Learning from Ghogha, Part II

Reflective note

Bouwe Grijpstra, EAS to WASMO

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1. Introduction

The Ghogha Regional Water Supply and Sanitation Project (GRWSSP) officially started at the end of 1997. In November 2004 a final project assessment has been made. One of its conclusions was that only a short extension was needed to finalise and safeguard the project's accomplishments. Soon the financial support provided by the RNE will come to an end.

The opinions about the project's results are moderately positive. The final assessment team concluded ambiguously "without doubt most of the 81 villages and Ghogha town had benefited from the project". But this mission also reported that it had seen hardly any VWSS functioning[1] due to lack of power, operators away with keys and incomplete works. That is remarkable because for a long time these VWSSs have been the most prominent item of the project, together with supporting measures as the formation of PSs (water users' committees), capacity building, guidance and the collection of O&M funds.

Generally the feeling among the different stakeholders in the project is that the results are meager, considering the input of money, manpower and expertise. Doubts exist about the functioning of the PSs, the willingness to contribute to O&M funds, the quality and the functionality of the WATSAN facilities. With regard to the latter the mission observed that the quality is generally acceptable although the finish is often visually rough and user facilities are generally in poor condition with many requiring rehabilitation.

Many believe that the providers (bureaucrats, engineers, consultants, contractors, NGOs, donor) did not perform good enough. Main deficiencies mentioned are: defective planning, unnecessarily maintaining fixed ideas and procedures, prioritising own interests, lack of co-ordination amongst themselves, no common understanding of prevailing problems, and insufficient consultation of the beneficiaries. On the other hand, the villages have not sincerely taken up ownership of the facilities provided, neither before nor after the *Atmarpan* (handing-over) ceremonies.

This rather low level of satisfaction makes one wonder about the causes behind this lackluster performance and to what extent these were inherent to the project. Questions that have to be answered are: how could such a situation arise and how can it be prevented to happen again in a similar project. Of course also redressing activities have to be identified.

[1] This could partly be explained by the time of the year the mission was in the project area, November, when traditional local water sources still function well, and the time of the day of the mission's visits. VWSSs are normally in operation early morning and early evening.

This short paper contains a number of reflections on the project, its history, the style in which it was conceived and organised, the basic assumptions underlying these, the positions and roles ascribed to the different actors and their perspectives, and the change that did and did not occur throughout the project period. Prominent items and aspects of the project constitute the framework of this paper.

2. Project concept

Initially the Gujarat Water Supply and Sewerage Board (GWSSB) had proposed the project. It came with a solution, the Shetrunji reservoir, to a problem, a shortage of drinking water in the Ghogha area. The problem was presented through analyses of erratic patterns in annual rainfall, declining water tables, salt intrusion, etc.[2]. For urban-based and/or oriented outsiders the needs were clear.

On the other hand in most of the villages targeted the actual demand for quality drinking water was rather low, because houses were and are not fitted with flush toilets, showers, washing machines, etc. Only for drinking, cooking and utensil cleaning purposes water was fetched by the female members of the household. For many villagers bathing was (and still is) not a daily activity. Clothes were washed near a source of water, as for the drenching of animals. The local water sources provided enough water for the larger part of the year. In dry months the government supplied water with tankers at no cost, a solution that suited the villagers well.

As such at the beginning of the project the male decision makers in the villages did not feel there was an urgent need for new water sources and supply systems. But, of course, no one wants to be left out when a big investment scheme is about to start.

3. VWSS package

A standard package of VWSS facilities has been applied to all villages. Sophistication as reflected by elevated reservoirs dotting the skyline and water running from public taps appears to have played a central role in the compilation of this package. The major items are a sump that is filled by the Mahi pipeline and/or from a local borehole, and a much smaller elevated reservoir. The use of an electric pump to lift water from the sump into the elevated reservoir makes the operation of the systems dependent on the supply of three-phase electricity, which is not reliable in the project area. Generators or diesel pumps could provide in these occasions, but have not been provided. Beyond these two works in concrete the systems are rather simple.

Water distribution is usually through standposts, which are supplied during certain hours. Many of these appear to be in disrepair and dirty, as nobody seems to look after these. House connections are rare. They have not been actively promoted, probably for concerns about costs, high water consumption and paternalistic ideas that these would be too sophisticated for simple rural dwellers. Houseconnections, however, could have instilled feelings of ownership with the individual households and responsibility for maintenance and tidiness.

[2] It is remarkable that the attempts to quantify groundwater extraction for irrigation, as supported by cheap electricity mainly benefiting the rich, were comparatively few. By comparison, in Israel every borehole mandatory has a meter that is accessible for inspection at all times.

4. Project area and target group

A consequence of the original idea to utilize the Shetrunji reservoir was that the project area would be compact and limited. Without exception, all villages in that area would be included in the project.

The project area has never been redefined, even as it could have been done so when the Shetrunji reservoir was no longer considered to be a viable option. At the time it could have been decided to enlarge the group of target villages with the understanding that the villages eager to co-operate with the project would be dealt with first. In turn, successful examples would convince the lagging villages to follow suit, making the whole process more efficient. Such a differentiation in target villages has never been given a serious thought. All were considered to be equally ready or at least capable to integrate the project's benefits in the same period of time.

The project staff, however, did not know what to do with villages that showed little interest. Progress has always been measured in terms of: 'so many out of the 82 villages' which has put the staff in the field under stress to show results in all of them. But personnel that feel to be under pressure to produce results, especially in a hierarchical culture as in India, will resort to the orders given and show little initiative to lateral co-ordination and making adjustments to local conditions.

Without doubt, within the villages the PS members and others have been aware of the pressure that was put on the project field staff, consciously or subconsciously. They have exploited this circumstance has been exploited by doing and contributing less than could have been possible.

5. Social engineering

Bureaucrats and engineers have dominated the formulation of the Ghogha project. To them the needs of the people were clear as well as how these could be met. In the last decades they have increasingly been saying "putting people first" and "participative development" but what they mean by participation is people's co-operation and agreement to their plans[3]. When this co-operation and agreement are not forthcoming they call upon the services of social scientists.

Bureaucrats believe that whatever they have ordered will happen, simply because they ordered so. An engineer's idiosyncrasy is somewhat different. Engineers know that because of gravitation water flows from high to low. Therefore they take pride in designing and constructing closed pressurised systems in which water can also flow from low to high.

Bureaucrats and engineers often think that social scientists avail of a bag social engineering tricks. It is believed that with these techniques, known as awareness raising, participatory rapid appraisal, group discussion, etc. people could be motivated to do things they normally would not do. Social life, however, is invariably more complicated than the set of parameters that governs hydraulic processes. The effectiveness of social engineering is therefore considerably less than that of hydraulic engineering.

For this reason social scientists should not feel themselves pressed to change overnight people's attitudes and behaviour to make them compatible with technical and institutional innovations.

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[3] See also "Governance is the key issue" by Vidyut Joshi, The Times of India, Ahmedabad, January 10, 2005, page 4.

Rather their focus would be on analysing the limiting circumstances, and indicate which interventions would be effective and which wouldn't.

If differences between the inhabitants of a village make it difficult to form an effective PS, capable to manage a complex VWWS with small reservoirs, unpredictable power supply and alternative sources, the advise should be to find a technical solution that does not require an elaborate management institution. E.g. the management of ground-level reservoirs fitted with handpumps in population clusters is much less complicated than that of an elevated reservoir that supplies public standposts. Private household reservoirs fitted with handpumps, to be filled with roofwater and commercial tankers, would be an option that is institutionally even more simple.

6. Implementing Support Agencies (ISAs)

In the Ghogha project the role of social engineer or Implementing Support Agency (ISA) was given to Gujarati NGOs. They were requested to make the inhabitants of the villages co-operate with the project as it was set up, which role they accepted.

Regularly the ISAs have complained about the status they had been accorded, that of (sub-) contractors to the project rather than of facilitating civil society organisations. One's ability to act in a rather independent advocacy role is, however, based on respect and/or having access to separate resources. From the beginning of the project the ISAs have been selected, instructed, paid and evaluated by the project organization. In the Indian hierarchical culture this position is invariably interpreted as that of a (sub-) contractor. Besides, as the opinion about the ISA's effectiveness was mixed they commanded little respect. It is questionable whether a more financially independent position would have enhanced their status

7. Co-operation in and with Pani Samitis (PSs)

The present policy in India is to hold the Gram Panchayat (GP) responsible for the infrastructure a villagelevel, including the management and utilisation of water resources. The role of the state and central government is to provide financial and technical assistance to the GP. A Government Regulation specifies the position, composition, tasks and obligations of the Pani Samiti (PS) as functional committee under the supervision of the GP. Donors as the RNE are in favour of this decentralised approach and support its implementation.

The assumption behind this quest for decentralisation is that in a village the homogeneity in the needs for water will surpass whatever differences and conflicts might exist in other respects. This assumption is similar to the once globally accepted expectations with regard to village-level co-operative societies. Indeed he history of the co-operative movement includes many important lessons for the functioning of PSs, in particular with regard to the presumption that a PS would function along the principles of equality, rationality and transparency. In the sometimes highly politicised GPs these principles are not commonly adhered to, however.

Besides, the O&M of the standard VWSS with a ground-level sump, elevated reservoir and standposts is rather complex, both technically (limited capacities, unreliable power supply) and financially (collection of rates, supervision and payment of operator, repairs and replacement of parts and chemicals). It is essential that the PS members are capable, responsible and sensible persons that can stay aloof from every day politics. Such qualities are rare and in high demand, also outside the villages.

One could question whether the delegation of the responsibility for the O&M of VWSSs to village level PSs has not been a step too far. When in Europe the handpumps on village squares made way for more complicated systems the management has normally been entrusted to an administrative level up from village councils. Anyway, also after the *Atmarpan* the PSs will need guidance and support on a regular basis. The Ghogha final progress assessment report mentions a large number of items that have to be followed up for which quite a service organisation will be needed.

In this regard it could have been pointed out more clearly that during the course of a project the character and function of participation change. In the beginning, when the idea of a WATSAN project is introduced, the active participation of all community members is welcome. Everybody's ideas and wishes should be taken into account as much as possible. This would create a universal and high level of satisfaction in later phases. But once major decisions have been made, and the project has moved through construction into utilisation of the facilities, the participation by most should be rather passive. In those phases the management should be delegated to an elected board of trusted and capable people. Other community members should not interfere in day-to-day affairs. Their participatory role becomes restricted, attending (annual) general meetings, paying dues, and, most important, using the facilities correctly and taking guard that no one damages these. One of the tasks of the post project service organisation would be to assist both management committees and WATSAN users to consolidate their roles.

8. VWSS service level

The VWSSs package might have a high-tech outlook, because of the elevated reservoirs that are visible from afar, but their service level is low. Even when electric power is available the standposts function at most during one hour in the morning and one hour at the end of the day. In spite of the limited distribution hours the vicinity of many standposts is muddy because drainage of spilled water has not been provided for. The restricted and irregular hours for water collection make it difficult for the households to amass a quantity of water that is not only enough for drinking, cooking and to do the dishes, but also for bathing and washing in the privacy of the homestead, and not at all for a pour-flush toilet. To avail of sufficient water for all purposes and in all circumstances also the traditional local sources as open wells and handpumps have to be maintained.

Along with the VWSS, in most villages also one or more communal washing facilities have been built. All are of the same design with a narrow entrance and high walls on which in a corner a reservoir is placed. This reservoir is filled from the elevated reservoir in the village. It supplies water to 10 – 20 taps fitted on a rectangular pipe within the facility.

The washing facilities are hardly used for what they have been built, but commonly abused as a toilet. It is clear that something has gone wrong when the potential users were consulted about their purpose and design. It could be that the users were unable to imagine their real priorities and the limitations under which a facility would have to be operated. So they choose for modern gadgets as pipes and taps that were gravity fed from a small reservoir with an elevation of about two meters and walls over which nobody could look, to protect the women's modesty. Both are aspects design engineers are happy to agree with. But in actual use it is quickly realised that the pressure on the taps is so low that a bucket cannot be quickly filled, that the level in the reservoir cannot be checked at a glance, and the high walls cause feelings of claustrophobia and insecurity when only a few persons are inside. So the facility gets quickly abandoned. A simple open trough from which a bucket of water can be scooped would have been a better alternative. Walls that are

only chest high allow those inside to see who is approaching and those outside to check whether a user is there for washing or for other purposes. Roving eyes could be made harmless by building the washing facility on a small elevation.

Another common facility is the cattle trough. These open rectangular reservoirs are easy to operate and very much appreciated by the animals, the herdsmen and, unpredicted, women who use them to fill their buckets with washing water.

9. Willingness to pay

Traditionally in India water is seen as a gift of God, and since independence water distribution is considered to be the duty of the government. Nominal fees have been declared, but are seldom paid, not even in the state capital of Gujarat.

For the Ghogha project it has been decided that the O&M costs of the VWSSs have to be born by the villages concerned. Construction in a village would not start unless an O&M fund equal to 10% of the construction costs was established. The ISAs were charged to explain this regulation and to assist the PSs with the actual collection of contributions. To those who made this decree it seemed fair enough, as it would to any outsider.

Many villages, however, did not bring forward the required amount. In total more than half is still outstanding. Nevertheless everywhere construction has been started[4]. This leniency cannot but have created the impression that on the point of financial contributions there would be ample scope for bargaining with the project. The unwillingness to pay has not much to do with the average level of income in the project area, though for a number of households the amount may be too high. It would be the task of a PS to see to it that only genuine cases of poverty are exempted and check thoroughly on any other potential free-riders.

However many PS members are not convinced that the villages should take the full responsibility for the O&M costs. Their reasons are the limited periods of drought during which the VWSS would be indispensable being the responsibility of the government, the low service level as analysed in the previous paragraph, and the long gestation and construction period of the project. The latter makes them doubt whether the systems will be effective and durable.

Simultaneously the PS members and other villagers became convinced that there will always be outsiders to take charge of maintenance. Their cunningness and political acumen are such that they will try to keep the project responsible for many outlays to be made after the *Atmarpan*.

To prevent an endless number of cases to be haggled about, the project should make a realistic financial analysis of the O&M costs. This would include wages, electricity charges (when applicable), chemicals, simple repairs, depreciation, etc. On this basis a rate in rupees or percentages for the contribution by the village to these items could be established. The rate can increase from year to year until the level of real costs is reached. Only strict application will instill the sense of pay-for-what-you-get.

[4] The way to contractor (pre-) financed contributions was opened when the villages were granted the freedom to engage contractors for the construction works.

10. Institutionalisation or privatisation

There are a number of villages in Gujarat that have a WSS for already 30 years or more. These systems have been established at the initiative and the expense of the villages concerned. Over the years the systems' O&M have been developed by trial and error along with improvements and extensions of the systems as necessary. External assistance in these developments has been welcome, but the villages clearly remained in the driver's seat. The day-to-day running of the systems has become fully institutionalised and is supervised by a committee of responsible and capable people that keeps it insulated from local politics. Nearly all households have individual connections for which they are happy to pay their dues. The poor are supplied through standposts for which the contribution is less.

In the large majority of villages in Gujarat, however, including those in the Ghogha area, such an evolution did not occur. One can guess about the reasons. It is not the lack of technical knowledge because in every village there is no dearth of people that pump groundwater and distribute it to their fields and, for payment, to the fields of other households.

Generally the Gujaratis are proud about their business acumen. Nobody, however, has taking the initiative to sell drinking water to co-villagers. Asking money for dinking water is considered not-done. But many well owners limit the group they are willing to give to relatives, regular providers of services and/or members of the same caste.

Neither has any private drinking water business evolved, nor have some well and pump owners come together to pool their capabilities and start a village water supply scheme. It could be that any water supply beyond the traditional open well is considered to be the responsibility of the government for whom one waits patiently and passively. Probably the perceived benefits were and are not enough to overcome the large and petty differences and quarrels that might exist within a village[5].

In the absence of local individual or group initiatives the Ghogha villages have obtained facilities that rather reflect the paternalistic benevolence of the external providers than the local needs. To outsiders an elevated reservoir might look good. But the beneficiaries find the service level of the connected standposts low. It enhances their view that water from public taps is a kind of emergency service for which one does not have to pay.

Those who thought that an acute and severe drinking water crisis existed in the Ghogha area and therefore expected all villagers to happily support the newly created PSs that have been put in command of the O&M of the VWSSs might feel disappointed. This was not a realistic expectation, however. Viable, sustainable, independent and efficient institutions cannot be established overnight. First a long process of institutionalisation has to occur. In this regard the results of six years of continuous involvement of ISAs with the PSs do not auger well for the immediate future.

There could be an alternative way, however. The government has entrusted to a private party the operation of the Mahi pipeline. It supplies bulk water into the village sumps and collects the payments for this service. The concession of this company could be extended to include in-village distribution as well. The company would supply through metered house connections at a sustainable rate. Besides, under the concession it would be obliged to supply water through

[5] The fact that WATSAN facilities are the exclusive domain of women does not stimulate things either.

standposts at a lower rate to those households that are not interested in or able to pay for a house connection.

By maintaining strict rules and employing personnel from outside the villages the company would be able to protect itself from local politics and favourism to maintain a healthy profit. This alternative approach does not reflect the popular image of harmony and self-management at village level, however.

11. Sanitation

In the predominantly rural area of the project defecation in open spaces is most convenient, except to certain categories of women who are not supposed to go out by daylight. The dry air and bright sunlight that prevail most of the year limit the spread of germs. Community toilets are hardly an option because in most villages there are no persons willing to clean them.

Individual toilets provide comfort but are costly. They could become popular as an indicator of modernity, a luxury gift to the women in the family. However the rocky underground of large parts of the project area reduces the feasibility of pour-flush latrines connected to cesspits. In those places dry pit latrines are the only affordable alternative.

The construction of school sanitation blocks is well under way. For (pre-) teenage girls school toilets are essential to complete their primary education. The success of this programme depends very much on the interest of the teachers to supervise the regular cleaning. Water reservoirs and ceramic urinals are the most vulnerable parts.

The promotion of household wastewater soakpits by the project and ISAs started only recently, after the VWSSs were commissioned and the amount of wastewater in the village lanes increased. The project pays a small subsidy to encourage construction that meets certain standards. Some energetic small-scale contractors have seized this opportunity. By employing labourers from elsewhere they are able to do the work within the limits of the subsidy. Their offer was quickly taken by a large number of households, a number that continues to grow. Village lanes have already become less muddy.

This improvement is clearly appreciated and therefore social control should motivate the individual households to maintain and/or renew their soakpits whenever necessary. As with the cesspits, the rocky underground limits the effectiveness of the soakpits too. Sewerage lines with treatment facilities will be an option only when a sizeable number of households is interested to contribute to their costs.

Garbage disposal also depends very much on social control. Though private courtyards are meticulously swept, clean public spaces and surroundings are hardly appreciated. In fact these are places where private garbage is dumped. Critical comments could quickly lead to brawls[6]. The dustbins the project provides at a subsidised rate are small and ineffective. Most of them are placed next to a shop and the shopkeeper is expected to burn the garbage daily.

To change the outlook of the villages more drastic measures are needed. Externally promoted village clean up campaigns might give the inhabitants of a village the first experience of a sense

[6] Recently such a brawl between the owners of neighbouring bungalows in the state capital Gandhinagar ended with two people dead.

of cleanliness and boost social control in this regard. Clean village competitions could install a sense of pride in clean surroundings.

12. Learning from the market

In the Ghogha project the promotion of clean water and sanitation is mainly done on the basis of the intellectual and rational argument that it would improve health. After all the promoters have a background in education. The message does not always come across, however, as the relationship between cleanliness and health is not clear to all. People might say I have come of age anyway. Others would argue that it is good to harden oneself in order to be fit to survive under all circumstances.

But human nature has other aspects than rationality. Comfort, taste, vanity and its counterpart shame might prove to be more susceptible to persuasion. Commercial marketing is usually focused on these feelings rather than on knowledge. But to promote water and sanitation facilities as objects of individual pride that make one's life easy they must have a high service level. That means house connections instead of standposts and private bathrooms instead of public ones at a distance.

It is not only the contents of the promotional message that matters; equally important is the style in which it is presented. The Ghogha project has relied on lecturing and preaching where in commercial marketing one would rather opt for providing a first experience. That experience would be by proxy if one sells first to the happy few, gradually reducing prices thereafter, or direct by handing out free samples.

A door-to-door garbage collection programme in Goa[7] that started on a pay-as-you-like basis is an example of the second approach. As soon as the positive effects became clear the large majority of households started to contribute. The present provision of soakpits in the Ghogha project might become a similar success.

13. Water resources management (WRM)

The water resources management (WRM) sub-programme of the Ghogha project has started only late. Construction of checkdams in the beds of rivulets to enlarge the infiltration of rainwater into the soil is the major component. The villages have to contribute 10% of the construction costs, at least 5% in cash and the balance in labour. Door-to-door collections did not have to be organised yet.

It is not difficult to understand why this programme quickly has become popular. First of all it brings money and employment into the village. Secondly, the O&M of a checkdam is considered to be negligible, for which no special organisation is required. Thirdly and most importantly is the farm lobby. A rising water table accessible through wells and handpumps is good for all, but especially a boon to the rich with pumps to irrigate their fields. The more effective a WRM programme will be, the less the villages involved will be dependent on the new VWSSs. But a sound economic analysis of the benefits from the actual and proposed investments in WRM is warrantable.

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[7] Reported during the Water and Sanitation session of the Education for a Sustainable Future conference at CEE, Ahmedabad, on January 18 – 20, 2005.

14. Lessons to be learned

- A rural Water Management programme should start with WRM activities that would enhance the productivity of the traditional sources of drinking water. It is comparatively easy to implement and might in an early stage have an important effect.
- Village oriented WATSAN projects should give priority to villages that are eager to participate in the programme.
- The interest of each village participating in a WATSAN programme should be assessed regularly. If it subsides, the assistance should be withdrawn until the interest rises again. Intensifying the efforts of social engineers is not a solution.
- The popular assumption that existing social relations in a village provide a sound basis to a new modern organisation created for a specific purpose like water supply management is false. Rational businesslike behaviour is easily accepted from outsiders but not from relatives, neighbours, etc.
- Where factionalism is strong, communal VWSSs might not be feasible. Instead individual solutions in water supply should be looked into, like private reservoirs with handpumps, to be filled with roof rainwater and/or commercial tankers.
- Communal VWSSs should have a high service level. A high ground level reservoir supplying a number of cluster reservoirs fitted with a handpump offers ample service hours and the opportunity to store water. Individual house connections are another high service level option.
- The negative impact of power failures on the service level of a VWSS should be minimized by installing diesel pumps, generators, constructing additional sumps with handpumps, or simple by making use of elevations in the terrain to supply water by gravity.
- Because selection of a contractor by the PS has become the norm the rule stating that works can't start until a certain amount for O&M has been collected should be abolished. To a PS struggling to collect the mandatory O&M fund from the villagers a contractor's offer to (pre-) finance the amount could well be too good to refuse. Both would benefit from an early start of the construction works.
- Realistic estimates of O&M costs together with village level and individual contributions must be circulated early.
- In the post-construction phase a service organization is needed for audits and training, but also to help PSs and water users to consolidate their respective roles.
- If the formation and functioning of PSs in a region proves to be difficult it must be seriously considered to entrust the O&M of the VWSSs to one or more private entrepreneurs.
- In the promotion of WATSAN facilities seductive arguments as comfort and luxury could be more effective than teaching and preaching about health and hygiene.
- Community toilets are not feasible.
- School sanitation blocks need to be sturdy, with e.g. stainless steel urinals, and to avail of plenty water.
- Washing and bathing is preferably done in the privacy of a courtyard, provided sufficient individual storage of water is possible. Community washing facilities are less preferred. In those cases where community facilities are the only feasible option they must be build in a style that provides a sense of openness and always avail of sufficient water.
- Sewerage lines are only to be introduced after the successful operation of VWSSs and full acceptance of O&M contributions to these.
- In most rural areas the social control on the disposal of garbage and wastewater in public areas is still weak. It has to be nurtured carefully. Providing the experience of clean surroundings might be much more effective than a stream of lectures on the subject.