



Impacts of Climate Change on Water Resources & WASH
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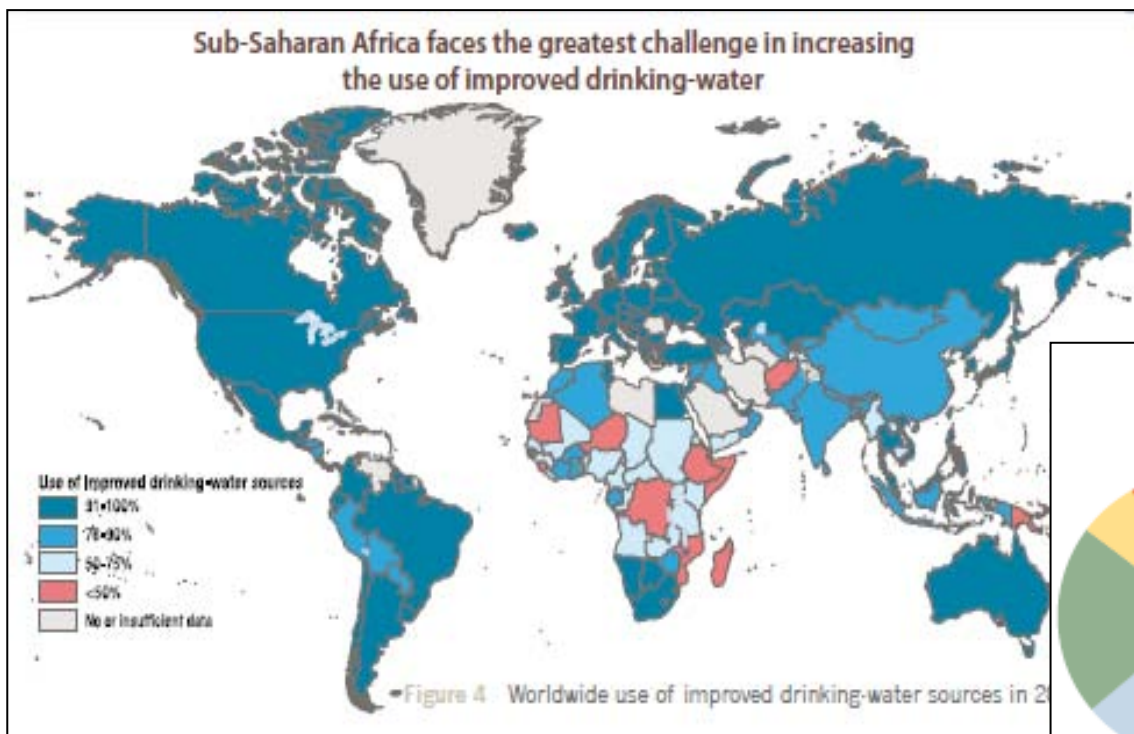




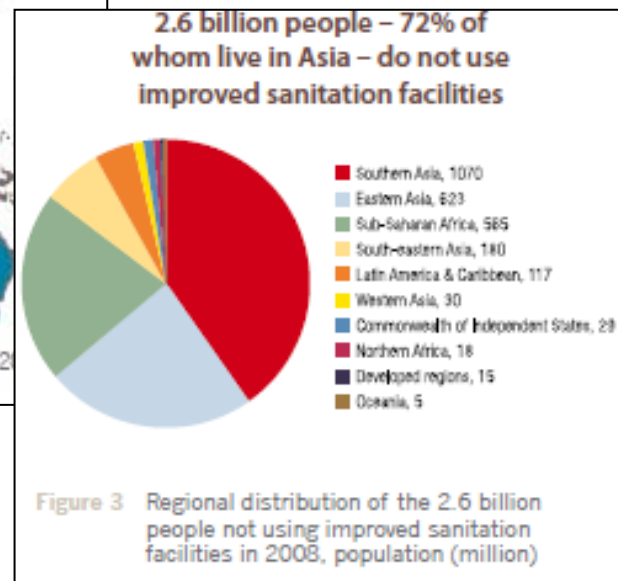
Outline

- WASH – current status
- Climate change & water – evidence, perspectives
- Impacts on WASH infrastructure & services
- Responses – what does adaptation *mean* in practice?

Use of improved drinking & sanitation



Source: WHO/UNICEF 2010





Climate change & water: impacts, perspectives

- Changes in flow regimes, recharge patterns, water quality, extreme events
 - An 'intensification' of existing variability...
 - But uncertainties (from rainfall) grow along the model chain...and at temporal & spatial scales relevant to WASH decision-making
 - So why a narrow focus on *physical scarcity & metrics*?
 - **Supply-side**: variability, uncertainty, scale
 - **Demand side**: access & entitlements
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The scarcity at the heart of the global water crisis is rooted in power, poverty and inequality, not in physical availability



Impacts on infrastructure & services

CC does not change the nature of threats...but does change *severity, frequency* and *timing*:

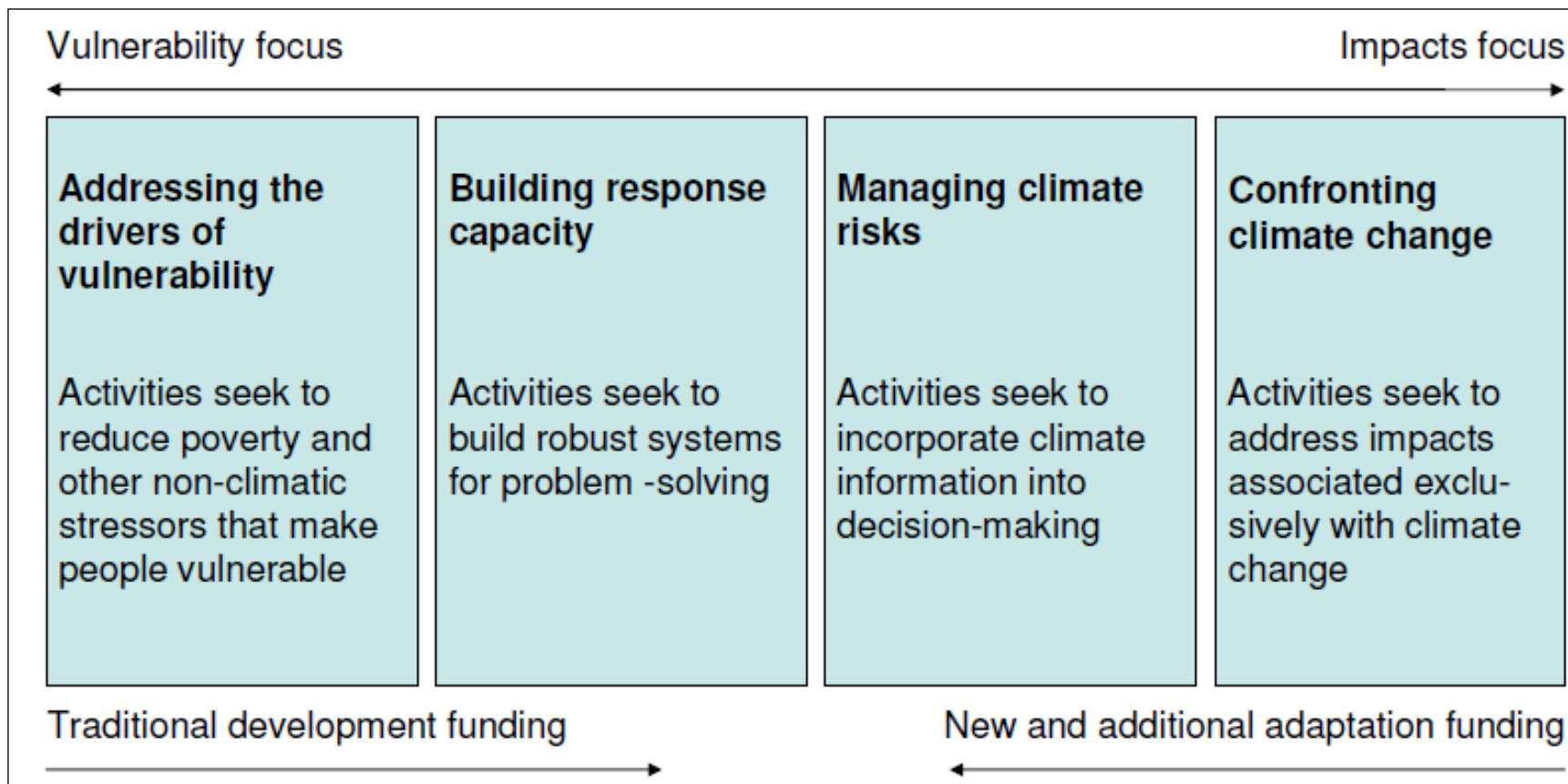
- **Increasing runoff, flooding** – infrastructure damage, contamination, siltation
- **Decreasing rainfall, runoff, recharge** – reduced water availability (e.g. seasonal), threat to O&M of sewerage systems, less dilution/env absorption
- **Indirect effects** – energy interruptions



So what does adaptation *mean* in practice? 'Business as usual...but better'?

- Improve **resource assessment**, monitoring
 - Strengthen **governance** – especially local
 - Address the **functionality** crisis – *source* sustainability
 - Build in **redundancy** – robust to uncertainty
 - **Protect sources** from contamination
 - Offer **mixed technologies** – different risk profiles & multiple uses
 - Invest in **storage** – different scales
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Adaptation continuum



- Climate change is not happening in isolation – address multiple pressures
- Extending access remains key to reducing vulnerability
- Address known bottlenecks – resource assessment, monitoring, source sustainability, storage





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