

ADAPTIVE PLANNING FOR SUSTAINABLE WASH

A cross-cultural research in the Netherlands & Bangladesh

Niki Versteeg*

■ This research emerged from the need to improve the Netherlands' contribution to international water and sanitation service delivery. Over the previous two decades these services were not found to be sufficiently sustainable according to the Ministry of Foreign Affairs (2013). Sustainability has often been summarized as meeting economic, environmental and social objectives now and in the future. Different scholars argue that given the changing future conditions many development organizations are facing nowadays, a sustainable plan should also be *robust*, meaning that it performs well under a wide variety of futures, and *adaptive*, meaning that it can be adapted to changing future conditions (Walker, Haasnoot, & Kwakkel, 2013).

■ Development aid organizations face a challenging paradox. On the one hand they set themselves ambitious long-term poverty-reduction objectives which unavoidably come with uncertainty; on the other hand, development organizations are often pressured to claim that their interventions ensure demonstrable results and can be achieved with minimal risk of failure. Although development organizations are aware that changing future conditions as urbanization, population growth, environmental degradation and climate change are expected to have significant implications for their interventions and will be accompanied by uncertainty, there is no systematic step in their strategic planning approach to cope with future uncertain conditions. According to Walker, Haasnoot & Kwakkel (2013) adaptive planning approaches can be used to design sustainable plans under uncertainty.

In this research an adaptive planning approach is designed with the aim to contribute to long-term sustainable WASH services. WASH is abbreviation for water, sanitation and hygiene and is part of the sixth Sustainable Development Goal (SDG-6). Goal 6 seeks to 'ensure availability and sustainable management of water and sanitation for all'. This

comprehensive goal addresses the entire water cycle, from access to use and efficiency, and the integrated management of water resources and water-related ecosystems.

The designed adaptive planning approach is a systematic step-wise pro-active approach where project planners need to think beforehand of ways a plan might fail and design adaptations actions to guard against such failure. The designed adaptive planning approach for long-term sustainable WASH services consist of three systematic steps: (1) defining the impact and critical assumptions of the WASH programme, (2) defining relevant uncertainties by using contextual scenarios, and (3) defining adaptation actions and the timing of the actions.

Case: Water supply in Bangladesh

The content and the applicability of the designed adaptive planning approach for long-term sustainable WASH services has been examined in the context of the Khulna' Water Supply Project in Bangladesh. This project is a collaboration between the Asian Development Bank, Japan International Cooperation Agency, the Government of Bangladesh and Khulna

* Ir. **Niki Versteeg**, MSc. Construction, Management & Engineering.

Water and Sewage Authority. The Khulna' Water Supply Project aims to reach the project outcome; expanded and reliable access to potable water in Khulna city for all citizens, by building a surface water treatment plant.

In order to conclude if the designed adaptive planning approach contributes to long-term sustainable WASH services, the three systematic steps of the approach are examined twice. First by means of a workshop with WASH experts from the Dutch NGO Simavi in the Netherlands. The WASH experts can be seen as not directly involved project stakeholders. Second, by means of interviews with local project stakeholders in Bangladesh. The interviewees can be seen as directly involved project stakeholders.

Results

It can be concluded that WASH experts in the Netherlands and the project stakeholders in Bangladesh reacted differently on the three systematic steps of the designed adaptive planning approach for sustainable WASH services. The indirectly involved project stakeholders (WASH experts) found it easy to question the project assumptions of Khulna' Water Supply Project and to identify critical assumptions for project failure but could not propose specific adaptation actions. The directly involved project stakeholders (local project stakeholders in Bangladesh) found it more difficult to criticize and reassess project assumptions but they defined feasible adaptation actions. Although these were framed not as actions to adapt current project activities, but to design additional activities after the current project was finished.

Five project assumptions are formulated for the project. (1) Khulna City does not expand to fringe areas, (2) Population of Khulna City does not grow too rapidly as a result of large migration, (3) Abstraction of groundwater by private wells does not increase substantially, (4) Households are willing to connect to the KWSA network, (5) Competent managers and engineers apply for posts and are recruited (Asian Development Bank, 2011). The international experts were fairly sceptical regarding these five assumptions, and also local stakeholders signalled, although in an indirectly way, that the thresholds beyond which the current project plan of Khulna' Water Supply Project fails to meet the project objectives was already reached. It appeared that the disputable content of the critical assumptions caused project failure. The adaptation actions proposed by local stakeholders, therefore, became reactive actions instead of proactive actions; to account for required follow-up activities, given that the project's basic assumptions clearly had lost validity.

This raises the following two questions: Does an adaptive planning approach contribute to long-term sustainable WASH services if the adaptation actions are defined around the core of disputable critical assumptions? And, how is it possible that projects such as the Khulna' Water Supply Project already start with disputable critical assumptions?

Discussion: Adaptive planning and strategic misrepresentation

Bent Flyvbjerg, Professor of Business at Oxford University and leading expert on megaprojects, provocatively argues that the causes of project failure can be assigned to wilful misrepresentation on the part of project planners and promoters. Competition between projects and authorities creates political and organizational pressures that in its turn create an incentive structure that makes in rational for project planners to emphasize benefits and deemphasize cost and failure. This is done to increase the likelihood that it is their project, and not those of their competitors, that gain approval and funding (Flyvbjerg, 2007). Project planners know that once work begins, only a few projects are ever halted (Siemiatycki, 2015). Strategic misrepresentation leads to projects with overestimated project outcomes. Logically when aiming to realize these misrepresented outcomes, misinformed critical assumptions are 'needed' as well at the start of the project. In a sector where most project incentives are on benefits, strategic misrepresentation may be an explanation for the disputable project assumptions and sequential project failure. This can also explain the observation in this research that the directly involved project stakeholders found it difficult to discuss project failure.

Purposely defining scenarios of success and glossing over the potential for failure, conflicts with the pro-active adaptive planning approach to define adaptation actions at the begin of the project to guard the plan against 'purposely ignored failure'. Therefore, it is questionable whether all systematic steps of the approach serve the interest of all project stakeholders.

The outstanding question arising from this analysis is whether any of the directly involved project stakeholders have an interest and, equally important, the ability to move beyond misrepresentation to implement adaptive planning strategies that actually address project failure at the start of the project. Probably the answer to this question would be 'no', because of the incentive and accountability structure of project funding. None of the stakeholders involved in delivering projects would be willing to 'risk their job' to deliberately address project failure at the earliest stage of the project. This explains why the adaptive planning approach, as it is designed now, is

not likely to contribute to long-term sustainable WASH services in environments where project incentives are on benefits and not on robustness.

Recommendations

As misrepresentation is an often-occurring phenomenon (Flyvbjerg, 2007), it is highly useful to find a way to deal with misrepresentation when working in environments where incentives are on benefits and not robustness. In order to contribute to long-term sustainable WASH services in an adaptive way, it is important to objectively assess the criticality of project assumptions. With subtle organizational pressure to accentuate the positive, and evade accountability of involved stakeholders for project failure, it is recommendable that the criticality of the project assumptions will be assessed by an independent party (a party not directly involved in the project).

This research recommends that, when working in environments where project incentives are on benefits, different components of the adaptive planning approach for long-term sustainable WASH services should be practiced by different involved parties:

- Independent (not directly involved) WASH experts have to identify and review critical assumptions for project impacts
- Direct involved project stakeholders, via scenarios, have to identify adaptation actions
- An analyst or planning expert has to facilitate these steps and prepare the necessary inputs

The above recommendation is formulated for the WASH sector but can be a recommendation for other sectors as well; sectors where directly involved project stakeholders are not willing and/or capable to independently identify and review critical assumptions for project impacts but are willing to plan their projects in an adaptive way.

Acknowledgement

This paper derives from my graduation research on adaptive planning for sustainable WASH services, as part of the master Construction Management & Engineering from Delft University of Technology. This research was supervised by Dr. ir. Leon Hermans (TU Delft) and Sara Ahrari (Simavi). Field research in Bangladesh was enabled by financial support from Delft Global, Simavi and Shifting Grounds under NWO grant W07.69.104. I would like to thank professor Md. Mustafa Saroar, Tanmoy Chakraborty and Khondaker Ekram from Khulna University of Engineering and Technology for his support for this field work. ■

- Asian Development Bank. (2011). *Proposed Loan and Technical Assistance Grant People's Republic of Bangladesh: Khulna Water Supply Project*. Retrieved from
- Flyvbjerg, B. (2007). Policy and planning for large-infrastructure projects: problems, causes, cures. *Environment and Planning B: Planning and Design*, 34(4), 578-597.
- Ministry of Foreign Affairs. (2013). *From infrastructure to sustainable impact: Policy review of the Dutch contributing to drinking water 1990-2011*. Retrieved from
- Siemiatycki, M. (2015). *Cost Overruns on Infrastructure Projects: Patterns, Causes, and Cures*. Institute on Municipal Finance and Governance.
- Walker, W. E., Haasnoot, M., & Kwakkel, J. H. (2013). Adapt or perish: a review of planning approaches for adaptation under deep uncertainty. *Sustainability*, 5(3), 955-979.

ABSTRACT

This paper concisely elaborates on the finding of an academic research on adaptive planning for sustainable services for water, sanitation and hygiene (WASH). An adaptive planning approach is designed with the aim to contribute to long-term sustainable WASH services under future uncertainty. The designed approach consists of three systematic steps, the application of which has been examined twice. First by means of a workshop with WASH experts from the Dutch NGO Simavi in the Netherlands. Second, by means of interviews with local project stakeholders in Bangladesh. It is concluded that the adaptive planning approach, as it is designed now, does not necessarily contribute to long-term sustainable WASH services in environments where project incentives are on benefits and not on robustness. In response to some of the observed difficulties, it is recommended that different components of the adaptive planning approach for long-term sustainable WASH services should be practiced by different involved parties. The research of this paper was conducted as MSc thesis research at Delft University of Technology, hosted by Simavi.