

CLASSIFYING PROGRESS IN RURAL WATER SUPPLY EXPERIMENTS

Over the past years, Triple-S (Sustainable Services at Scale) has led a process of learning and innovation to improve rural water service delivery in Ghana and Uganda. This involves running a number of experiments between 2012 and 2014 in Ghana and Uganda on innovative approaches to address sector challenges that have been jointly identified. Taken together, these experiments were expected to contribute to the sustainability and quality of rural water services and to build sector capacity for future innovation and informed policy making.

Ghana experiments	Uganda experiments
1. Creating a new model for rural water service monitoring	1. Analysing performance of service delivery models
2. Reducing handpump downtime using SMS technology	2. Facilitating local monitoring of rural water service delivery
3. Adopting a life-cycle costs approach for sustainable service delivery	3. Developing business model for hand pump mechanics associations
4. Analysing sector learning and adaptive capacity	4. Using mobile phones to improve functionality of rural water sources
5. Promoting sector harmonisation and coordination	5. Adopting sub-county model to improve operations and maintenance
	6. Strengthening learning and adaptive capacity through learning alliances
	7. Updating district implementation manual to improve harmonisation and coordination

This document outlines the generic phases that an innovation is expected to go through, and the experiments associated with it. The classification has been used to describe and review progress to date on each experiment.

KEY STAGES IN THE INNOVATION PROCESS

An innovation passes through various phases (see figure 1):

- Phase 0: Understanding and ‘socialising’ the problem, which leads to a clear articulation of a problem and generates awareness among stakeholders.
- Phase 1: Proof of concept, which leads to detailed articulation of an innovation and consideration of its feasibility.
- Phase 2: Limited piloting, provides evidence on outcomes, impacts and costs of the innovation and the requirements to make it work.

- Phase 3: Full scale roll-out, means application of the innovation (almost) nationwide and for multiple years.
- 'More research' ideas, which can be developed into further research into specific parts of the problem
- There are also actions that are deemed not to require an experiment, for example because the cost of an experiment would be higher than implementing the innovation.

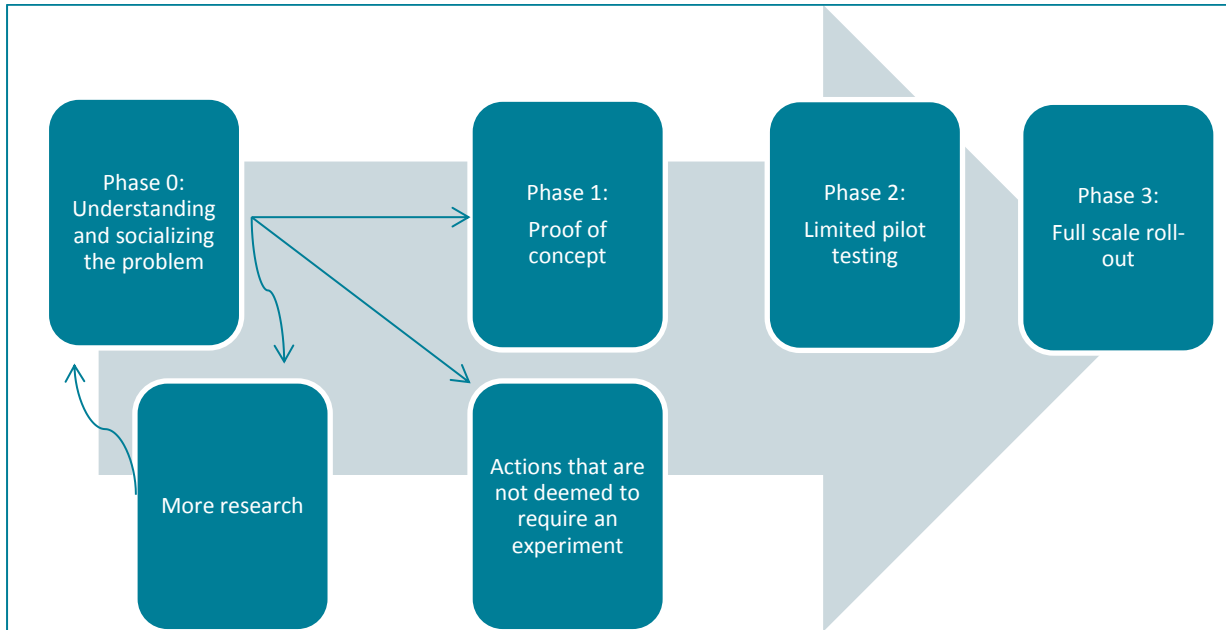


Figure 1: The innovation process

In each phase, experiments take place. We have attempted to describe and classify our experiments, in where they fit into this process, and critically assess their success and failure. In each phase, the experiment and the innovation may succeed or fail.

There is a difference between an **experiment** that succeeds and an **innovation** that succeeds. An example of the first would be an experiment that did provides a clear answer to the types of questions to be answered at that stage. A successful innovation is one where the experiment shows the innovation to be too cost-effective, to improve effectiveness or be practical to apply. An experiment which provides a clear result but which is ignored by partners may also be said to have, at least partially, failed.

Further details on the types of questions an experiment and innovation should answer in each phase are elaborated below.

PHASE 0: UNDERSTANDING AND 'SOCIALISING' THE PROBLEM

Typically, an innovation process starts with research to describe and provide a deeper analysis of a problem. This may be needed to be able to generate awareness among stakeholders that there is indeed a problem.

The research and interaction helps generate ideas to address the problem. Typically, three types of ideas can be distinguished:

- Completely new ideas, which have not been applied before in that context (though maybe somewhere else). These will then enter the next stages in the innovation process.
- Standard or highly plausible ideas, which have been applied before or don't require further experimentation. This would also include ideas that would be more complex and expensive to test than to roll out.
- "More research" ideas, which can be developed into further research into specific parts of the problem.

Failure in this phase constitutes research that doesn't provide a deeper understanding, because of flawed methodology, or difficulties in obtaining necessary data. Experiments can also fail in this phase if the problem has not been clearly articulated and sufficiently recognised by stakeholders.

PHASE 1: PROOF OF CONCEPT

In this phase innovations have been elaborated in detail at a theoretical level and proven feasible to implement. Proof of concept thus entails showing that the innovation has potential, elaborating practical requirements such as detailed technical descriptions, a financial analysis and a business model, and developing a prototype of the innovation. At the end of this phase, questions to have answered are: Would this be a feasible solution to the problem? Does the innovation work?

An innovation passes this phase if the concept has been articulated in a consistent manner, if all theoretical considerations point to the innovation being feasible and if it has been shown to be implementable in practice. It is considered to have failed, if it is impossible to come to a consistent description of the innovation and a realistic assessment of its feasibility, or if the practical demonstration gets bogged down.

PHASE 2: LIMITED PILOTING

Innovations that have reached this phase have been applied at a limited geographical or temporal scale, e.g. in a few districts or only once. The innovation functions, albeit with minor glitches and significant input from the experiment team. Piloting is geared towards obtaining information on the outcomes and impacts of the innovation, and its costs.

Questions in this phase include: Should we scale up this innovation to other locations/ to reach more people? What will it cost to apply it at scale? And what are other implications of scaling this up?

Success or failure can be defined as follows:

- The experiment succeeds if robust evidence has been obtained on the outcomes, impacts and costs of the innovation and the requirements (including specific conditions) to make the innovation work.
- The innovation succeeds if the results of the experiment have shown that the impact justifies, or is in reasonable proportion to, the costs and that it is feasible in a given context.

PHASE 3: FULL SCALE ROLL-OUT

Once an innovation is applied country-wide (or in a large part of the country) and for several years in a row it would be considered to be in phase three. The users of the innovation (for example local government) now take the lead in supporting its roll-out. The experiment team leads or supports the joint assessment of the scaling process of the innovation.

In this phase three types of questions should be answered:

- What are the costs and impacts? As innovations are rolled out, the costs might be lower than in the piloting phase – but so may be impacts, because in a pilot typically more effort goes in supporting the innovation, which increases the likelihood of positive impact.
- How do the costs and impacts differ across contexts? There are probably areas where the innovation works best at lowest cost, but others where it simply doesn't work. This phase would help identify contextual factors that affect its roll-out.
- What is the most cost-effective way of rolling out the innovation? Typically, innovations may be rolled out through the public sector, via private business or by individuals. This phase should provide insight which channel works best; identify barriers and ways to overcome them.

An experiment succeeds in this phase if it provides insight into the cost and impact of the innovation at scale, the context in which the innovation provides most impact for money, and the most cost-effective way of rolling out the innovation.

The innovation succeeds if there is evidence that the impact outweighs or justifies the costs at scale, that it does so in a significant segment of the population and there is at least one cost-effective channel for taking the innovation forward beyond the scope of the project.

ACTIONS THAT ARE NOT DONE IN EXPERIMENTAL MODE

Some of the work done by Triple-S is not done in an experimental mode. That is, actions are undertaken, without assessing their impact, for example because the cost of the experiment is

higher than the innovation itself. The support to the roll out of the District Implementation Manual (DIM) in Uganda would be one such action.

COMBINATIONS

Some innovations are complex and have several components that fall in different stages of the innovation cycle. Monitoring Service Delivery Indicators (SDIs) using Akvo-FLOW (Field Level Operations Watch) in Ghana is an example: the FLOW platform could be argued to be in full scale roll-out, whereas the SDIs are still at pilot stage.

ANALYSIS OF PROGRESS AND FURTHER OUTPUTS FROM EXPERIMENTS

The various “experiments” (also the ones not done in experimental mode) done by Triple-S have been classified according to the above-mentioned phases. These assessments, along with policy briefs on the main findings and recommendations, and reports can be found on www.ircwash.org/projects/triple-s and www.waterservicesthatlast.org/experiments.

By Stef Smits, IRC, November 2014