URAdapt

Managing Water at the Urban-Rural Interface: The key to climate change resilient cities

Brief recap of project

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International Water Management Institute

PURPOSE OF URAdapt ?

Adapting cities to water-mediated (or related) impacts of climate change

- CC adaptation is a very current topic
- Innovation research : gives a new definition to Integrated Urban Water Management
- Looks beyond city to the water basin
- Upstream and downstream rural impacts are accounted for

PROCESS FOR DEMAND DRIVEN RESEARCH

- Topic was first defined by national and international researchers
- Topic and Purpose validated by YOU [interactive stakeholder platform]
- SH helped define the research questions to be answered and provided feedback
- Research team then studied the problem and developed solutions for adaptation
- NOW: share and implement

CONCEPTS DEFINING ADAPTATION RESEARCH

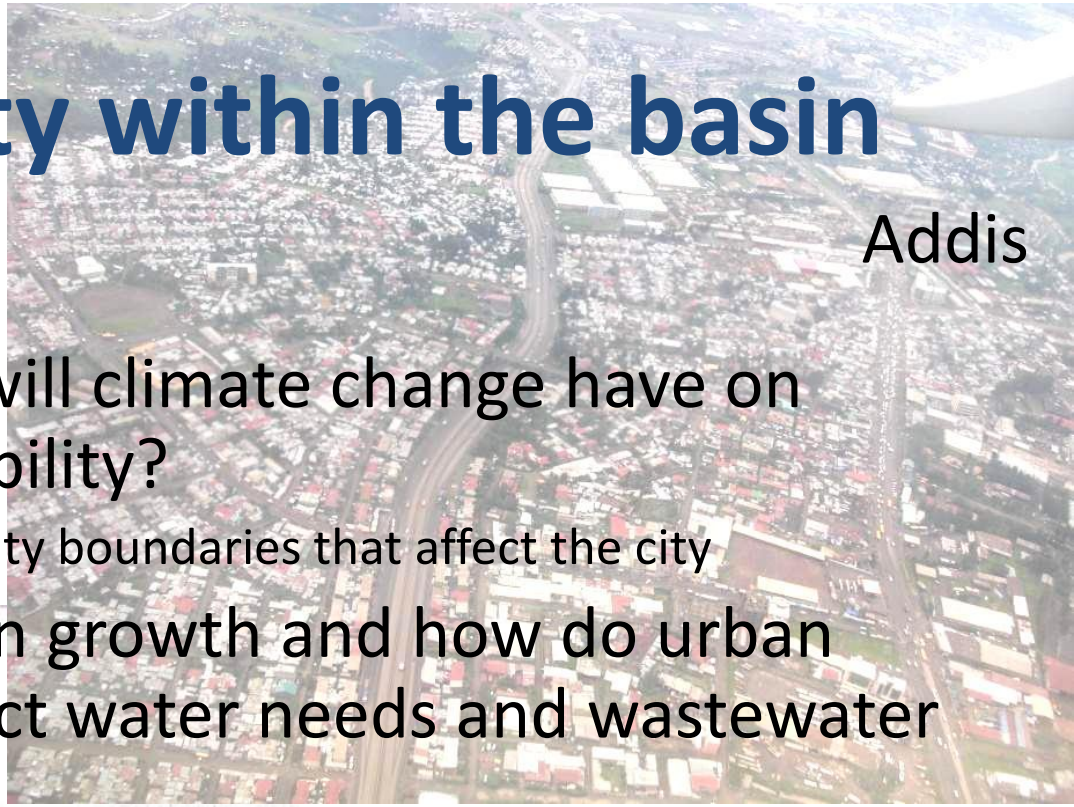
- VULNERABILITY : degree to which system on individual will experience harm due to exposure to climate change impacts

1. RESILIENCE : capacity of a community or system to adapt when exposed to a hazard

DRIVERS AND SCENARIOS

- CLIMATIC DRIVERS : Rainfall and Temperature
- NON-CLIMATIC DRIVERS : Demographic growth, economic growth, per capita water demand (linked to sanitation), built area expansion
- SCENARIOS to accommodate UNCERTAINTY
  - Predefined emission scenarios of IPCC
  - Rationalised development scenarios

CC and the city within the basin



Addis

Central questions:

- What consequences will climate change have on water resource availability?

  Changes outside the city boundaries that affect the city

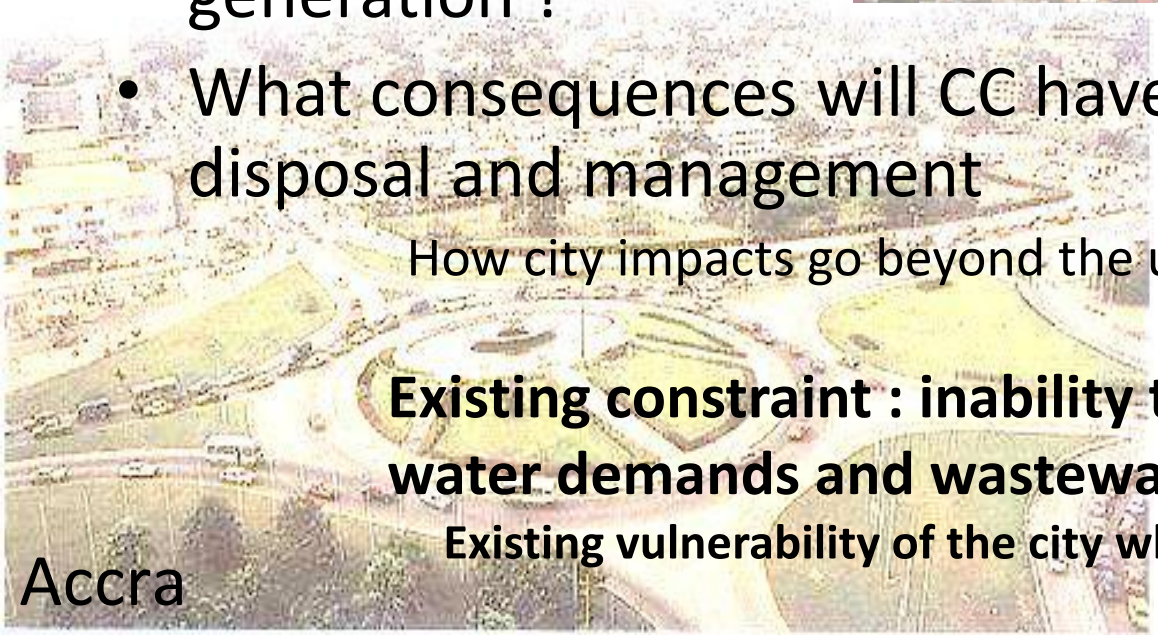
- What influences urban growth and how do urban growth scenarios affect water needs and wastewater generation ?

- What consequences will CC have for wastewater disposal and management

  How city impacts go beyond the urban boundary

Existing constraint : inability to meet even current water demands and wastewater management needs

Existing vulnerability of the city which may be exacerbated by CC



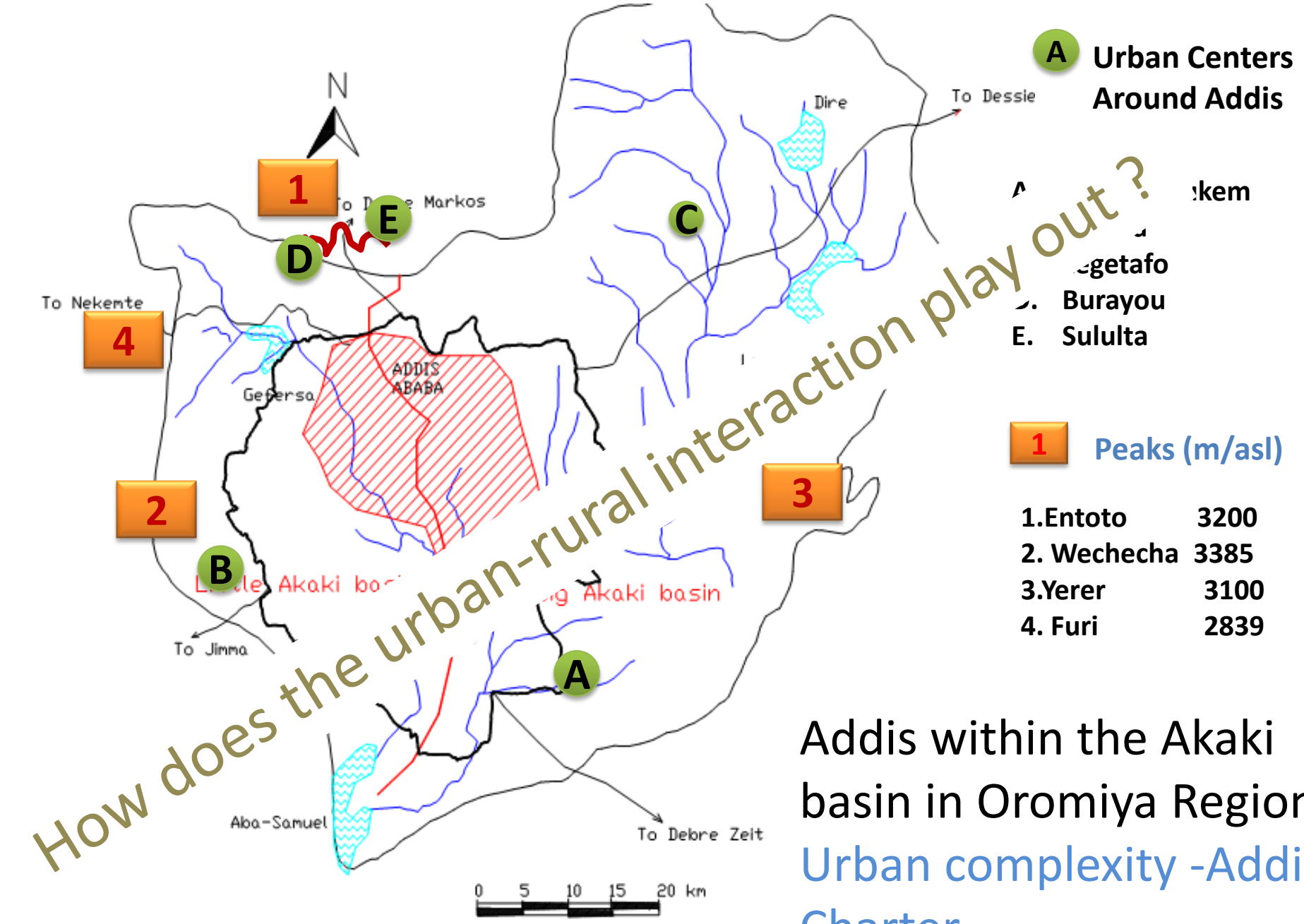
Accra

Objectives and Outputs

1. Achieve a shared understanding of climate change and urban water amongst multiple stakeholders
2. Generate new knowledge using scenarios
3. Prepare a city strategic agenda for adapting to water related impacts climate change

- Interactive platform to move from Research to Strategic Action [promoting a culture of adaptation planning for CC and water resources]
- Hydrological scenarios [of water availability, wastewater generation,] and implications for urban water management in the face of climate change
- Policy and institutional orientations on how to build climate resilient cities
- Decision support for [investment in] integrated urban water management

The changing face of Addis



A Urban Centers Around Addis

A. [illegible]kem
[illegible]egetafo
C. Burayou
E. Sululta

1 Peaks (m/asl)

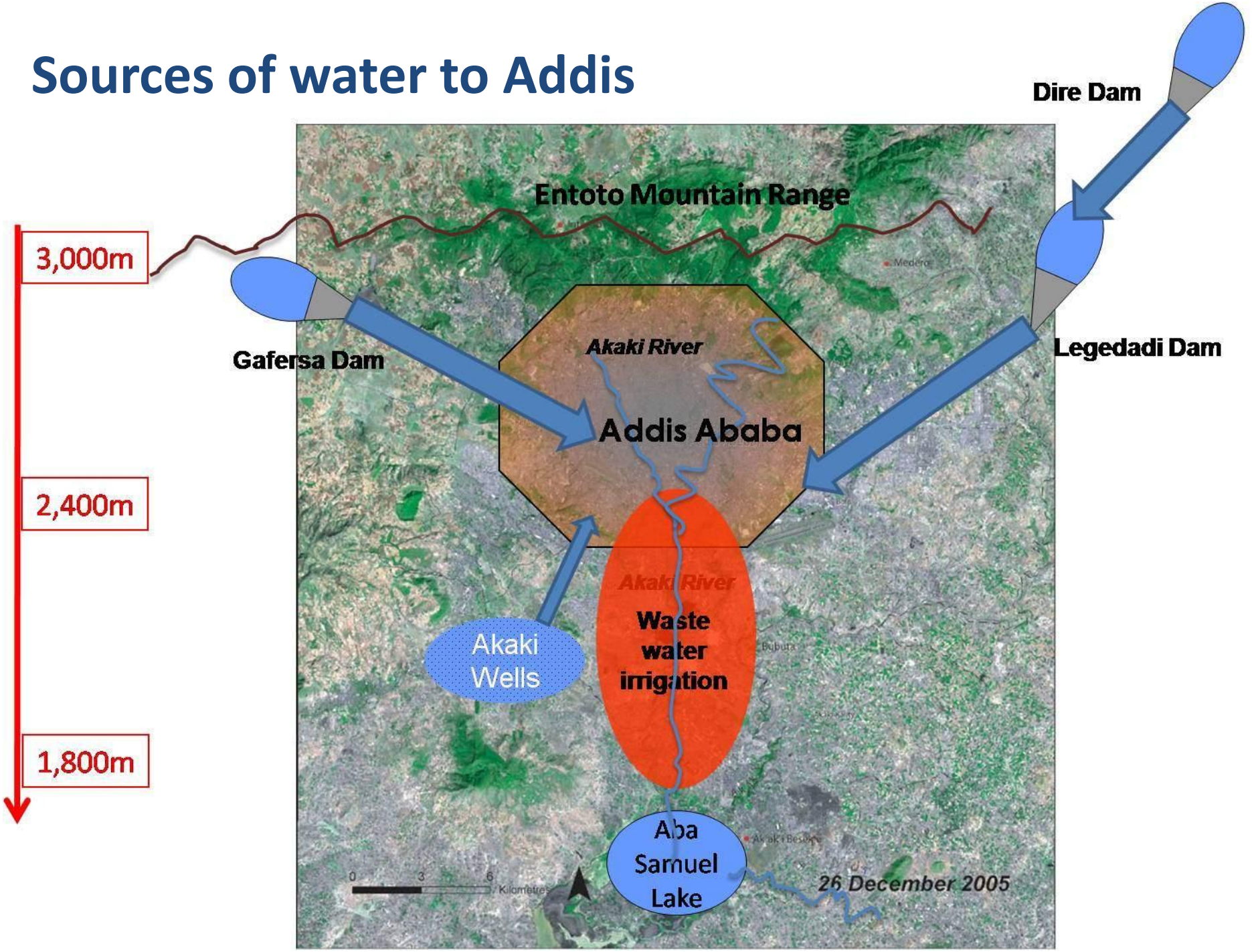
1.Entoto	3200
2. Wechecha	3385
3.Yerer	3100
4. Furi	2839

How does the urban-rural interaction play out ?

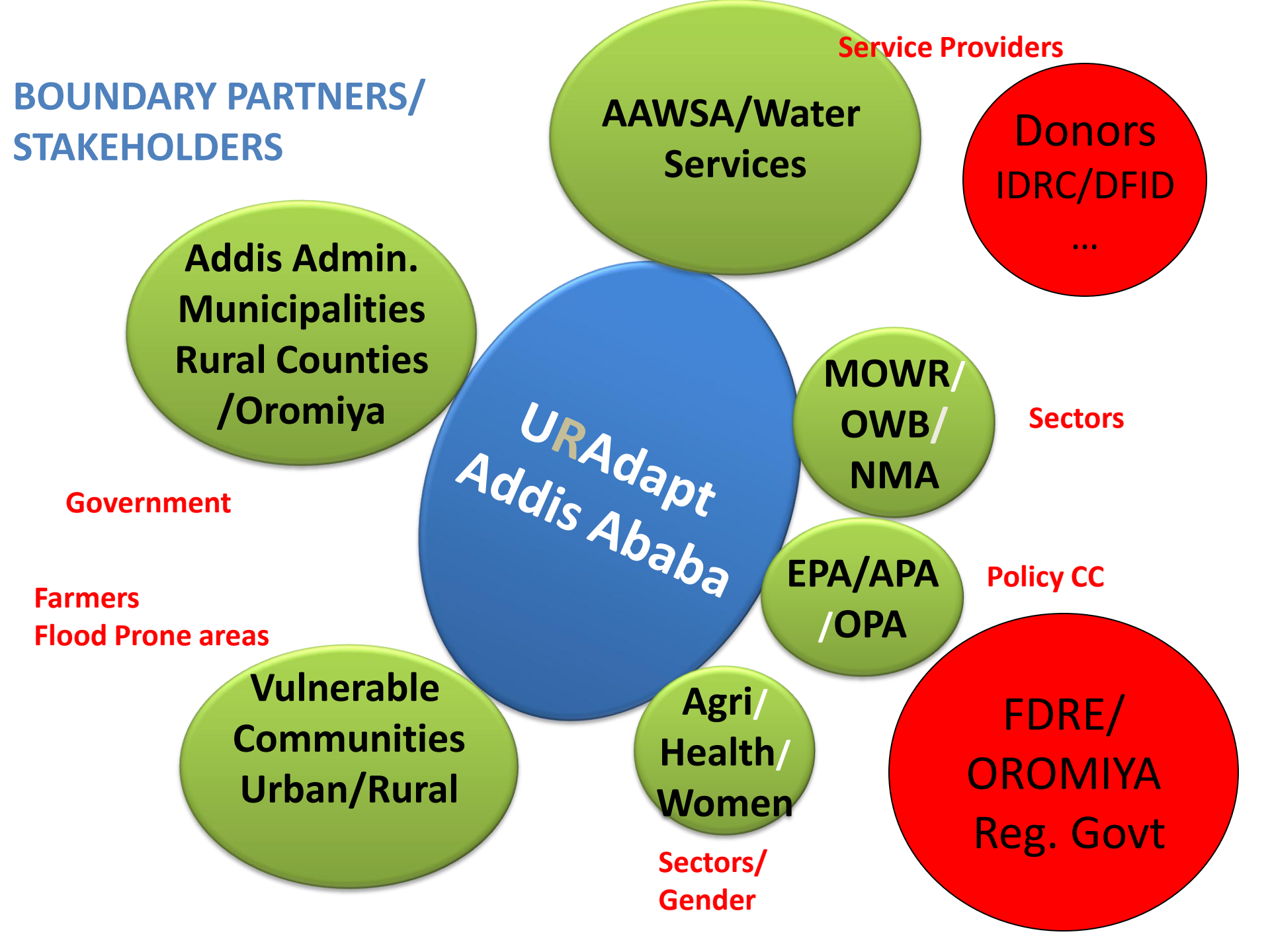
Addis within the Akaki basin in Oromiya Region

Urban complexity -Addis Charter

Sources of water to Addis



BOUNDARY PARTNERS/ STAKEHOLDERS



Re-SAP /GROUP(Core/Large)

CORE	LARGE
▪ AAWSA ▪ Oromiya Water Bureau ▪ Ministry of Water Resources /Water and Energy/ ▪ Environmental Protection Agencies	- Administration - National Metrology Agency - Agriculture Bureaus - Health Bureaus - Women Affairs - Vulnerable Communities - NGOs

Engaging with the AA City Municipality

Summary of Research Themes and Topics

No.	Research Theme	Research Topic
I	**Downscaling Future Climate Change**	1.1 Downscaling Climate Change in AA Area to Assess Climate Change Impacts on Water Availability and Extreme Hydrological Condition of Addis Ababa and its Surroundings 1.2 : Sensitivity Analysis of the various parameters of the downscaling model that affects the accuracy of the model output
II	**Climate Change and Water Availability**	2.1 Impact of climate change on the extreme flow hydrology and water availability using different emission scenarios
		2.2 Comparative Analysis of Water Supply from Surface and Groundwater Sources for the City of Addis and its Surrounding (Current/Future) with and without climate change scenario
III	**Climate Change and Water Quality**	3.1: Evaluation of the current and future water quality situation of Addis and its surroundings with and without climate change Scenario
		3.2: Wastewater irrigation and farmer perspectives

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IV	**Climate Change and Dynamics of Urban-Rural Interaction**	4.1: Evaluation of current and future Urban-Rural water interactions: A case of Addis and sprouting towns around.
V	**Climate Change, and Water Management**	5.1: Evaluation of water/waste water management aspects with and without climate change scenario - VENSIM Approach
		5.2: Water conservation and Demand Management (VENSIM Approach)
VI	**Climate change and adaptation : Institutions, Policy and Governance structures to address (city and community vulnerability)**	*6.1: Assessment of current and future institutional, Policy and Governance Aspects of climate change adaptation*
		6.2: Institutional governance and coordination for Sustainable Urban-Rural water interaction under climate change scenario
		5.3: Mapping vulnerability and climate change hot spots
VII	**Climate Change and Storm water Management**	*7.1 Impact of Climate Change on Urban Drainage*
		7.2 Impact of Built-up Environment on Run-Off Generation

Where are we now?

- End of project : 30 July 2012
- Finalising the research (3 presentations)
- How has the project influenced change? process study findings
- a city strategic agenda for adapting to water related impacts climate change (today)
- July : policy round table to share findings

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http://uradapt.iwmi.org