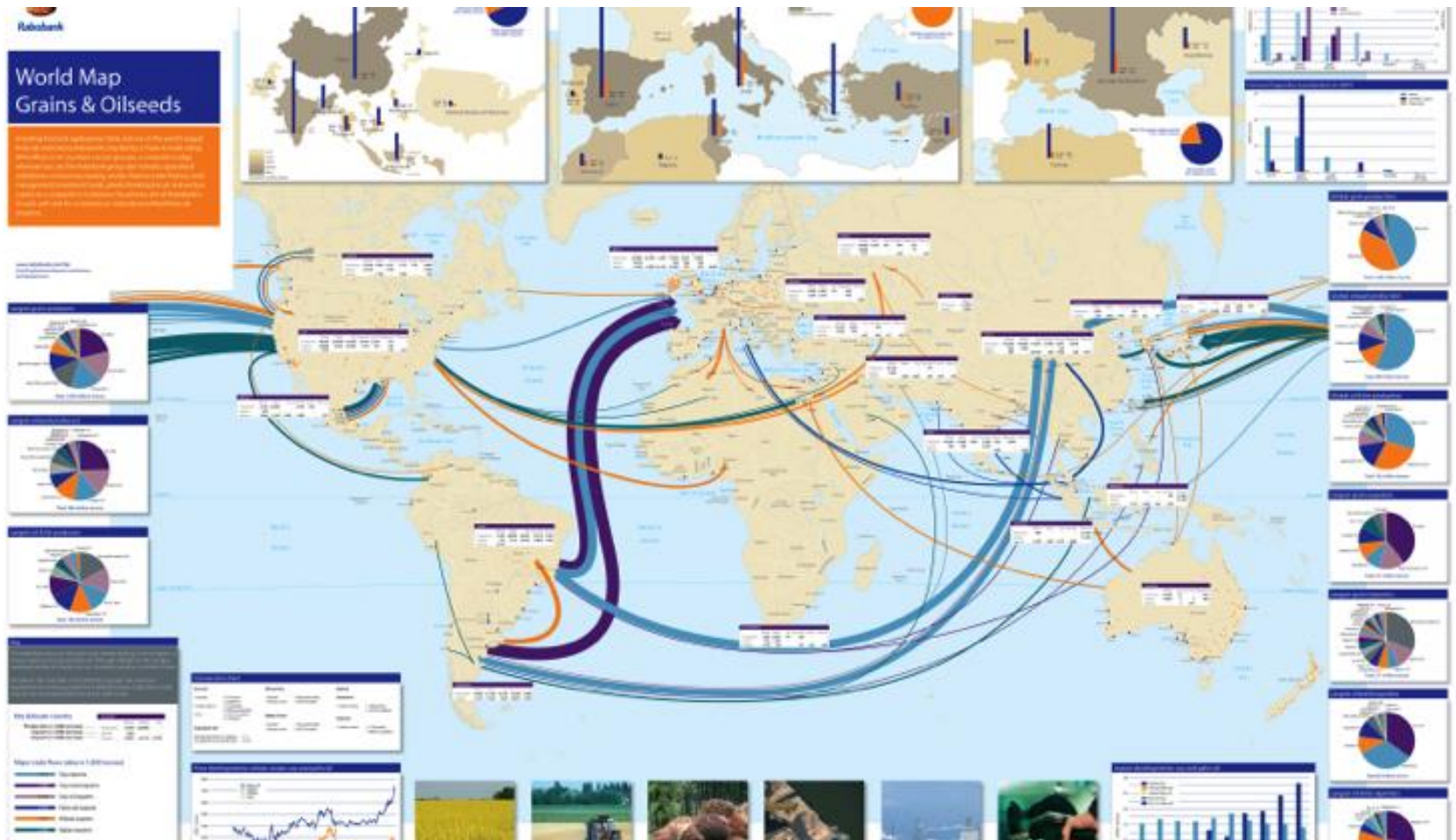
Source: UNEP



# Resources



# Grains and oilseeds trade



# Food free trade?

- From the perspective of standard welfare economics, state interventions, in the form of price stabilization, are inefficient and costly policies.
- “coordination” argument (Gouel)
- “irreversibility” argument
- “social” argument
- Doha negotiations failure



# Policies

- Changing policies to face uncertainties
- New regional vertical integration opportunities:
  - Northern Africa
  - Southern Africa
- Factor based policies:
  - Uncertainties, efficient markets, rules and regulations especially following major innovations in the way factors are being combined
- At the end, it is a political agenda based on giving voice to farmers and innovators.