Managing demands for a water wise world

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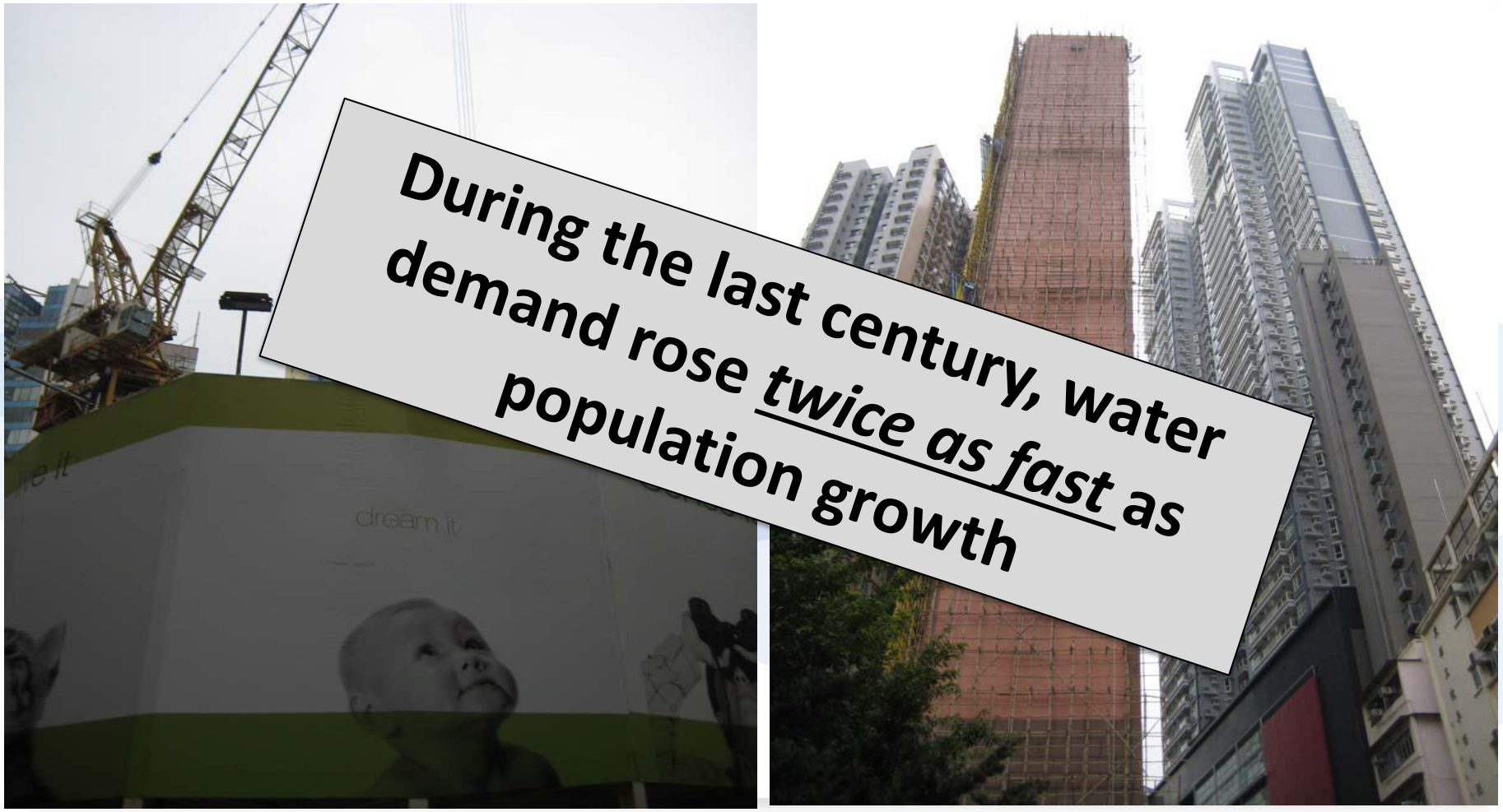
Global Drivers of Change

- Climate
- Population growth
- Urbanisation
- Globalisation
- Economic growth
- …

The World's growing population: 9 billion people by 2050

New Citizens

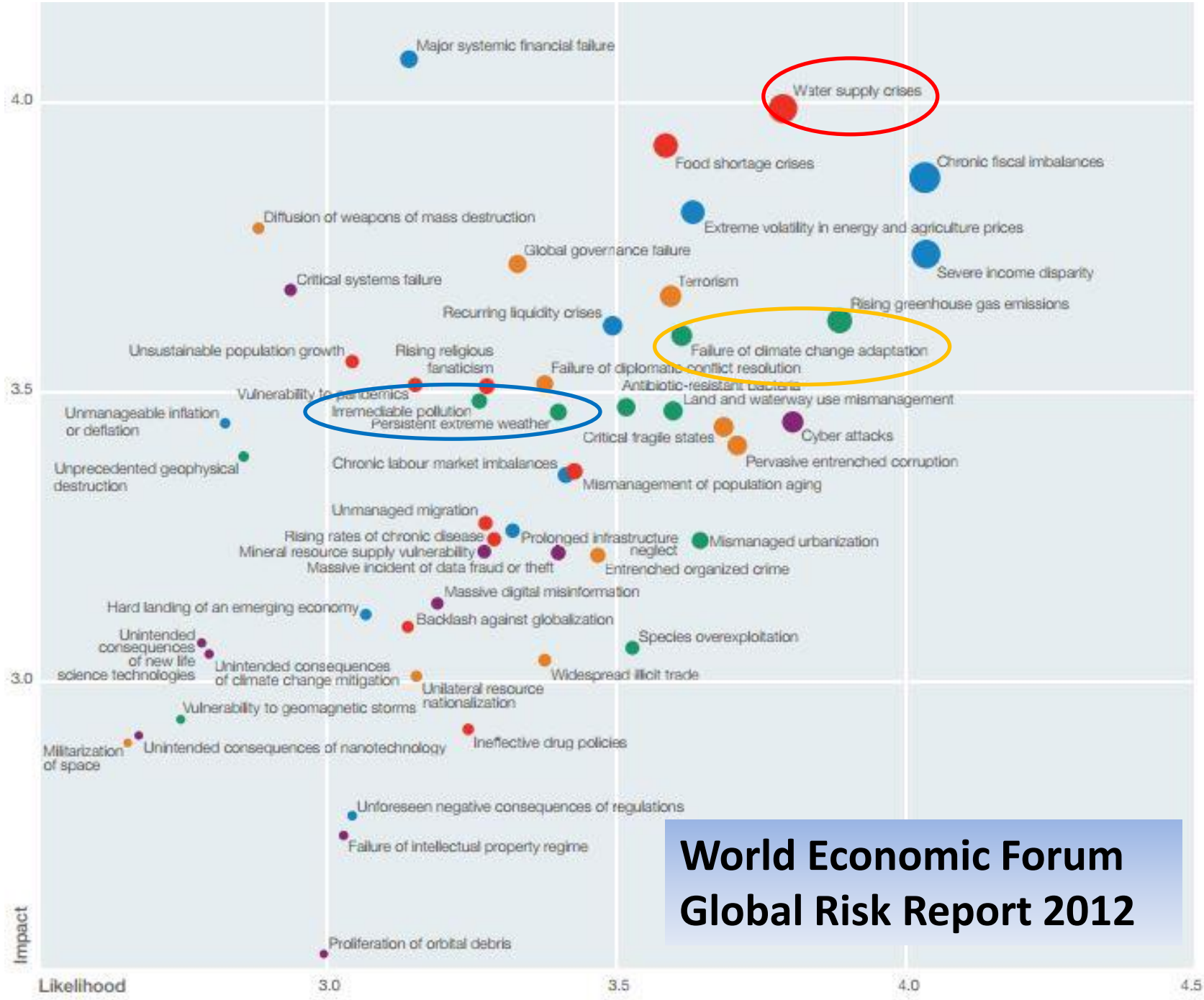
- with dreams
- with the right to sense development
- with increased purchasing power



World Challenges by 2050

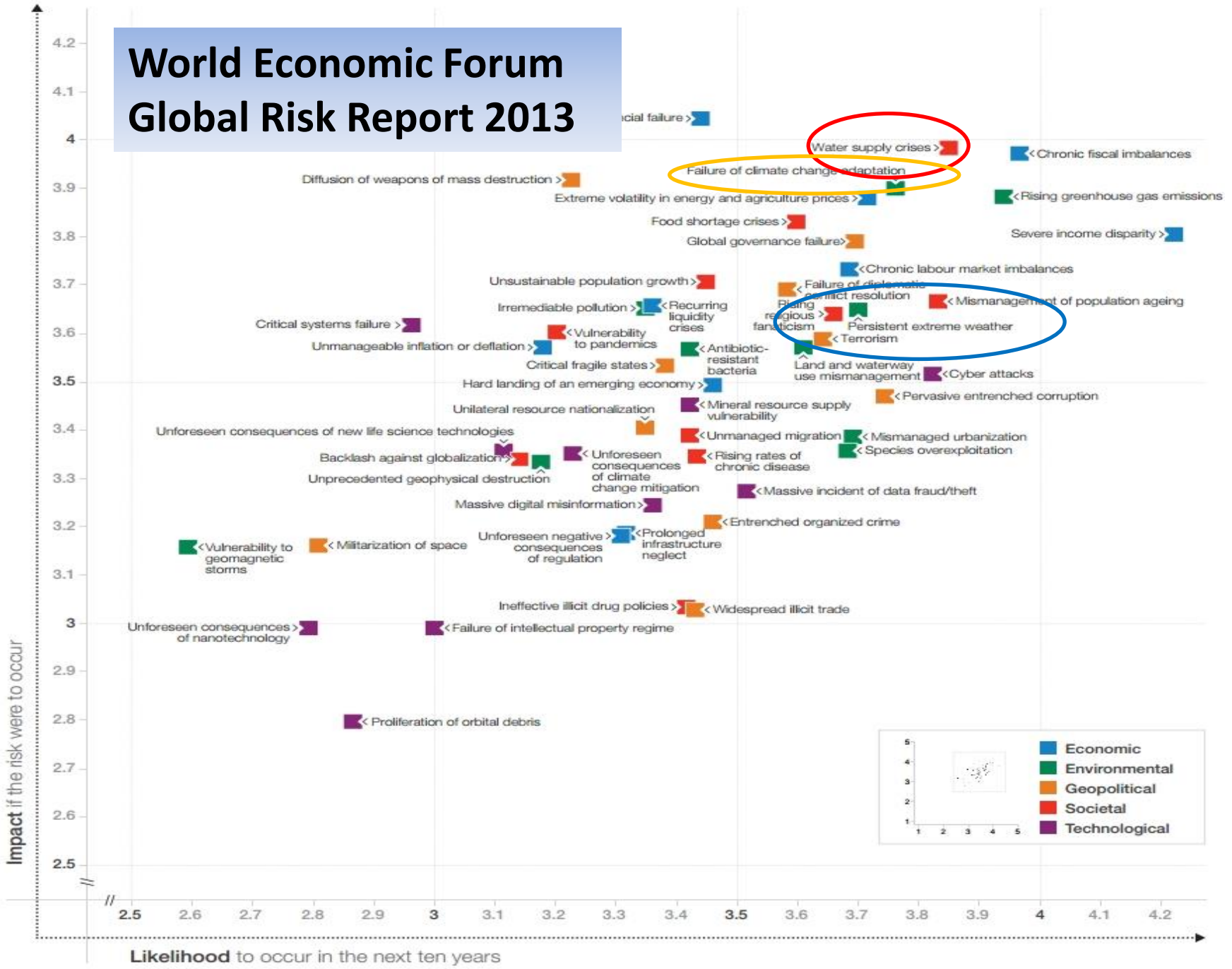
- *Energy demand* by 2050 is **80%** higher (OECD, 2012).
- *Food production* need to increase with **70%** (FAO, 2009). This requires more efficient productivity (using less water) and more land.
- *Increased differences* between those "*that have*" and those "*that have not*" …water, food, energy…
- **70%** of world's population live in cities by 2050.
- *Water demand* predicted to increase with **55%** due to increased demand of water for industry, energy and domestic purposes (OECD, 2012).

All sectors ”talk water”



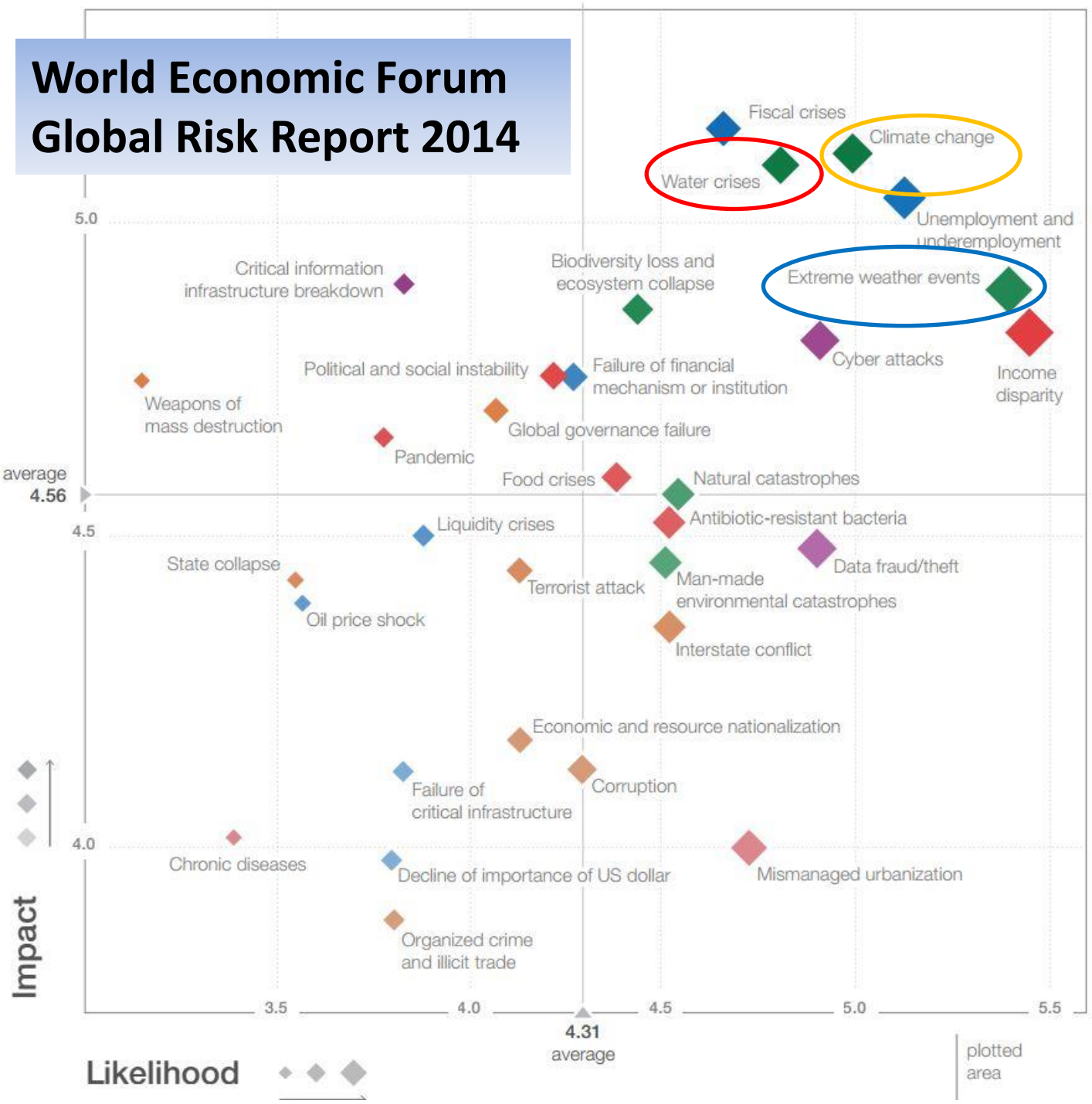
World Economic Forum
Global Risk Report 2012

World Economic Forum
Global Risk Report 2013



Source: World Economic Forum

World Economic Forum Global Risk Report 2014



Future Water Demand

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Total water withdrawals

- An increase in total global water demand by +55%
- Decreasing in OECD by -12%.
- Increasing in both BRIICS and developing countries by +80%.

OECD Environmental Outlook 2050

Water for Domestic Purposes

- +260% BRIICS
- +150% developing world

Increase from 10% to 14%
of global water withdrawals

OECD Environmental Outlook 2050

Water for Electricity

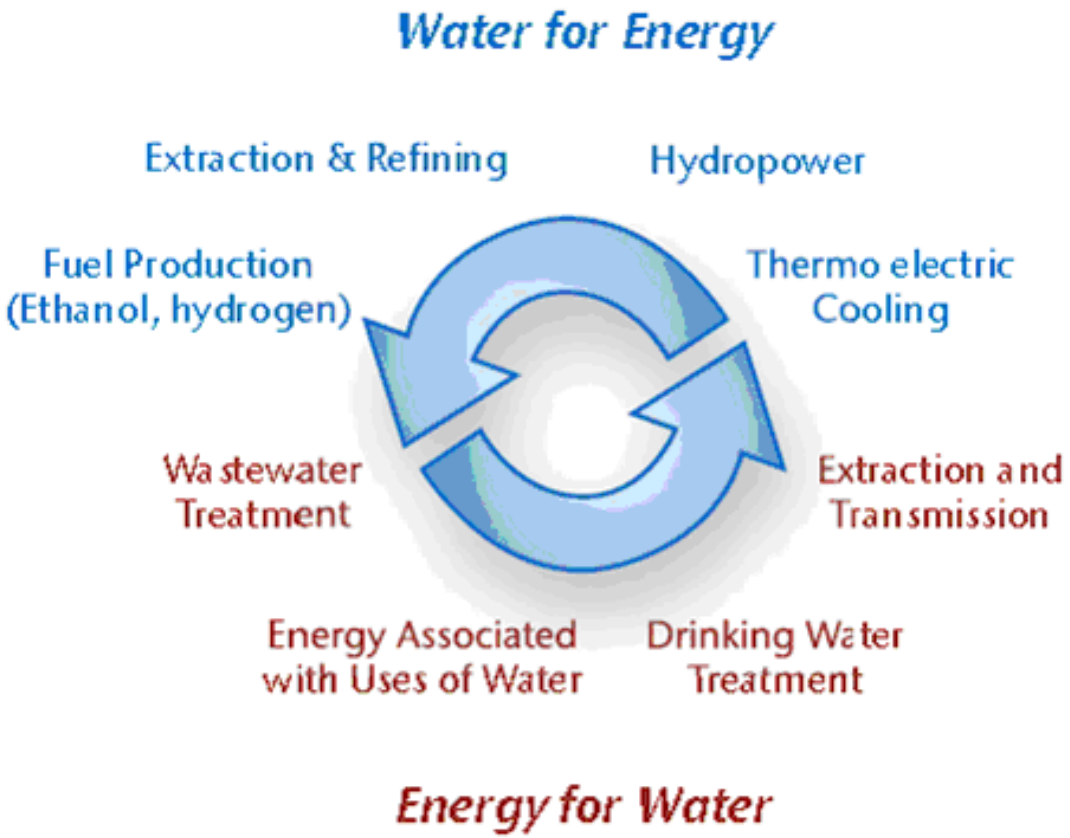
Huge increase!

- +370% in BRIICS
- +370% developing world
- -5% in OECD

A projected increase in demand, rising the share of global water withdrawals from 16% to 25%

OECD Environmental Outlook 2050

Water and Energy



Source: Paul Reiter / International Water Association

Water for Manufacturing

Enormous increase!

- +65% in OECD
- +725% in BRIICS
- +370% in developing countries
- +410% globally

Water for manufacturing increase from 7% to 22%

OECD Environmental Outlook 2050

Water footprint – and trade

Irrigation

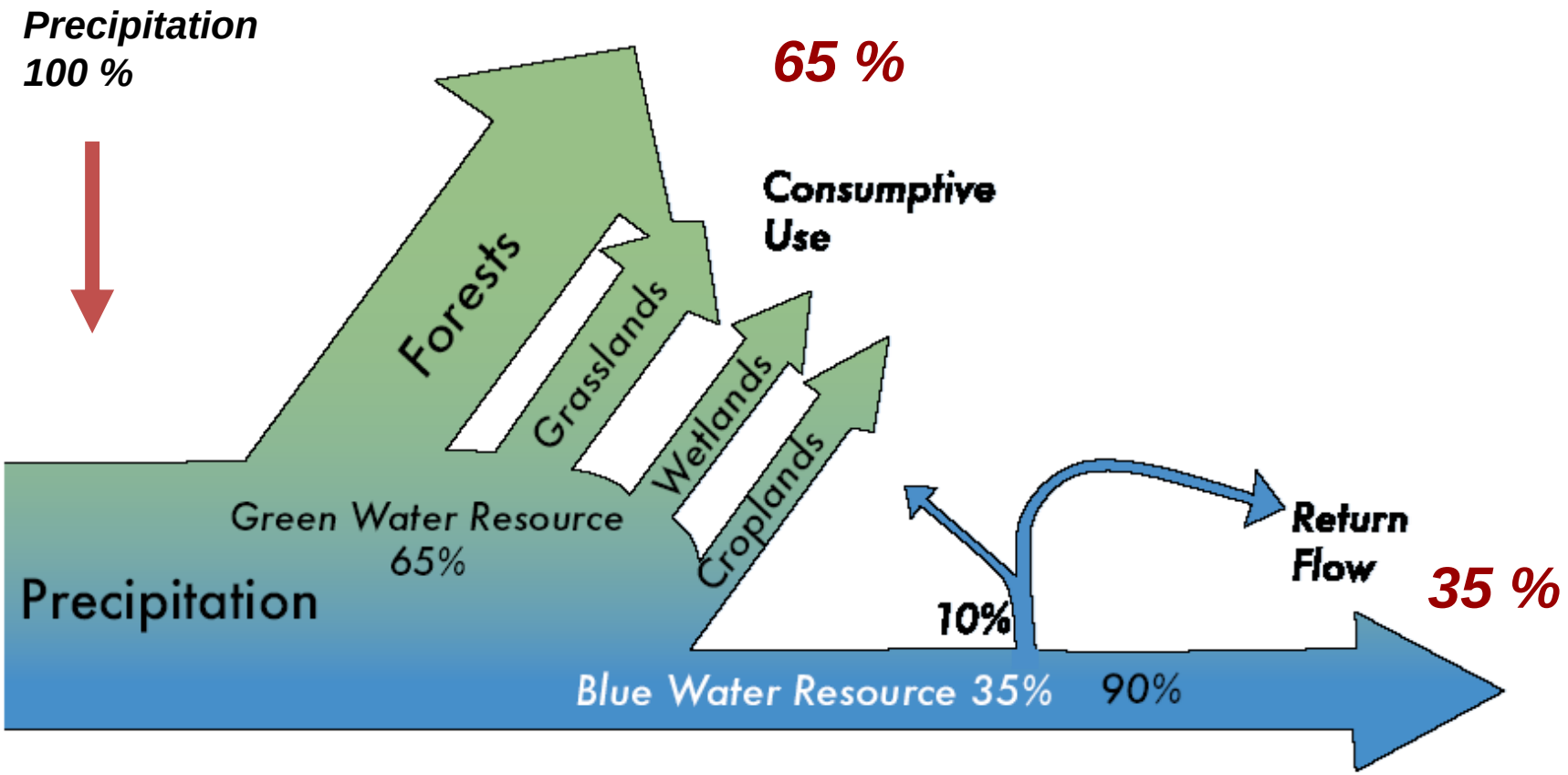
Decreasing across the world:

- -42% in OECD,
- -14% globally.

67% of water withdrawals in 2000 - only 37% in 2050.

OECD Environmental Outlook 2050

Most agriculture is rainfed



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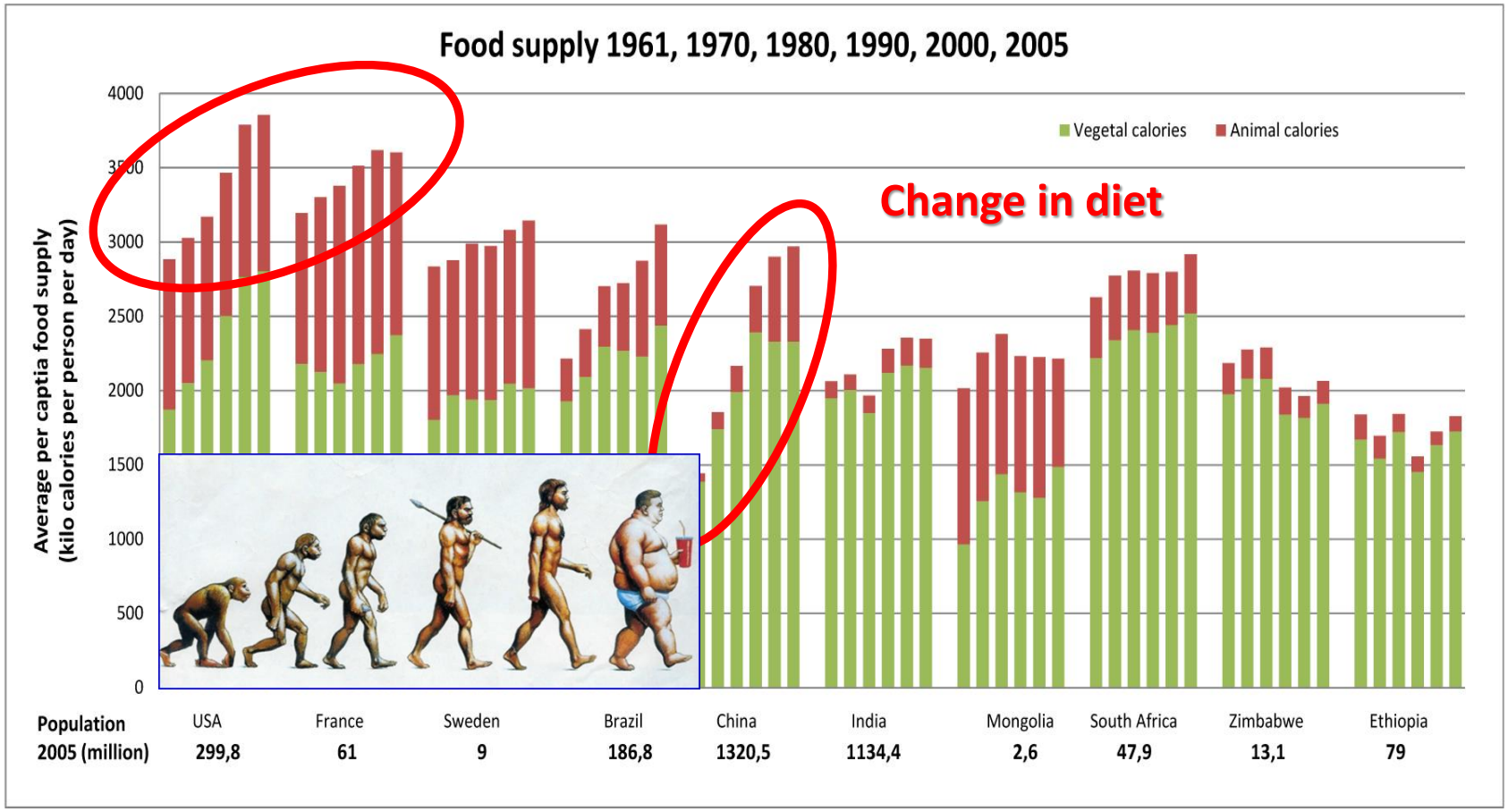
Changes in Food Supply, 1961 – 2005



Between 2007 – 2008, world food supply increased by 5% (a new record)

Parallel with this, the number of undernourished increased by 150 million

Water footprint

Increasing biofuel production

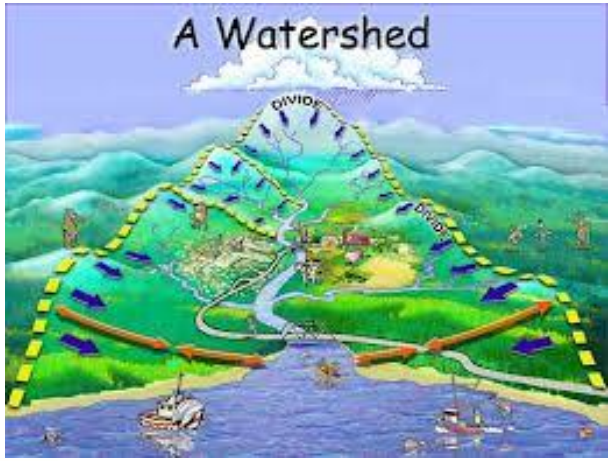
Why focus on forest and water?

- Forests play a very important role in the water cycle!
- 75% of the worlds fresh-water demand is provided from forested catchments
- 8% of the worlds forests have soil and water conservation as their main objective
- At least one third of the world's largest cities draw its water resources from forested catchments

Water, forests and urban demand

- 70% live in cities by 2050

- Growing population and urbanisation increase the linkages between "*urban expansion areas*" and *surrounding river basins* and put increased stress on the (water) resources in these basins.



- Forests are crucial in these basins.

Forest and water – long list of relevance…

- Adaptation to cc – floods, droughts, landslides
- Mitigation of cc – carbon sinks
- Food production – agroforestry
- Livelihood diversification (eg. medicinal plants)
- …

Thank You!