



# Towards Better Design of the Process of Planning for Sanitation

*This paper provides a framework for improving understanding of the process of sanitation planning and recommendation for improvement of the planning process. The text is derived from Jennifer McConville's PhD thesis for Chalmers University of Technology (2010) and a policy brief written for the Stockholm Environmental Institute (2011).*

Author: Jennifer McConville

## Abstract

The provision of sanitation services is more than just technical solutions, but closely connected to the cultural and capacity of the society in which it is implemented. Given that the general opinion in the sanitation sector is that large-scale sustainable results are lacking on the ground, there is a need to start questioning how planning is done today and how it can be done better. This paper presents key entry points for understanding the process of sanitation planning by highlighting options for how it should be done (procedural planning theory), who to involve (participation), and criteria for decision-making. By focusing on these key aspects of planning, the process can be adapted to meet the needs of the local context. In the future sustainable urban sanitation will start with a specifically designed planning process that uses a mixture of planning modes and technical systems to meet the needs of diverse populations.

## Sanitation Challenge

The world is not on track to meet the Millennium Development Goals related to sanitation, a fact which will have severe consequences on environmental and public health, poverty, and human dignity. The provision of sanitation services is more than just technical solutions, but closely connected to the cultural and capacity of the society in which it is implemented. Increasing the efficiency, scope, and longevity of sanitation investments therefore involves a process of choosing, implementing, operating and maintaining community-wide service provision. In other words, it requires proper planning. Given that the general opinion in the sanitation sector is that large-scale sustainable results are lacking on the ground, there is a need to start questioning how planning is done today and how it can be done better.

## Sanitation Planning

Planning is the process of evaluating different options for the future and deciding on how to implement them. Even if a planning process is never linear, it is useful for discussion purposes to divide the planning process into five basic steps, which are:

1. Problem identification,
2. Defining objectives,
3. Design options,
4. Select solutions, and
5. Action plan for implementation.

Each step has a specific purpose. For example, the purpose of step one is to anchor the process in the local context by identifying current problems. Recognition

## Key Messages:

- More attention is needed to how the planning process itself is designed and conducted.
- The objectives for using participatory processes should be clearly defined at the beginning of the planning process and participation levels of all stakeholders adapted so as to be consistent with achieving these objectives.
- Differences between planning modes should be kept in mind when designing/adapting a planning process. Such modes should be deliberately selected to match desired outcomes in the local context.
- Recognizing criteria for sustainability is critical for achieving sustained service delivery. Locally agreed sustainability criteria need to be included in the project objectives and terms of reference, as well as indicators for monitoring and evaluation at project, program and donor levels.

of these different phases of planning is the first step towards a better design of the entire planning process; specifically noting that different approaches may be used or preferred depending on the purpose of the planning activity.

## How to plan?

Procedural planning theory is a body of knowledge about how planning should or could be carried out. Theories range from expert-centered rational-comprehensive planning to empowerment-advocacy planning to consensus-driven collaborative planning. The results from a study in West Africa of how closely sanitation planning processes resemble these theories found that none of the studied guidelines and field projects followed a single planning approach throughout the whole planning process (McConville et al, submitted a). Since sanitation planning rhetoric does not specifically discuss the procedural objectives of various planning steps, this result seems to indicate a haphazard use or unconscious adaptation of different planning styles rather than a deliberate shaping of the planning process. If the planning process is to be improved, it is critical for sanitation planners to acknowledge and consider these different planning theories when designing a planning process.

A comparative study also found that sanitation planning guidelines from literature consistently recommend more communicative and participatory planning styles, especially including users, than was seen in the local cases studied (McConville et al, submitted b). This may be because it is too early yet to see evidence of a shift in planning practices from expert-driven approaches towards collaborative ones. There is some evidence from interview studies with sanitation planners and practitioners to support that this shift may be occurring, at least in individuals' thinking (McConville et al., 2010). However, there may be a number of institutional and social factors that create inertia around sanitation planning practices (Kvarnström et al., 2006), and hence may hinder the up-take of new planning modes. Advocates of innovative planning approaches should therefore seriously consider developing practical strategies for implementing more participative planning guidelines.

In addition, the process of designing technical options in the field of sanitation remains expert-led and uses a rational-comprehensive mode of planning in all of the studied guidelines and field projects. Essentially, all of the guidelines and field projects studied involve the experts coming up with a handful of possible designs that are then offered to the stakeholders, as exemplified in Box 1. This may seem to be the proper way to go about it since there is need for expert guidance to manage the complexity of sanitation systems and to assure proper containment and treatment of excreta. However, rational-comprehensive approaches have been criticized for resulting in plans that are all too simplified versions of reality and therefore impossible to implement in

real world contexts (Allmendinger, 2009). In a situation where drastic change is needed to meet the needs of the un-served, it can also be argued that such technocratic approaches end up lacking critical connections with the socio-economic reality of the situation.

### Box 1: Tension between advocacy planning and rational decision-making

An example of how theoretical tendencies vary during a planning process comes from a sanitation project in the small town of Tougan (pop. ca 16,000) in northwest Burkina Faso. The inter-state organization supporting the project, started with an advocacy approach to planning, attempting to empower local residents to define their own problems and visions for the future. However, technical options and solutions were then designed and selected by experts before being incrementally rolled-out in the project. This highlights a tension between the desire for advocacy and participatory planning approaches while being straight-jacketed by dominant rational-comprehensive and pragmatic mindsets. (Source: McConville et al, submitted a)

## Who to involve?

In the field of sanitation, participation is often promoted as a tool for overcoming some of the major challenges to improved access to sanitation, such as low demand for sanitation infrastructure, poor hygiene habits, weak institutional structures and low capacity for operation and maintenance of built systems. Yet, preliminary explorations have found that not all forms of participation are equally influential in delivering successful urban sanitation services (Nance and Ortolano, 2007). The sector is lacking specific studies and guidelines regarding how participation should be facilitated and when it should take place in the process. To overcome this, a study was performed using tools for categorizing participation levels and decision-making domains to explain how and when participation appears in sanitation planning processes (McConville et al, submitted b). This study found that participation is generally less frequently occurring in practice than recommended in the literature (Box 2). Yet, even in planning guidelines, there is a tendency for low participation and high degrees of expert control, especially during the designing step. Community members and residents in particular are rarely given true decision-making power.

It may be the case that there is reluctance in society to participatory processes or that they are still a rather new idea and thus difficult to implement in existing social contexts. It has been noted that there is often a paradox between the theoretical desire for bottom-up, locally-developed solutions to local

problems and the traditional top-down decision-making processes that exist in many municipalities. However, this situation also puts into question whether efforts at using participatory planning are truly adding the benefits that are claimed they will provide.

So while there seems to be an underlying sense that participation is important for sanitation, it is not yet clear that participation is achieving the desired results or being implemented as envisioned in the field, nor in the most appropriate phase of the planning process. The following recommendations may improve the performance of future participatory processes:

- Objectives for a participatory process should be clearly spelled out in the beginning of the planning process and then participation events should be arranged in a way that is consistent with achieving these objectives.
- Identify which domains of stakeholders should be involved based on the level of service delivery imagined and the institutional structure that would be involved in the management of technical infrastructure.
- Once the objectives for participation of certain stakeholders are defined, and it is clear when in the process they will contribute, clear indicators for monitoring and evaluation should be developed so that future projects can actually document the evidence for (or against) participation in sanitation planning.

**Box 2: Participation levels in Ouagadougou Strategic Sanitation Plan (PSAO)**

The example of participation in the Ouagadougou Strategic Sanitation Plan shows how households theoretically could choose the on-site system they desired, but they nonetheless, most frequently choose the least expensive options saying it was all they could afford (McConville personal observation, 2007). In Ouagadougou, household participation and ultimately choice was also limited since many did not have the financial resources to invest in sanitation or were not properly informed of all the options by project field workers (McConville observations, 2008). These conditions raise questions about the possibilities to implement effective participatory processes. Although one of the main drivers for a participatory process is better adaptation of technology to local conditions (WSSCC/Eawag, 2005), there may be strong restrictions to innovation when decentralizing the planning process to people who lack financial, technical and information capacities to fulfill this role (Tiberghien et al., 2011). (Source: McConville et al, submitted b)



**Figure 1: Field workers describing sanitation options to households (Photo: McConville).**

**Reasons behind decision-making**

Interviews with local practitioners in West Africa revealed a different conceptualization of sustainability and emphasis on criteria than was found in sanitation literature (McConville et al, 2010). Literature on sustainable sanitation focuses on five categories of criteria: economic, socio-cultural, technical, health, and environment (Bracken et al., 2005; SuSanA, 2008). Practitioners in the field also stress the need for the first three, but do not often mention the last two criteria which are more about the functions that the system should perform. Instead of emphasizing these functional criteria, local stakeholders spoke of the need for a clear process with participation, proper planning and feedback mechanisms to keep it on track. This difference seems to emphasize two perspectives; on the one hand, the expert, engineering perspective that is concerned with the functionality of the system and designing appropriate technology and, on the other hand, the local practitioner concerned with embedding the system in the socio-economic reality so that the result will be a sustainable service.

When considering how criteria are used in studied planning processes, there are a few interesting trends to consider. Criteria for convenience do not often appear during the planning process, although it is a strong user driver (Box 3), perhaps indicating that the user perspective has been missing in the planning processes. In general, “sustainability criteria” appear in a haphazard fashion within the context of planning. This would seem to indicate that criteria are used more often as a wish-list or guiding principles than as systematic requirements that could be used in a monitoring tool that could assure a sustainable outcome.

### Box 3: Drivers for sanitation from the users' perspective

A study aimed at identifying criteria that drive users to install sanitation systems and criteria for satisfaction was conducted in small towns in Ghana (McConville, 2010). The dominant drivers for constructing toilet (on-site sanitation system) were convenience, hygiene, and the availability of a subsidy. Users were satisfied when the sanitation system provided a comfortable, convenient and clean experience. They were happy that a toilet made their house more acceptable to visitors, as well as being impressed with the technical improvements that came with vent-pipes and alternating pits. It is interesting to note that while users wanted an affordable and culturally appropriate system, they also shared concerns with global sanitation experts regarding technical functionality for convenience, health and environmental hygiene. In addition, an attempt to use sustainability criteria to evaluate this sanitation project highlighted a gap between the project objectives and sustainability criteria. The project objectives were not aimed at fulfilling sustainability criteria, even those named by program-level stakeholders. Sustainability criteria were thus not included in indicators for monitoring and evaluation, making it difficult to determine if they were achieved. Significant improvements in the sanitation situation may be possible through better linking planning and implementation objectives to achieve functional and sustainability criteria of the stakeholders.

### A Mixed-Methods Approach

The main conclusion that can be drawn from the multiple studies behind this paper is that more attention is needed to how the planning process itself is designed and conducted (McConville, 2010). A number of different planning methods are already used in practice, but they often appear to be combined in a haphazard way. It is important to remember that there is a difference between coincidental ad hoc mixing of different planning modes and deliberate mixing of modes with the aim to maximize effectiveness of the process. Better design/adaptation of the planning process should thus continue to rely on a combination of different planning modes (Luethi et al., 2009), but they would be intentionally employed at specific steps in the planning process based on a pre-defined understanding of what is needed to improve the sustainability of sanitation service interventions and of how to better adapt them to local context.

If an effective mixed-method approach is to be implemented, a clear understanding of the process and desired objectives within the different steps is needed. This work supports the development of systematically



**Figure 2: Small town resident discussing what he desires from a sanitation system (Photo: McConville).**

adapted sanitation planning processes, by providing a starting point for discussing and understanding the practice of sanitation planning and what implications the choice of planning mode or participation levels can have on the success of a sanitation project. There is no right or wrong answer to these questions; rather it is about choosing the right approach for the context at hand.

Any approach to addressing the heterogeneous reality of urban sanitation will need to be adaptable and diverse. In the future sustainable urban sanitation will start with a specifically designed planning process that uses a mixture of planning modes and technical systems to meet the needs of diverse populations.

### Recommendations/ conclusion

- Differences between planning modes should be kept in mind when designing/adapting a planning process. Such modes should be deliberately selected to match desired outcomes in the local context, for example, by clearly defining the planning objectives and roles planners expect others and themselves to perform throughout the process.
- The objectives for using participatory processes should be clearly defined at the beginning of the planning process and participation levels of all stakeholders adapted so as to be consistent with achieving these objectives.
- The variety of perspectives regarding what is sustainable in the local context needs to be included in the planning process in order to achieve a system that offers an appropriate

technology at the right service level.

- Once local sustainability criteria are established they need to be included in the project document, terms of reference and indicators for monitoring and evaluation, at both program and donor levels. Specifically, project objectives and performance indicators should match the sustainability criteria of the stakeholders. Note that if actions to meet sustainability criteria are not spelled out in the terms of reference they will not be achieved.

#### References

- Allmendinger, P. (2009): *Planning Theory*. 2nd eds. Palgrave Macmillan: New York, USA.
- Bracken, P., Kvarnström, E., Ysunza, A., Kärrman, E., Finnson, A., Saywell, D. (2005): Making sustainable choices – the development and use of sustainability oriented criteria in sanitary decision making. Proceedings of the 3rd International Conference on Ecological Sanitation, 23-26 May 2005, Durban, South Africa, pp. 486-494.
- Kvarnström, Emilsson K., Richert Stintzing A., Johansson M., Jönsson H., af Petersens E., Schönning C., Christensen J., Hellström D., Qvarnström L., Ridderstolpe P., Drangert J.-O. (2006): *Urine Diversion: One Step Towards Sustainable Sanitation*. Stockholm Environment Institute, EcoSanRes Publication Series report 2006-1, Stockholm Environmental Institute, Stockholm, Sweden.
- Luethi, C., McConville, J., Kvarnström, E. (2009): Community-based approaches for addressing the urban sanitation challenge. *International Journal of Urban Sustainable Development* 1(1-2), 49-63.
- McConville, J. (2010): *Unpacking Sanitation Planning – Comparing Theory and Practice*. PhD Thesis, Chalmers University of Technology, Gothenburg, Sweden,
- McConville, J., Kain, J.H., Kvarnström, E. (2010): Perceptions of Local Sustainability in Planning Sanitation Projects in West Africa. In Vliet, B., Spaargaren, G., Oosterveer, P (eds). *Social Perspectives on the Sanitation Challenge*. Springer, Dordrecht, The Netherlands.
- McConville, J. Kain, J-H., Kvarnström, E., Renman, G. *Bridging Sanitation Engineering and Planning: Theory and Practice in West Africa*. Submitted manuscript a.
- McConville, J. Kain, J-H., Kvarnström, E., Renman, G. *Participation in Planning: Theory and Practice in Burkina Faso*. Submitted manuscript b.
- Nance, E., Ortolano, L. (2007): Community Participation in Urban Sanitation: Experiences in Northeastern Brazil. *Journal of Planning Education and Research* 26, 284-300.
- SuSanA (2008): *Towards more sustainable sanitation solutions*. Vision statement, Sustainable Sanitation Alliance, <http://www.susana.org/lang-en/intro/vision> (date of visit: 26 August 2009).
- Tiberghien, J.E., Robbines, P.T., and Tyrrel, S.F. (2011): Reflexive assessment of practical and holistic sanitation development tools using the rural and peri-urban case of Mexico. *Journal of Environmental Management* 92(3), 457-471.
- WSSCC/EAWAG (2005): *Household-Centred Environmental Sanitation: Implementing the Bellagio Principles in Urban Environmental Sanitation, Provisional Guideline for Decision-Makers*. Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Duebendorf, Switzerland.

**Name:** Jennifer McConville  
**Organisation:** CIT Urban Water Management  
**Town, Country:** Stockholm, Sweden  
**eMail:** [jennifer.mcconville@cit.chalmers.se](mailto:jennifer.mcconville@cit.chalmers.se)