



Sustainability of rural water and sanitation projects

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THE ISSUE OF sustainability is ever increasingly high on the agenda of organisations involved in development. Complete local sustainability of projects would seem to be highly desirable for the beneficiaries, the implementing/capacity building agency, and the donor. However, this is a complex issue, and great care needs to be taken in the practical understanding of sustainability. Let us look at what sustainability is not, before exploring what it is, or should be.

The myth of total local sustainability

One of the most commonly held myths at the current time seems to be that total local sustainability can be achieved in a relatively short period of time, say 3-5 years. A fundamental aim of much development is to try and metaphorically draw a boundary around a particular project and have no flow of inputs to the beneficiaries across this boundary once the project is 'complete', especially from the implementing/capacity building agency or the donor. Within this boundary, the beneficiaries are to be totally self-sufficient, and sustainability is thus achieved.

Total self-sufficiency or sustainability seems to have become a god of development, when probably it can only be truly said of God Himself. 'No man is an island' and the whole universe exists as a series of delicate inter-dependent relationships. So it is with water and sanitation projects: the donor-implementing agency-Government-beneficiary relationships need to be recognised and supported, at least in part, as on-going, far beyond the current commonly accepted time-frame.

One example of this myth of total local sustainability is the misleadingly named Village Level Operation and Management of Maintenance (VLOM) hand-pump from Afridev. A very good pump with a very appealing name, suggesting that once installed, the beneficiaries alone are capable of maintaining it. However, in reality, even when correctly installed and operated, several routine maintenance jobs occur that are simply beyond nearly any village's capacity to resolve. To rectify rod disconnection, for example, skilled fishing techniques and specialised parts are often involved. A broken connector may be repaired locally (due to lack of availability of spare parts) leaving a connection that rubs the riser main and wears a hole in the wall. Leaking or disconnected riser mains need to be taken out and either replaced or repaired, both operations being beyond the capabilities of most villages.

From over a decade of experience in water and sanitation projects, no matter what technology is used, or how much

capacity building of the beneficiaries is accomplished, there is always a need for backup or backstopping from the donor/implementing agency/Government. This may involve refresher training of the Water and Sanitation (WATSAN) Committee, provide technical assistance and/or funding and materials for major scheme breakdowns, and so on.

Experiences within Ethiopia indicate that within 2-3 years, even with full community participation from the outset, WATSAN Committee members and scheme caretakers lose interest or move away, and without the backstopping mentioned, the schemes are in danger of collapse. Other studies, notably in South West Uganda (Bagamuhunda, 1998) support this.

However, all of this should not detract from the fact that local sustainability, as far as it is possible, is a desirable and essential element of any development project if it is to be effective.

What then constitutes sustainability?

Defining sustainability

A good basic definition of sustainability is "whether or not something continues to work over time" (Abrams, 1998). In more detail, in the context of rural water and sanitation projects, it is the continuous functioning of the system, both hardware (physical), and software (non-physical), and the continuance of the derived benefits at the beneficiary level from that system once the 'external' hardware & software assistance have been *essentially* phased-out.

Hardware sustainability

Much has been talked and written about this, but some vital elements that are not so commonly raised are:

- **Appropriate technology.** The easier and simpler the scheme, the more sustainable it will be. Using locally available/replaceable materials where possible and appropriate, in addition to creating the local availability of these materials (e.g. encouraging local shops to stock pump spares) contributes greatly to this.
- **Standardisation.** This generates good working relations between communities, thus tangibly impacting the software element, as well as promoting the above mentioned local availability of spares, as well as appropriately trained technicians.
- **Convenience.** Both of the type of technology, and its location. A scheme that is inconvenient won't be missed when it is not sustained.

Software sustainability

This includes all the social, economical, cultural and political components of a scheme. Some of the more established elements are needs identification, community sensitisation, mobilisation and management, priority setting, generating a sense of ownership, health education, capacity building, and training.

Again, some of the less obvious key elements are:

- **A conducive learning environment involving all stakeholders.** Participatory methodologies and facilitative training/leadership amongst all the stake-holders is more likely to lead to a shared vision of and commitment to the project, thus encouraging effective problem/issue solving when necessary.
- **Building confidence.** As well as building the capacity of beneficiaries, and to a lesser extent the backstopping organisation, in the areas of scheme management, technical skills, software maintenance, etc, building their confidence to achieve these objectives is also vital.
- **Continuing support.** This has already been mentioned in detail.

Conclusion

The over-riding objective and goal of sustainability in water and sanitation projects is not just to ensure a community is capacity built to enable them to function in a committee or fix a pump. Rather, it is all this plus the development of the vision, attitudes, confidence, commitment, and competence amongst all stake-holders, especially the beneficiaries, that will ensure a sustained and responsible effort towards the project.

The elements of such sustainability through empowerment do not happen quickly. Especially relating to the software element, for beneficiaries to accept new practices and embrace them as part of their everyday behaviour, much patience and enthusiasm is required.

Above all, the presence and commitment of a backstopping organisation with appropriate resources is essential for sustainability. Only when a point is reached where there is a sufficient 'critical mass' of acquired good practice in both hardware and software aspects, that ensures there is no going back, will projects approach true local sustainability.

References

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