



Productive Use of Domestic Wastewater

Issues and Options

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Sanitation Challenge

- IMPROVE SANITATION ACCESS AND COVERAGE
- ADDRESS ENVIRONMENTAL CHALLENGE
- ADDRESS PUBLIC HEALTH CHALLENGE
- CONTRIBUTE TO HUMAN WELL BEING
- CONTRIBUTE TO ECONOMIC GROWTH
-Productive use of “unaccounted for water”

THE CONTEXT

- RURAL URBAN TRANSFORMATION (*rising agriculture labour shortages, declining agricultural terms of trade and expansion of non-farm employment*)
- COMPETITION FOR FRESHWATER BETWEEN AGRICULTURE AND URBAN WATER SUPPLY
- INSTITUTIONAL MECHANISMS FOR COLLECTION, TREATMENT, REUSE OF WASTEWATER ARE INADEQUATE
- PERI-URBAN REGIONS OFFER SCOPE FOR REFORM INVESTMENTS

MANAGING COMPLEXITY

- INTER-DEPENDENCE (*water resource, supply and sanitation/urban rural authorities and line departments*)
- VARIABILITY (*rainfall, recharge, supply, storm drains, pollution, effectiveness of treatment options*)
- SOCIO-ECOLOGICAL HETEROGENEITY (*drainage, pollution, household sewer, connections, multiple uses of water, affordability, impacts on the poor*)



WHAT WE KNOW

- DOMESTIC WASTEWATER IS A LARGE COMPONENT OF TOTAL WASTEWATER GENERATED
- IN DEVELOPING COUNTRIES MAJOR PROPORTION of WW IS NOT COLLECTED, TREATED AND/OR SAFELY DISPOSED
- TOWNS IN MAJOR RIVER BASINS ARE EXPERIENCING RAINFALL VARIABILITY; WITH IMPLICATIONS FOR WATER SUPPLY AND SPATIAL EFFECTS ON WASTEWATER QUALITY AND PUBLIC HEALTH

WHAT WE KNOW

- PERI-URBAN WASTEWATER IRRIGATION CHARACTERIZED BY LOWER INPUTS, LOWER PRODUCTIVITY AND LOWER RETURNS FOR PADDY CULTIVATION
- IMPROVED WASTEWATER MANAGEMENT CAN REDUCE RISKS OF CROP FLOODING AND MITIGATE HEALTH RISKS TO CULTIVATORS

WHAT WE KNOW

- BUT AGGREGATE IMPACTS OF WASTEWATER POLLUTION OUTWEIGH IRRIGATION BENEFITS
- THE IMPACTS ON LIVESTOCK AND HUMAN HEALTH ARE HIGHER FOR POOR IN URBAN SLUMS AND POOR IN VILLAGES WITH NO RECOURSE TO PRIVATE WATER SUPPLIES

WHAT WE KNOW

- WASTEWATER TREATMENT CAN POTENTIALLY INCREASE PRODUCTIVITY OF AGRICULTURE AND REDUCE PUBLIC HEALTH RISKS OF THE POOR
- TECHNOLOGICAL AND MANAGERIAL SOLUTIONS EXIST FOR WASTEWATER TREATMENT
- BUT LOCAL AUTHORITIES ARE LIKELY TO DECIDE OTHERWISE: ***WHY?***

IMPLEMENTATION CONSTRAINTS

ECONOMIES OF SCALE

Which authorities would be in charge of collection, transport, treatment and reuse of urban waste?

COMPETING INTERESTS WITHIN LOCAL AUTHORITIES

How do you reconcile demand for infrastructure creation with need to provide affordable services?

INCOMPLETE DECENTRALIZATION

What incentives are required to facilitate greater autonomy of local authorities in support of pro-poor service provision?

IMPLEMENTATION CONSTRAINTS

INCOMPLETE UNDERSTANDING OF CO-PROVISIONING ARRANGEMENTS

What distinguishes deregulation from process outsourcing and what distinct advantages do they bring towards achieving policy objectives?

Taking an integrated of WSS services what are the shortcomings of project cost-recovery models and service pricing strategies?

How can capacity limitations of local authorities be overcome to enable clarity of roles of private technology providers?

Could Corporate Social Responsibility have a role in facilitating design of rating & reward systems that encourage technical and resource allocation decisions of local authorities that are focused on service delivery for the poor and environmental conservation?