Participatory sanitation planning: the case study of Darkhan, Mongolia

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Community workshop for the selection of sanitation options, Darkhan April 2011 (photo: Lukas Ulrich)

Introduction

The Millennium Development Goals (MDGs) for both water supply and sanitation may not be met in Mongolia. This mainly relates to the rural sector, including peri-urban settlements on the outskirts of cities. Here, water is generally distributed via water kiosks and residents use self-built, unsealed pit latrines with negative impacts for health and hygiene. This is also the case in Darkhan, the second-largest city of Mongolia, with a population of around 75,000. Roughly half of the city's residents live in peri-urban settlements.

Research objectives

- To apply and test the HCES/CLUES approach in a selected peri-urban settlement in Darkhan and to contribute to its further development
- To analyse the framework conditions for sanitation planning, such as political, legal, institutional, financial and socio-cultural conditions
- To develop an integrated sanitation system, which is suitable for large scale implementation in Mongolia
- To initiate business opportunities for a local service provider for toilet maintenance as well as for the collection, transport and re-use of feces and urine
- To identify optimisation potential in terms of acceptance, comfort, and maintenance of the toilet technology

Preliminary results

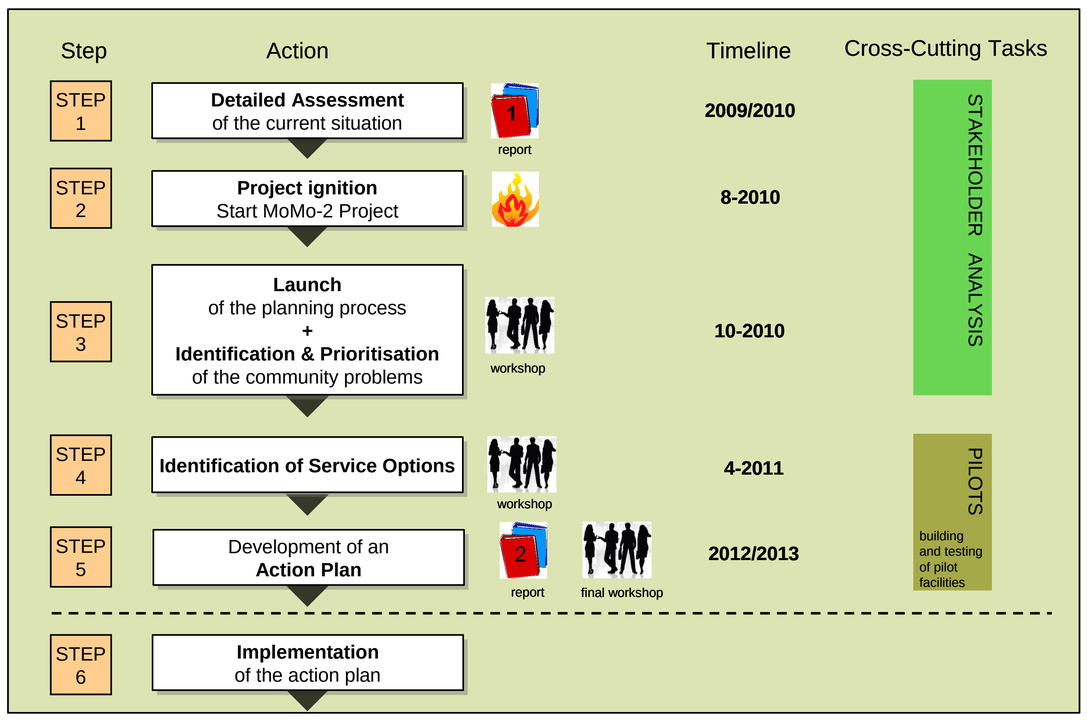
- The residents of the project site are highly aware of the existing water and sanitation problems (Sigel 2010)
- There is a high need for action even if the MDG criteria are likely to be achieved (Sigel et al. 2011)
- A high effective demand exists at community level
- Three different toilet options were identified within step 4 of the planning process
- The most favorable option is a toilet with separation of urine and feces in exchangeable collection containers

Method: participatory sanitation planning

Participatory planning approaches have proved to be a crucial step towards improving water supply and sanitation in peri-urban and rural environments in developing countries. The Darkhan case study (see figure) is largely based on the planning approach HCES and its further development, namely the CLUES approach (Eawag 2005, Lüthi et al. 2011). The aim of the case study is to solve water supply and sanitation problems in a selected peri-urban subdistrict in Darkhan.

Basic principles of the Darkhan case study

- Placing the households and communities at the core of the planning process
- Responding directly to users' needs and demand
- Emphasising the participation of all stakeholders
- Integrating water supply, sanitation, stormwater drainage and solid waste management
- Targeting the closure of the nutrient cycle
- Promoting decentralised systems at household and community level



Action schedule of the Darkhan case study

References

- Eawag (2005): Household-Centred Environmental Sanitation: Implementing the Bellagio Principles in Urban Environmental Sanitation, Dübendorf, Switzerland
- Lüthi, C., Morel, A., Tilley, E., Ulrich, L. (2011): Community-Led Urban Environmental Sanitation, Eawag, Dübendorf, Switzerland
- Sigel, K. (2010): Environmental sanitation in peri-urban ger areas in the city of Darkhan (Mongolia): A description of current status, practices, and perceptions. UFZ-Bericht 02/2010
- Sigel, K., Altantuul K. & Basandorj D. (2011): Household needs and demand for improved water supply and sanitation in peri-urban ger areas: The case of Darkhan, Mongolia. Environmental Earth Sciences (online first)

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