



ECONOMIC CONSTRAINTS AND DEMAND-LED SOLUTIONS FOR SUSTAINABLE SANITATION SERVICES IN POOR URBAN SETTLEMENTS

THE CASE OF KAMPALA, UGANDA

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July 18-19, 2011

SPLASH Kick-Off Meeting in Kigali, Rwanda



Outline

- Who is involved
- Study Site
- Research Objectives
- Relevance and Contribution
- Research Structure and Dissemination
- Recent Activities and Next Steps

U-ACT
Urban Affordable Clean Toilets

Consortium Partners




Swiss Federal Institute of Technology
Centre for Development and Cooperation **nadel**



Swiss Inst for Aquatic Science & Technology
Dpt. Water & Sanitation in Developing Countries




Makerere University, Uganda
School of Social Sciences






NGO “Sustainable Sanitation and Water Renewal Systems”





U-ACT
Urban Affordable Clean Toilets


Study Site

- **Kampala:** ~1.5million inhabitants
- **Low-income zones in Kampala relying on on-site sanitation**
 - only 7.3% connected to sewage system
 - widely distributed throughout city
 - so far: marketing & free distribution

Sanitation Facts

- Large number of users per toilet
- Many of existing toilets not emptied
 - **Common use of “flying toilets”**
- High cost for improved latrine (~ US\$500)
 - **Low private investment in sanitation**





Some Rationale

Costs and uncertainty

- ▣ high up-front investments & limited credit access
- ▣ uncertain future health benefits

Property rights & Renting situation

- ▣ badly defined & insecure
- ▣ mostly tenants & frequent moving

Public good character/externalities

- ▣ cheap and easy alternatives to sanitation facilities

Urban environment with looser social ties

- ▣ little social pressure & lack of cohesion



Research Objectives

i) analyze key factors that influence sanitation demand

- economic constraints, social and technological preferences

ii) estimate people's willingness to pay for improved sanitation

- for different user arrangements and financing schemes

iii) learn about social cohesion in urban sanitation

- peer pressure on toilet use and maintenance

iv) design financial/social interventions to be tested & evaluated

- randomized controlled trial ("field experiment")

v) discuss role of government, regulations and subsidies

- effective and demand-led solutions

Relevance and Contribution

Focus of existing literature on:

- **Health Impact**
 - effect on (child) mortality and morbidity
- **Sanitary Engineering**
 - which technologies are appropriate
- **Sociology**
 - role of prestige, cleanliness, convenience, and privacy
 - social pressure (community-led sanitation) but rural
- **Economics**
 - country-level cost-benefit analyses
 - WTP studies (contingent valuation or hedonic pricing)

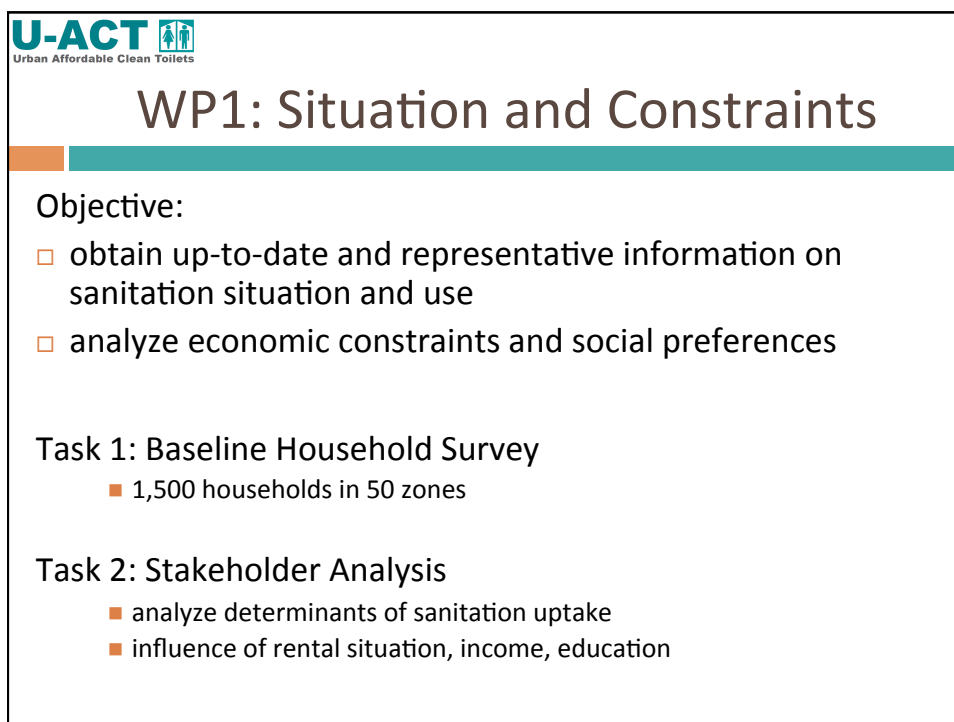
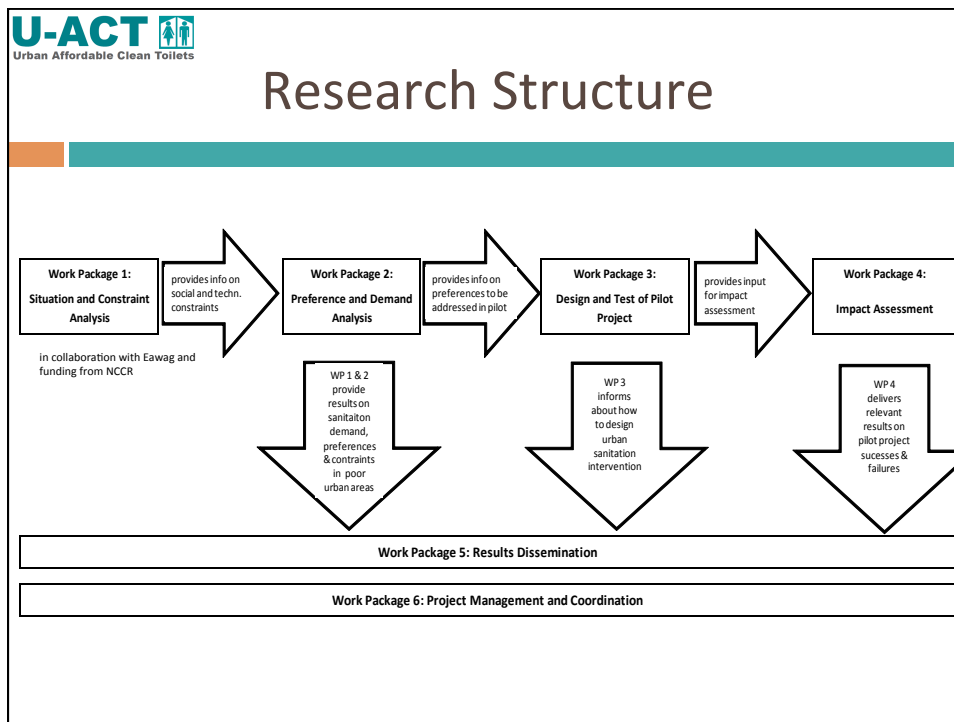
Relevance and Contribution

Little knowledge about urban sanitation demand

- particularly from economic perspective combined with sociological and technological determinants

→ this research aims to make a contribution:

- **in-depth constraint and sanitation demand analysis**
- **interdisciplinary approach**
- **beyond theory**





WP2: Preferences and Demand

Objective:

- learn about households' social and technological preferences regarding sanitation
- estimate willingness to pay (WTP) for different user arrangements and financing schemes

Task 1: Choice Experiment

- stated preference analysis
- preferences for different attributes of sanitation

Task 2: Social Cohesion Analysis

- analyze effect of peers, free-riding and social beliefs on voluntary cooperation in context to urban sanitation
- contribution to public good



WP3: Design and Test of Interventions

Objective:

- based on analyses, implement sanitation interventions aiming to overcome identified economic constraints, taking into account preferences

Task 1: Design of Interventions

- financial interventions
- social interventions

Task 2: Implementation

- random assignment, voluntary participation
- ~35 treatment zones, 15 control zones



WP4: Effectiveness Assessment

Objective:

- assess effectiveness of interventions on sanitation take-up
- rigorous causal inference due to random assignment

Task 1: Follow-up Household Survey

- re-interview baseline households (panel)

Task 2: Assessment

- difference-in difference analysis



WP5: Dissemination

Target Groups:

- Academics, Development Agencies, Governments, NGOs and other Sanitation Practitioners

Workshops & Conferences:

Local:

- Joint WSS Sector Meeting chaired by MoWE (Oct 2011)
- Workshop on Sanitation Solutions chaired by MUK/SSWARS (June 2013)

International:

- German Econ Association conference (July 2011)
- PEGNet conference (Sep 2011)
- Conference on Sanitation Solutions chaired by ETHZ/Eawag (Sep 2013)



WP5: Dissemination

- at least 3 Academic Publications
- Presentations at international WSS, Economics & Sociology conferences (2011-2013)
- 2 PhD Dissertations (Development Economics & Sociology)
- 2 Policy Briefs (2011, 2013)

Courses & Teaching:

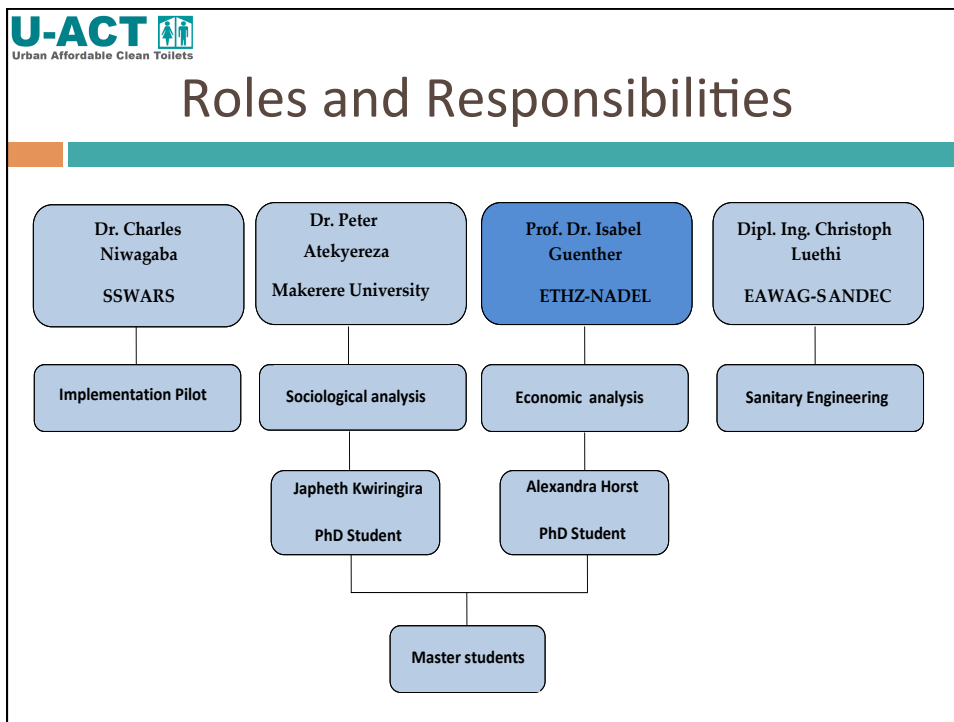
- Course on Impact Evaluation at MUK (March 2013)
- Use of results in Development Economics course at ETHZ



WP6: Project Management

Objective:

- efficient and effective use of financial and personnel resources
- coordination of consortium partners to avoid overlap and promote knowledge exchange
- Lead Coordinator: Center for Development and Cooperation (NADEL) at Swiss Federal Institute of Technology



Recent Activities and Next Steps

- Baseline Household Survey completed
- Sanitation Demand Analysis (ongoing)

Next Steps:

- Release of 1st Policy Brief
- Design and Implementation of Pilot Interventions

Thank you for your attention!

