The meeting considered different aspects of sanitation in the climate change and adaption debate. The keynote, *the resilience of water supply and sanitation in the face of climate change*, offered an overall perspective of the threats and opportunities sanitation and water face in climate change. The second half of the day concentrated on more specific challenges and solutions for organisations working in the sector. The meeting concluded in thinking about what sanitation professionals and practitioners need to know in view of UN CoP15 and beyond.

The key points of each session are summarised below, full presentations are held on the website.* Page 3-4 present a synopsis of the main themes of discussion and take home messages identified throughout the day - what we need to know as sanitation practitioners about climate change and adaption and the implications for the sector.

**Keynote : The resilience of water supply and sanitation in the face of climate change - Jamie Bartram, UNC**

The presentation drew upon the DFID / WHO report Vision 2030 *The resilience of water supply and sanitation in the face of climate change*. The resilience of water and sanitation technologies are expressed in terms of *vulnerability* and *adaptability* under different climate scenarios.

- Actual resilience depends on local adaptive capacity
- Climate change is perceived as a threat, adapting to climate change may provide opportunities for improvement in sector delivery.
- Need for climate-smart thinking, use of technologies adapted to likely climate scenarios
- Pit latrines have highest resilience BUT flooding is a major challenge
- Need for widely accepted (&desirable) alternatives to sewers in high density urban areas.

**CIWEM Climate Change Network - Paul Horton, CIWEM**

Paul Horton, Director of International Development at CIWEM spoke on CIWEM’s Climate Change Network - a steering group of government, inter-government, consultancies and water and environmental organisations. The group provides expert views on CCA and raises the profile of climate change in policy and decision making processes.
WaterAid, Climate Change and Sanitation - Richard Carter, WaterAid.
Richard Carter, Head of the Technical Support Unit, WaterAid shared how Climate Change and Adaption features in WaterAid’s current work.

- Consider climate change in context (climate – population – environment), the bigger picture of the stresses acting on vulnerable populations & the natural and built environment.
- Climate variability is significant (even without climate change); Climate change is happening (non-linear, non-intuitive)
- Direct impacts on sanitation are flooding and urban storm water drainage
- Indirect impacts on sanitation are on populations growth and movements and vector borne and diarrhoeal disease
- Need to actively enhance resilience, reduce vulnerability, and increase adaptive capacity of the communities on the ground.

Climate Change and Environmental Degradation Risk and Adaptation Assessment (CEDRA) - Mike Wiggins, Tearfund.
Mike presented the CEDRA tool developed by Tearfund – a non-expert guide to identify and prioritizes environmental hazards, which in doing so, builds local capacity to manage risk.

- Risk management approach to prioritise actions & reallocate risk in the face of CC. Cost benefit analysis.
- Empowers local agencies and the communities they work with to understand and respond to CC in their own context
- Participatory approach helps users to integrate community and scientific knowledge, capturing local adaption strategies.
- Prioritizes the most vulnerable
- Helps agencies ‘climate proof’ their interventions (ensure their project portfolios are cost effective & robust against environmental change).

Hannah Stoddart – Sanitation and the UN CoP15.
Hannah spoke of the processes leading up to UN CoP15 and how water despite being the main source of transmission for climate change events has been dropped from the UN CoP15 agenda. Health and Sanitation are very unlikely to receive any reference. To achieve impact the sanitation sector must align with other mechanisms such as health and water to carry the sanitation message.

*https://sanitationcommunity.basecamphq.com*
**Synopsis of SanCoP5: Sanitation for Climate Change and Adaption - What do sanitation practitioners need to know?**

<table>
<thead>
<tr>
<th>Key area of discussion</th>
<th>What do we need to know?</th>
<th>Challenges for the sanitation sector / action required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities and Threats</strong></td>
<td><strong>Bad news (negatives)</strong></td>
<td><strong>Good news (positives)</strong></td>
</tr>
<tr>
<td>- Climate change is happening and impacts will intensify</td>
<td>- Even without climate change, climate variability is significant.</td>
<td>- Adapting to climate change may provide opportunities for improvement in sector delivery</td>
</tr>
<tr>
<td>- Stresses of Climate, population, environment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MDGs &amp; Time Horizon</strong></td>
<td>- MDG for sanitation by 2015 will be missed; key infrastructure investments have already been made...</td>
<td>- We do still have 5 years to do something about this, use this time to focus our efforts on developing a credible, robust monitoring system rather than the current internationally agreed system (which is based on what was used in the 1960’s!)</td>
</tr>
<tr>
<td>- Predicted CC will render MDG progress even further off track.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>- Climate change means that we are likely to have a very limited set of technological options that are will be ‘climate proof’. - Tension between planning for uncertainty and planning for sustainability</td>
<td>- We can look at the current ‘direction of travel’ to guide us. - This needs a change in our way of thinking, as engineers, we are forced to accept that we must ‘design for the unknown’. Rather than waiting for ‘accurate’ predictions of the future. - Pit latrines have highest resilience BUT flooding is a major challenge</td>
</tr>
<tr>
<td>- We currently have no alternative to water-borne sanitation systems as the top end, aspirational technology. As more and more people rise up the ‘sanitation ladder’ then there will be even greater demand on scarce water resources and higher GHG emissions.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*https://sanitationcommunity.basecamphq.com*

Contact-Pippa Scott - p.c.scott@lboro.ac.uk
### Management

- A tension exists between current theory and practice of decentralisation (for both management and technology), and the ideal climate-proof arrangement (which proposes more centralised management of decentralised services). Implementing this structure is very challenging.

- Local level management is particularly important as actual resilience depends on this more than climate resilient technologies.

- Programmatic risk management tools such as CEDRA can help understand and manage the risk closer to home, can be mainstreamed not to add additional workload.

- Organisations involved in sanitation programming to do a climate change review to consider the impact that climate change may have on operations, investments and sustainability.

- Risk management approaches to build resilience, learn from other sectors about their climate predictions & strategies – e.g. insurance companies cost vs. risk assessment.

- Links with disaster management & preparedness; (re)consider greater centralised management support

- Learn more on household sanitation management and how we can enhance households’ adaptive capacity

### Health impacts

- Health impacts of climate change are not all known yet

- Increasing body of evidence-based literature and knowledge developing around this.

- Public health gains are the underlying reason for sanitation work, engage with the health perspective.

### Local coping strategies & community level adaption

- Some climate scenarios will exceed local coping strategies

- Examples of community level adaptation are out there which could contain some of the answers.

- Working on adaption – vulnerability, resilience, adaptive capacity

- Actual resilience depends on local adaptive capacity

- Capture local adaption & coping strategies; (especially as they may not be recognised as such locally); collaboration with those with expertise in community-based adaptation.

### Low profile of sanitation on the CC agenda

- Water has been dropped from the UN CoP15 agenda. Sanitation and health are unlikely to be mentioned.

- Environmental sanitation imperative will only strengthen as climate change impacts on vector-borne and diarrhoeal disease bite.

- Sanitation message can be carried through other sectors (health, water, hygiene).

- Climate change programmatic tools can be integrated cross-sectorally (CEDRA).

- Develop an articulate & consistent message from sanitation sector;

- Engage with other sectors & perspectives (health, economist view).

- Consider climate change in context (C-P-E climate, population, environment)

*https://sanitationcommunity.basecamphq.com*

Contact-Pippa Scott - p.c.scott@lboro.ac.uk
Participants list

Jonathan Parkinson Atkins Global
David Sutherland Atkins Global
Ken Caplan BPD
Paul Horton CIWEM
Alison Parker Centre for Water Science, Cranfield University
Sue Cavill DFID
Julio Davila DPU, University College London
Pascale Hofmann DPU, University College London
Tim Hayward WSUP
Cheryl McDonald RedR
Simon Bibby Independent
Darren Saywell IWA
Katrina Charles Robens Centre, Surrey
Hannah Stoddart Stakeholder Forum
Mike Wiggins Tearfund
Jamie Bartram UNC
Nick Bundle WaterAid
Krista Vandermeer WaterAid
Richard Carter WaterAid
Andrew Cotton WEDC
Andrews Nkansah WEDC
Pippa Scott WEDC
Rebecca Scott WEDC
Michael Smith WEDC
Daan Van Rooijen WEDC / IWMI / CCAA
Nicola Greene WEDC

Apologies from Martin Mulenga, IIED; Luiza Campos UCL;