



SESSION DESCRIPTION

G3 **Urbanizing watersheds: A basin-level approach to water stress in developing countries**

Panel discussion

Date: Saturday 31 May, 2014
Time: 11:30-13:00
Rooms: S29-32

Language: English
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Organized by: International Development Research Centre (IDRC)

OBJECTIVE

Many developing countries are confronted with the complicated challenge of adapting to climate change while struggling to meet current water needs. The process of rapid urbanization introduces additional challenges for communities, economies and water managers, as it presents increasing competition for scarce water resources. Adaptation strategies to address the water-related impacts of climate change in cities must consider multiple elements of the system, including the biophysical, social and economic dimensions. Taking a basin-level approach to water management provides a broad and integrated perspective.

This session will profile research efforts to address water stress in growing urban areas through a basin-level approach. Case studies from Africa, Asia and Latin America will illustrate the advantage of examining both rural and urban water demand and use to develop comprehensive adaptation strategies that respond to dynamic social, economic and environmental contexts. The case studies to be presented include Santiago de Chile, Addis Ababa, and Bangalore. Each context is different, however, in all case the usefulness of a basin level analysis is helping to clarify policy direction and local action.

Each presenter has experience working with municipal authorities and will connect their work to the practical application of environmental management policies in and around cities.

OUTCOMES

- A better appreciation of the value of a basin-level approach for providing an integrated and holistic view of water provision use and vulnerability in urbanizing watersheds, particularly in developing country contexts;
- Reflection on the range and diversity of challenges across three continents in countries with differing degrees of economic development; and
- Through the case studies, the audience will appreciate how research can support water managers and decision makers to develop comprehensive approaches to address urban water stress.



METHODOLOGY

- The facilitator, Mr. Mark Redwood, will open the session with a short introduction of each speaker. **(5 minutes)**
- Each speaker will give a brief presentation, including maps and photos to provide context. **(3 x 15 minutes)**
- The discussant will then be asked to pick up on some of the themes that emerged from the presentations – areas of commonality, areas of different, what are the main priorities for future work. **(10 minutes)**
- The facilitator will manage questions and comments from the audience and offer closing remarks. **(30 minutes)**

Guiding questions:

1. How does taking a broader basin-level approach give us a critical perspective on urban water stress in the context of climate change?
2. Given the complexity and uncertainties associated with urban and rural change and anticipated climate impacts, how can your results help inform concrete and practical actions?
3. How do you navigate the sensitive political nature of the research and bring diverse and sometimes divergent actors together?

CONTRIBUTORS

Facilitator *Mark Redwood, Team Leader, Climate Change and Water Program, International Development Research Centre (IDRC), Ottawa, Canada*

Panelist *Priyanka Jamwal, Fellow, Ashoka Trust for Research in Ecology and the Environment (ATREE), Bangalore, India*

Cities in developing countries face a number of challenges in managing and reusing their wastewater, and even more so when one takes a basin-level perspective and in the context of climate change. We illustrate these challenges using the case study of the Vrishabhavathy River in Bangalore, which carries almost half of Bangalore's wastewater. While wastewater recycling is potentially a valuable resource and adaptation strategy to reduce health impacts on downstream communities, a range of associated challenges will require integrated institutional and technical changes on several fronts.

Panelist *Sebastian Vicuña, Executive Director, Centre for Global Change, Universidad Católica de Chile, Santiago, Chile*

Santiago, the largest city in Chile with more than 7 million people and producing almost 40% of the national total Gross Domestic Product. The main source of water supply for this city, the Maipo River, is expected to decline due to climate change impacts on precipitation and temperature. This paper will discuss the influence of climate change on the Maipo River basin and present adaptation options within and outside the city that are currently being assessed for their feasibility.



Panelist *Semu Ayalew Moges, Chair and Associate Professor, Addis Ababa University, Ethiopia*

Will recount how a three year research project has succeeded in providing decision support for authorities to improve water management in the context of climate change for the city of Addis Ababa, Ethiopia. He will reflect on the use of scenarios to generate new knowledge on the upstream and downstream implications of growing urban water demand, and of resulting wastewater generation. Strengths and challenges of establishing a multi-stakeholder platform for learning and strategy development will be outlined.

Discussant *Carrie Mitchell, Assistant Professor, University of Waterloo, Canada.*

Further recommended reading

Lele, Sharachchandra, Priyanka Jamwal, Bejoy Thomas, and Veena Shrinivasan. "Addressing water stress through wastewater reuse: Complexities and challenges in Bangalore, India." (2014)

http://resilient-cities.iclei.org/fileadmin/sites/resilient-cities/files/docs/Jamwal_Bangalore.pdf

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Beyond city limits: Using a basin perspective to assess urban adaptation to climate change. The case of the city of Santiago in Chile:

http://resilient-cities.iclei.org/fileadmin/sites/resilientcities/files/Resilient_Cities_2014/Vicuna_et_al_Santiago_de_Chile.pdf
