Water security in periurban South Asia

Adapting to climate change and urbanization

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Water Security in Peri-Urban South Asia
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Overview of presentation

- Project objectives and overview
- Conceptual issues in studying periurban water security
- Methodology and research design
- Value of the comparative approach : potential conceptual contributions of the project
- Assessing the impact of our work at various levels

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Objectives

- Examine the implications of urbanization and climate change for periurban water security
- Examine the adaptation strategies of periurban residents and assess their cost-effectiveness
- Identify the most vulnerable groups
- Develop strategies to intervene by mobilizing a range of relevant stakeholders

  – Financially supported by the IDRC, Canada

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The Project Team and Locations

- India (SaciWATERs)
  - Hyderabad
  - Gurgaon
- Nepal (Nepal Engineering College)
  - Kathmandu
- Bangladesh (Institute for Water and Flood Management)
  - Khulna

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Conceptual issues in defining periurban

- Confusing term with no consensus regarding its meaning
- Used to denote a place
  - Fringe areas around cities
  - Rural areas, but also urban areas away from the core
- Process
  - Transition from rural to urban
- Concept/analytic construct
  - To study rural-urban relationships and flows

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Defining periurban in a comparative perspective

- Place-based definitions problematic
  - Definition of urban and rural vary from country to country
  - Towns and villages often get reclassified frequently
- Look for certain features:
  - Changing land use
  - Multiple claimants
  - Social heterogeneity
  - Livelihoods across both urban and rural spaces
  - Changing locus of control over natural resources

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Counterparts of periurban in other languages

- Dutch
  - *halfstedig (*semi-urban)
- East Asia
  - *'desakota‘ (city village)*
- German
  - *urban landlichen zonen* (urban rural zones)
- Afrikaans
  - *buitestedelik* (outer city or beyond the city)

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Locating a ‘periurbanscape’

- A mixed patchwork of contrasting land uses
  - Agricultural fields, farm-houses, amusement parks, brick kilns, mining and quarrying, high rise buildings
  - Seen across our research locations

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Conceptual evolution and synthesis

- Debated and defined periurban in terms of features, rather than location
- Focus on water insecurity rather than water scarcity
- View vulnerability as a chronic phenomenon, rather than in relation to occasional, extreme events
- Moved from seeing climate change as a context to a stressor/factor shaping water security
  - Conceptual foundations laid in Narain (2011)

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Relevance of studying periurban water issues

- Periurban dynamics are key to understanding processes of urban transition
- Give a sense of the ecological foot-print of urbanization
- Raise questions about equity and the politics of urban expansion
- Often overlooked on account of rural urban dichotomy in planning and development

The mixed methods approach

- A wide diversity of tools and methods
- Semi- structured household interviews and FGDs
- PRA tools
- Structured household survey
  - Gender segregated data
- GIS maps
- VCI: the vulnerability and capacities index

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Value of using the mixed methods approach

- Teams using these tools to varying degrees
- Found them useful as means of triangulation and validation
- Complement rather than compete with each other
  - Qualitative narratives and descriptions of vulnerability to complement more quantitative insights from VCI that appeal more to policy-makers who like to see numbers
  - Climate variability being assessed through analysis of meteorological data, as also through trend lines and seasonality analyses in PRA exercises and people's narrative of a changing climate
  - Qualitative insights from semi-structured interviews fed into survey design

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Our understanding in a nutshell

- Climate variability and urbanization interact to create patterns of periurban water insecurity
  - Urbanization creates new claimants on water and increases competition for water
  - Climate variability/ change aggravate the impacts of the above:
    - E.g Gurgaon
      - Floods in 1977, decline in rainfall after that, heavy rains in 2010 damaged crops
      - Shorter winters and summers ; shorter period of rains after 1977

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Our value addition

- Most studies of vulnerability focus on purely rural or urban contexts
- Studies of vulnerability of pastoralists, agriculturists (SAVI)
- Studies on improving urban/city resilience (ACCRN)
- Periurban locations are subject both to rural and urban stressors, though livelihoods constructed across rural and urban spaces can build resilience
  - Implications both for inequity and vulnerability
  - Differential vulnerability across elite and less fortunate

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Insights from a comparative perspective

- A typology of periurban water security issues in the region

- Issues related to ecological foot-print of urbanization
  - Land acquisition for building WTPs and canals for carrying water to the city
  - Encroachment of commons for urban expansion
    - Gurgaon, Hyderabad, Khulna
- The flows of water between rural and urban areas
  - The use of wastewater for agriculture
    - Gurgaon
  - water flowing from villages to cities
    - Hyderabad, Kathmandu

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Typology of periurban water issues

- Issues related to the land tenure status and links with water rights and access
  - Loss of access to water sources on account of land acquisition
  - use of rural water for farm-houses
    - Gurgaon, Hyderabad, Khulna

- Issues related to governance and the rural-urban dichotomy
  - rural-urban water conflicts
  - unregulated transfers of water from rural to urban areas
  - pollution of water sources
    - common across research locations

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Potential conceptual contributions of the project

Our work gives a greater sense of how the ecological foot-print of urbanization is borne in the region

Develop and refine this typology of south Asian periurban water issues

Notion of a ‘periurbanscape’ or a periurban waterscape to capture the rural-urban water flows and relationships at a regional level as against rural and urban water supply conventionally spoken about

The concept of ‘passing on vulnerabilities’

e.g. landlords pass on their vulnerabilities to tenants

Notion of socio-technical regimes to denote the mix of technologies and institutions through which periurban residents adapt to water scarcity

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Impact of our work on communities: a typology of interventions

- Policy Advocacy
  - Khulna and Hyderabad
  - E.g. work with SOUL, Save the Moyur River campaign
- Institutional
  - Formation of water management committees
    - Kathmandu, Hyderabad
  - Improving state-water user interface and breaking the anarchy syndrome in water management : participatory video
    - Gurgaon
- Technological
  - Capacity-building for technical support and interventions
    - Hyderabad, Kathmandu
- Livelihood diversification
  - Promoting livelihood skills so all eggs are not in one basket

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Influence on Policy-Makers and Government Agencies

- Policy Change is incremental, but you have to keep trying
- Targeted government agencies and service providers through capacity-building workshops and exposure visits to periurban locations
- Submitted memos and write-ups to contribute to important policy consultations
  - The India Team contributed to a consultation for the 12th Five Year Plan
  - BUET contributed to the Bangladesh Urban Policy
- Spoken to urban planners, architects and designers at various forums
  - National Level Seminar on Design for sustainable Habitat, India Water Forum (Gurgaon)
  - Coastal Water Convention, National Water Convention (Bangladesh)

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For more information about the project

Please visit

www.saciwaters.org/periurban