

Water Management
The Foundation for Science and Technology
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The challenges of achieving global Water Security

Michael Norton MBE
Managing Director
Water and Power
Halcrow Group Ltd



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Our Earthso much water



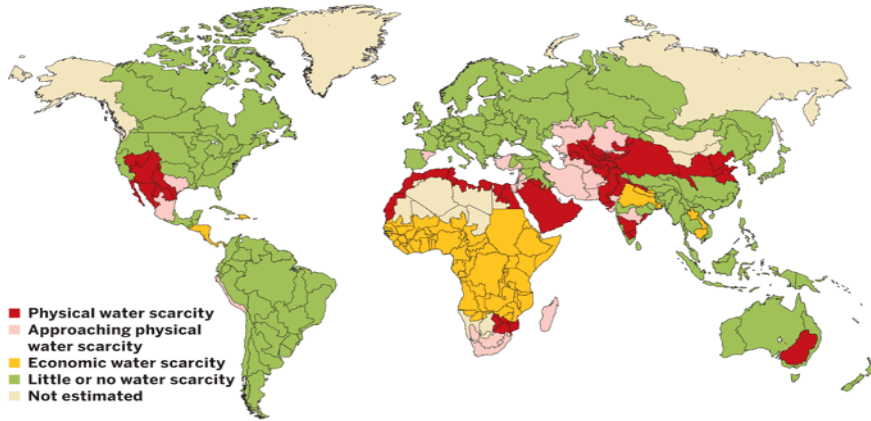
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...but scarcity is with us

WATERWORLD Areas of physical and economic water scarcity



- Physical water scarcity
- Approaching physical water scarcity
- Economic water scarcity
- Little or no water scarcity
- Not estimated

NOTE: When more than 75% of a region's river flows are withdrawn for agriculture, industry, and domestic purposes, it suffers from physical water scarcity. Economic water scarcity is when human, institutional, and financial capital limit access to water, even where water is available locally. **SOURCE:** Comprehensive Assessment of Water Management in Agriculture, 2007

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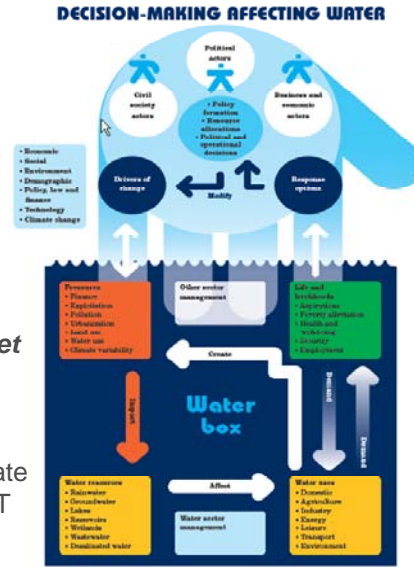
United Nations World Development Report March 2009

“The challenges are great, but unsustainable management and inequitable access to water resources cannot continue.....

.....Actions must include increased investment in water infrastructure and capacity development.....

.....*water professionals must “get out of their box” and engage with politicians and influencers*

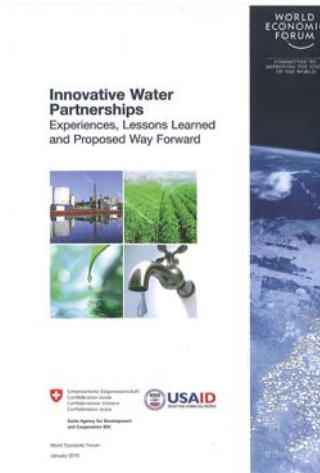
.....leaders in government, the private sector and civil society.....must **ACT NOW!**”



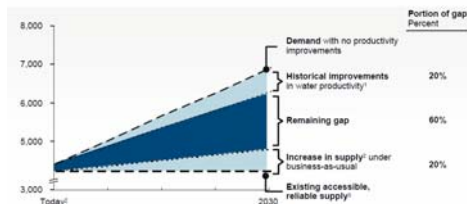
World Economic Forum – Innovative Water Partnerships January 2010

Vision: Collaboration for water management and use among industry, municipal, and civil society stakeholders is mainstreamed into organizational and sector practice, resulting in ‘win-win’ water partnership projects that mitigate pressures of scarcity and competing demand.

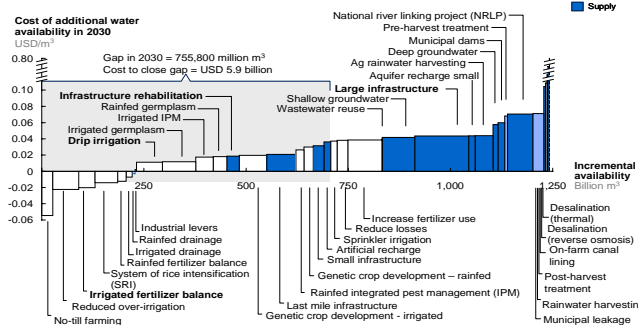
- Element 1: Create institutional commons across different scales that support collaboration**
- Element 2: Channel funding to networks and process-based approaches to attract better and more investment**
- Element 3: Develop individuals and organizations as innovation vectors**
- Element 4: Invest in integrated water service delivery**



Charting our water future – McKinsey & IFC November 2009

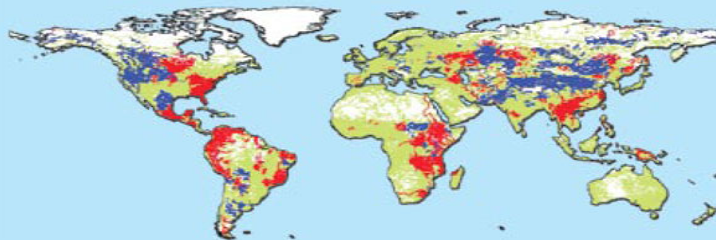


The aggregated cost curve for India

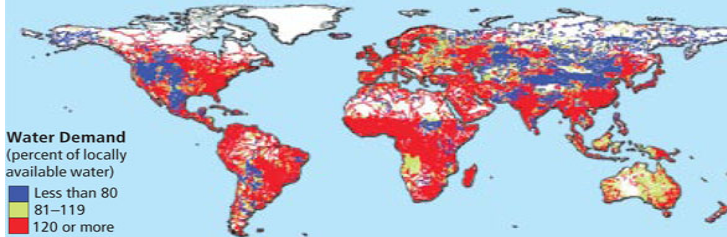


....it will get worsebut how much worse?

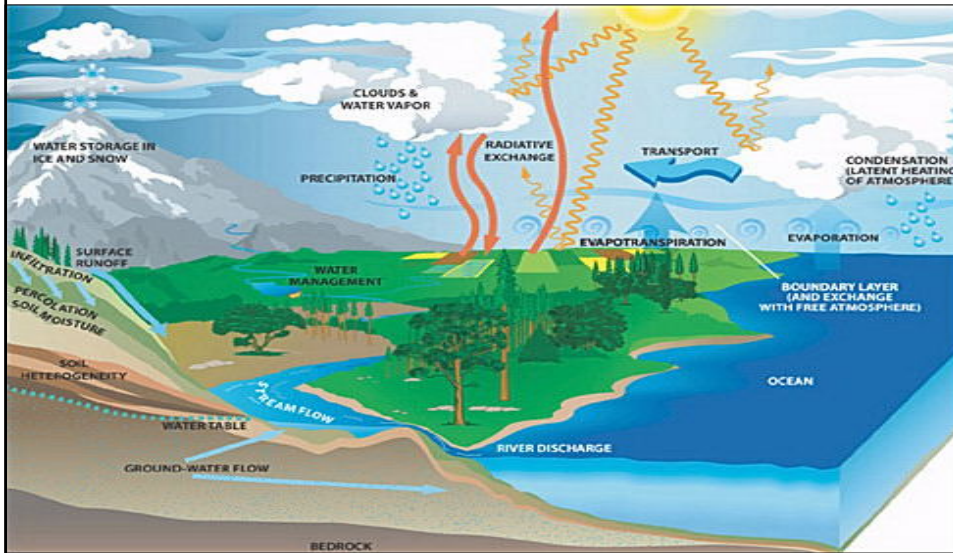
CLIMATE CHANGE WILL INFLUENCE SCARCITY ...



... BUT POPULATION GROWTH WITH CLIMATE CHANGE COULD BE DEVASTATING



The Water Cycle

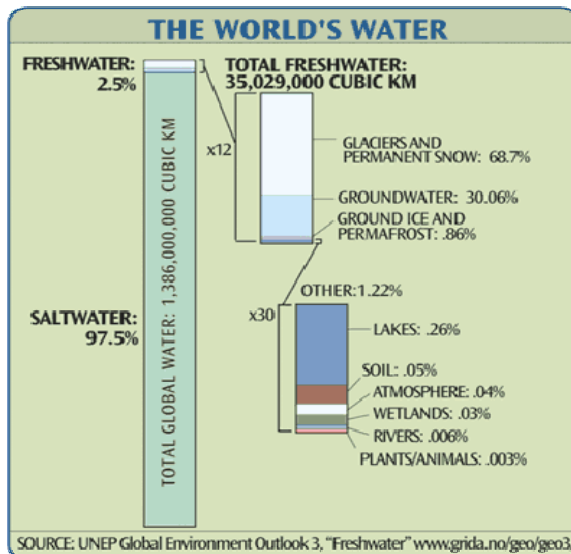


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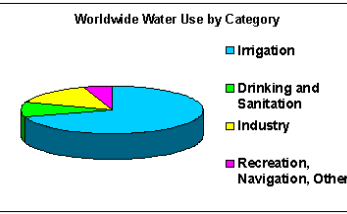
Just how much water is there?



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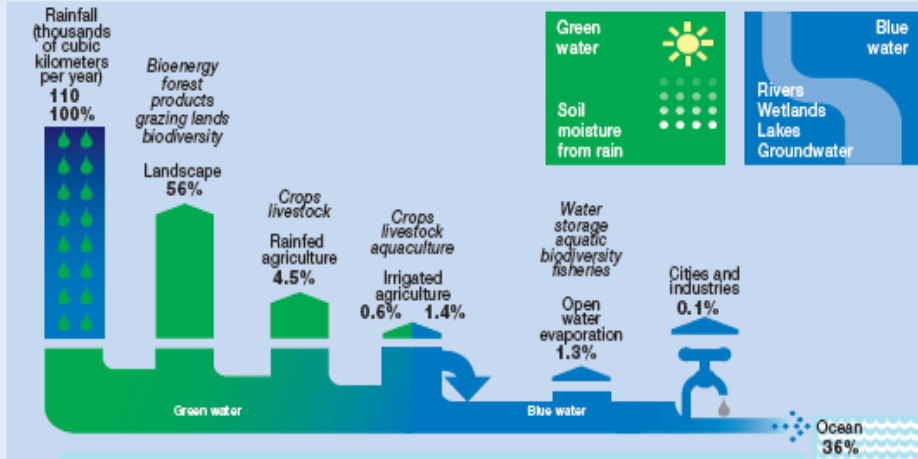
- 110,000 km³ per year of water falls as rain
- Rivers convey 43,000 km³
- but it isn't uniformly distributed in space and time....
- and only 12,500 km³ can be accessed
- And already we withdraw 4,000 km³ ..
- Leaving only 8,000 km³ for the environment



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.....where does all that rainfall go?

Global water use

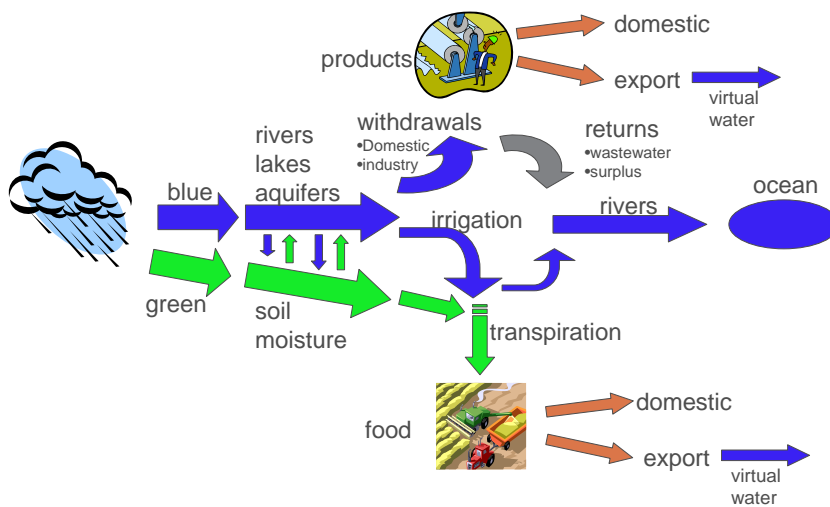


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.....green water, blue water, grey water

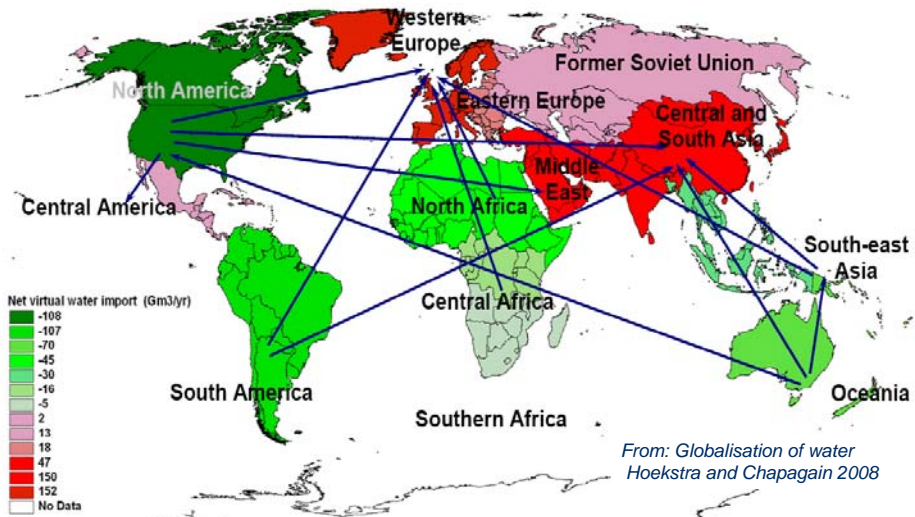


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Flows of virtual water

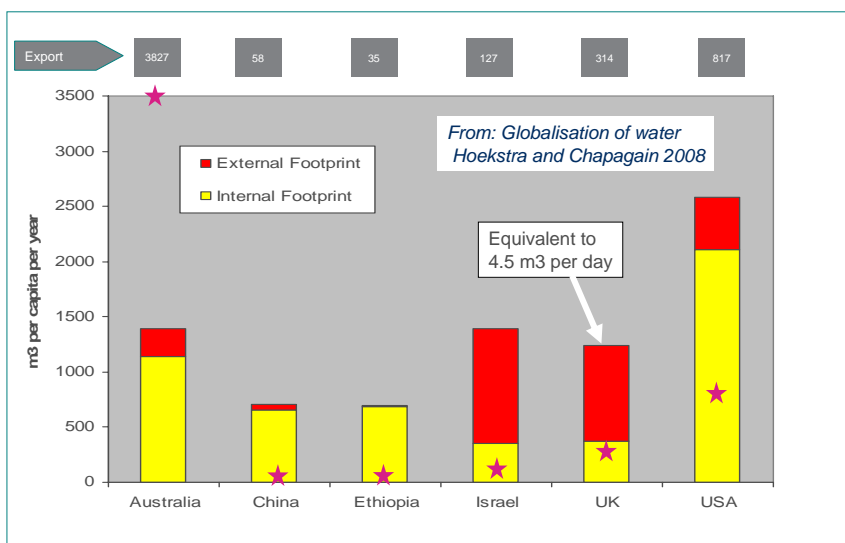


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Water footprint.....at last he has mentioned it!



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Water-Food-Energy nexus....a perfect storm?



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What would global water security look like?

- Affordable drinking water supplies to urban and rural populations worldwide
- Sustainable sources of water for industry, including security of water for the suppliers of raw materials
- Integrated management of water resources for all users, especially for the biggest user of water worldwide - agriculture
- Policy reforms that lead to sustainable water resources development, thus preventing political instability and at its extreme, water wars
- Mobilisation of substantial volumes of public and private funding into water management, through the provision of regulatory regimes which give investors confidence

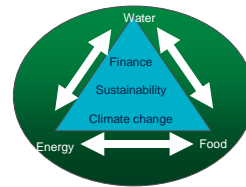
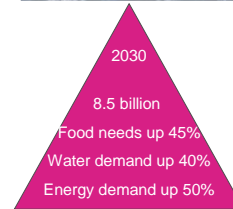


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How can we “make things happen”?

- Intensify the global debate around the water-food-energy nexus
- Be open minded about learning from others such as Australia and Chile
- Understood better the levers which will close the supply-demand gap
- Government, private sector and communities must harmonise their aspirations through innovative partnerships
- Correlate countries hydrologically best suited to grow food for 9bn people....
-and to do that address trade barriers, price supports and other subsidies
- Water professionals stand up and be counted - we hold the knowledge and toolkit - get out of our box!



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