Field Note

Water and Sanitation Program

An international partnership to help the poor gain sustained access to improved water supply and sanitation services

Why Some Village Water and Sanitation Committees are Better than Others:
A Study of Karnataka and Uttar Pradesh (India)

South Asia Region

Summary

In order to understand the dynamics of good governance at the village level, the Water and Sanitation Program–South Asia (WSP–SA) commissioned a study of village water and sanitation committee in two World Bank-assisted rural water supply and sanitation projects in the states of Karnataka and Uttar Pradesh, India. The study concludes that transparency, participation, inclusion and ownership are important committee features. When committees have higher scores for these features, the projects are more effective in terms of both financial performance and consumer satisfaction.

Palkot village in the hills of Uttar Pradesh

Introduction

The water and sanitation sector is continuously developing and testing new strategies to identify the factors that promote sustainable rural water supply and sanitation (RWSS) projects throughout the world. A key lesson from global research over the past decade is the strong relationship between a demand-responsive approach and overall project effectiveness (Narayan 1995; Sara and Katz 1998). As a result, external support agencies and governments in India and around the world are relying upon community-level organizations to respond to community demand and assist in the planning, construction and maintenance of water projects. Based upon evidence that these community-level organizations can lead to more effective projects, the Karnataka and Uttar Pradesh RWSS projects were designed to have committees that functioned at the village level.

Implementing a water scheme at the village level in India raises the question of whether gram panchayats (local government bodies) are ideal for implementing a participatory, community-driven approach. There are several reasons to be concerned about the potential efficacy of gram panchayats.

- They often administer an area larger than the village of interest.
- There is concern about their inclusion of marginalized groups.
- There is potential for political interference and rent-seeking.
- Due to their many other responsibilities, they cannot focus solely on water and sanitation problems within the village.

For these reasons, plans for separate Village Water and Sanitation Committees (VWSCs) were incorporated into the project design in both states.

Conceptual Framework

The global emphasis on establishing community-level organizations to manage village water projects has evolved for many reasons. One of the key factors is sector experience with demand-based approaches. Studies suggest that if beneficiaries are able to express their views and set up water projects that meet their needs, they are more likely to work and pay to sustain the system (Sara and Katz 1998). Village committees can enhance demand-based approaches by bringing decision-making down to the village level where users can decide, among other things, the type of technology, location of the facility, level and hours of service, tariff charges and how they should be used.

Theoretically, the establishment of village committees should lead to improved results. However, these organizations are not guaranteed success as they face the same problems as organizations that manage similar common property resources, such as irrigation schemes and forests (Watson et al. 1997). A careful reading of the literature suggests that four key committee features are associated with project success—transparency, participation, inclusion and ownership.

Studies of common property resources have noted the importance of transparency for the effective management of a resource (McKean 1992; Ostrom 1990). If individuals within a community do not understand how decisions are made or are not aware of whether other people are adhering to the rules, they have little incentive to work together as a group. Committees can increase transparency by holding open meetings, sharing the minutes of meetings with the community and publicly penalizing people who fail to follow the rules or pay tariff. Participation is important because a critical mass of community members must understand the potential benefits of the scheme and participate in setting project rules (Ostrom 1990; White and Runge 1995). Available evidence shows that successful development projects, including water supply schemes, must have a participatory component. Moreover, people's participation contributes to the achievement of the five main objectives of water supply projects: effectiveness, efficiency, empowerment, equity and coverage (Narayan 1995; Water and Sanitation for Health Project 1993). In addition to overall community participation, *who* participates and *who* benefits is also important. Projects should be inclusive in terms of conflict resolution mechanisms, division of benefits and the opportunity to influence decision-making (White and Runge 1995). It is also important for the community to feel a sense of ownership for the resource; the community as a whole should believe that this is their project and they are responsible for keeping it operational (Water and Sanitation for Health Project 1993).

The larger village environment also impacts project effectiveness. As cooperation is key to the successful management of a common property resource, community features that hinder or encourage cooperation must be understood. Social capital is a good example of a village feature that impacts the functioning of a village committee. Social capital has been defined as 'the norms and social relations embedded in the social structures of societies that enable people to coordinate action to achieve desired goals' (The World Bank, Social Capital for Development

Examining VWSC records in Karnataka

Social mapping in a Karnataka village

Figure 1: Karnataka and Uttar Pradesh, India

This map has been prepared by the staff of The World Bank exclusively for the convenience of readers. The denominations used and the boundaries shown on this map do not imply any judgement on the legal status of any territory or any endorsement or acceptance of such boundaries, on the part of The World Bank Group.

Note: *The state boundaries have recently been redrawn. The boundaries shown on this map are prior to November 2000.*

web page 2000). Village features that positively influence social capital are small population size, physical isolation, previous community cooperative efforts, successful intervention by an NGO and homogeneity in terms of caste, income, religion and beliefs.

Research Questions

Apart from participation, none of the committee features (transparency, inclusion and ownership) have been rigorously examined in relation to the water supply sector. It is not clear whether all these features are important or which are more important. However, it is believed that the presence of these four features will lead to sustainable water schemes, and that VWSCs can achieve these objectives. Based on this reasoning, the following four research questions were developed for this study:

1. VWSCs were established to help ensure transparency, participation, inclusion and ownership. Have VWSCs achieved these objectives?
2. What is the connection between institutional effectiveness and overall project effectiveness/ sustainability?
3. Of the four features of VWSCs, which is the single most important in water supply projects?

A woman in Ram Nagar Danda village washes utensils at a private water connection

4. What causes some VWSCs to perform better than others? (Which external factors or inputs determine why the four features in Question 1 exist to a greater or lesser degree?)

Project Information

Villages from two World Bank-assisted projects in the states of Uttar Pradesh and Karnataka were selected for this study. While the main objective of these projects is to provide sustained water services to the rural poor for the design life of the project, both are integrated water and sanitation projects: along with water, they also promote latrines, provide health and hygiene education, and build drainage in certain locations. Both projects required the establishment of village committees to assist or fully undertake planning and implementation of schemes, and to be entirely responsible for operation and maintenance. Each state is governed by different project rules, details of which are presented in Table1.

There are fundamental social and cultural differences within each state. The three main regions where the project operates in Karnataka are the north, the south and the coastal area. In the south and along the coast, women's status is relatively high. Girls and boys receive almost

Table 1: A Comparison of the Projects in Karnataka and Uttar Pradesh

Indicator	Karnataka	Uttar Pradesh*
Date of initiation	1994	1996
Number of villages to be covered	1,200	1,000
Process of village selection	Selected by the government (zilla panchayats) on the basis of water shortage and water-related health problems.	Selected by NGOs on the basis of need, demand and technical feasibility.
Technology choice	The community does not make a choice. Technology options are based on village size, and include piped water supplied from an overhead tank or open well, a mini water supply scheme or handpumps.	The community is given options, such as gravity schemes, rainwater tanks, handpumps and piped schemes from overhead tanks. Options depend on feasibility and cost.
Possible voice for the community during the planning stage	Decisions on location of facilities, who should be a committee member and habitat improvement (type, number, location).	Decisions on technology choice, location of facilities, who should be a committee member and habitat improvement.
Role of the VWSC	*During the planning and implementation stages:* Collect capital cost contribution and facilitate discussion regarding the location and number of different types of facilities. *During operation and maintenance:* Fix and collect tariff and ensure the maintenance and operation of the system.	*During the planning and implementation stages:* Collect capital cost contribution and facilitate discussion regarding the location and number of different types of facilities, including water supply. Oversee construction, including purchasing materials and ensuring labor contribution by the community. *During operation and maintenance:* Fix and collect tariff and ensure the maintenance and operation of the system.
Requirements for women's participation	The committee should have 33 percent women members.	The committee should have 33 percent women members. A component of this project also encourages women's development through income generation projects and self-help groups.
Formal relationship between the VWSC and gram panchayat	The VWSC is a subcommittee of the gram panchayat. The gram pradhan is Chair of the VWSC (unless the pradhan is based in another village). Every member of the panchayat (from the project village) is automatically a member of the VWSC. In addition, some non-gram panchayat community members are selected for the committee.	The VWSC is a subcommittee of the gram panchayat. However, in practice it usually operates in isolation. It is not necessary for gram panchayat members to be on the committee, and usually very few members of the gram panchayat are on the committee. The VWSC Chair is selected by the community.
Rules for community contribution towards capital cost	Villages contribute 30 percent of the cost of drainage schemes; however, 50 percent of the contribution is required upfront to start construction of water supply schemes.	Villages contribute approximately 10 percent of the capital cost of both water and sanitation components in cash and/or labor.
Role of NGOs	NGOs facilitate participation, and operate as a link between the community and the government. NGOs are not officially involved in the project once it is handed over to the community.**	NGOs are involved in the hardware and software components of the scheme. NGOs select project villages, facilitate participation, help the community procure goods and organize construction. NGOs act as mediators between the community and the Project Management Unit. NGOs are not officially involved in the project once it is handed over to the community.**
Role of the government	Public Health Engineering Departments (PHEDs) are responsible for the design and construction of water systems. The Project Planning and district level Monitoring Unit, along with its Rural Development offices, is responsible for procurement monitoring, planning support, technical guidance and independent monitoring of project implementation.	The Project Management Unit, along with its district level offices, oversees the project, subcontracts service delivery responsibilities to NGOs and communities, ensures that NGOs and schemes meet eligibility criteria, provides funding and monitors performance.
Average size of villages in study sample	750 households	96 households

**There have been significant changes between different phases of the Uttar Pradesh project. The rules presented here pertain to the first two phases, which all the surveyed villages are from.*
***In both projects, NGOs end their contract shortly after the project is officially taken up by the community. In some cases, NGOs continue to conduct follow-up visits.*

equal levels of education, and women are relatively mobile and confident. In the north, in contrast, girls' education levels fall well below boys', and women are less mobile. Social capital, in general, is lower in the north where there are greater inequities and caste conflicts.

The two regions where the project functions in Uttar Pradesh are the hills and Bundelkhand. The hills consist of small, homogeneous, isolated villages. Social capital is generally high in this area and women enjoy high status. Villages in Bundelkhand are larger and many different castes are present in the same village. Unlike the hills, many upper-caste households practice a form of purdah where women are discouraged from interacting with men in public.

Methodology

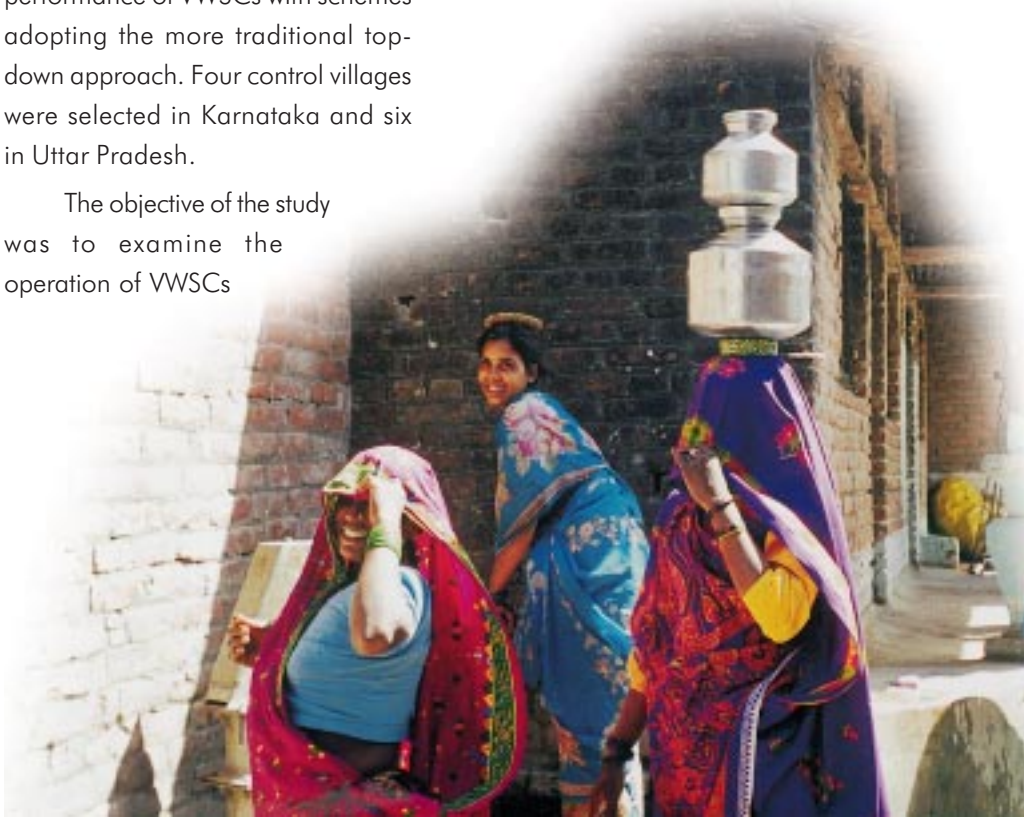
In order to assess project effectiveness, the sampling frame for the study was limited to villages that had been in the operation and maintenance stage for at least six months. (A limitation of this study is that most of the schemes are relatively new and their sustainability in the long term cannot be assessed.) In Karnataka and Uttar Pradesh, respectively, 97 and 56 villages met these criteria. To ensure that the data was geographically representative, villages from different regions in each state were randomly selected proportionate to the number of eligible villages in the region. However, only one village in the Bundelkhand region met the original sampling frame, so the frame was modified to include villages that had been in the operation and maintenance stage for only four months.

In all, 45 project villages were selected for the study—25 in Karnataka (25 percent of the 97 eligible villages) and 20 in Uttar Pradesh, (36 percent of the 56 eligible villages). Since the villages were randomly selected by drawing lots, it is assumed that the villages are representative of the larger population. While individual cases may vary, the findings of the study are applicable to all the villages in the sampling frame. In addition to project villages, villages with government schemes were also studied in order to compare the performance of VWSCs with schemes adopting the more traditional top-down approach. Four control villages were selected in Karnataka and six in Uttar Pradesh.

The objective of the study was to examine the operation of VWSCs through each stage of the project, from the perspective of the committee and the larger community. To ensure valid data, information was collected from a variety of sources in each village, including individual committee members, households, focus groups, project records and system operators. In each state, the data collection team consisted of two research associates and seven household interviewers. The surveys were pre-tested in four villages prior to data collection. Data were collected from December 1999 to February 2000.

Findings

Although the findings from Karnataka and Uttar Pradesh are presented together, since the contexts are not the same, it is unfair to compare the findings from the two states and



Women collecting water in a Bundelkhand village, Uttar Pradesh

conclude that VWSCs in Uttar Pradesh are more effective than those in Karnataka. The project in Uttar Pradesh is a 'new generation,' demand-responsive scheme, where every decision is made at the community level. The Uttar Pradesh project was built upon lessons learned from the Karnataka project. Community involvement was emphasized from the very beginning of the project, and a lot of time was spent selecting committee members and technology type in each village in Uttar Pradesh. In Karnataka, the level of community involvement in the planning and implementation phases was much less than in Uttar Pradesh.

There are design-based reasons to expect VWSCs to perform better in Uttar Pradesh than Karnataka.

- In Uttar Pradesh, NGOs provide support to the project villages for both community development and the engineering component. In Karnataka, in contrast, NGOs are only responsible for community development; the Public Health Engineering Department is responsible for providing engineering support.
- Villages in Uttar Pradesh are much smaller and more homogeneous than in Karnataka and, correspondingly, have higher levels of social capital.
- In Uttar Pradesh, VWSCs have bypassed gram panchayats and operate in isolation.
- Partial capital cost contribution by the community for water supply is required in Uttar Pradesh.
- In Uttar Pradesh, project villages were selected by NGOs and not by the government.
- The water supply technology used in Uttar Pradesh is, by and large, simpler to operate and maintain than the technology used in Karnataka.

Have VWSCs achieved the objectives of transparency, participation, inclusion and ownership?

It was found that VWSCs were, by and large, successful in achieving the goals of transparency, participation, inclusion and ownership.

Figure 2: Relationship Between Overall Project Effectiveness and VWSC Effectiveness in Karnataka and Uttar Pradesh

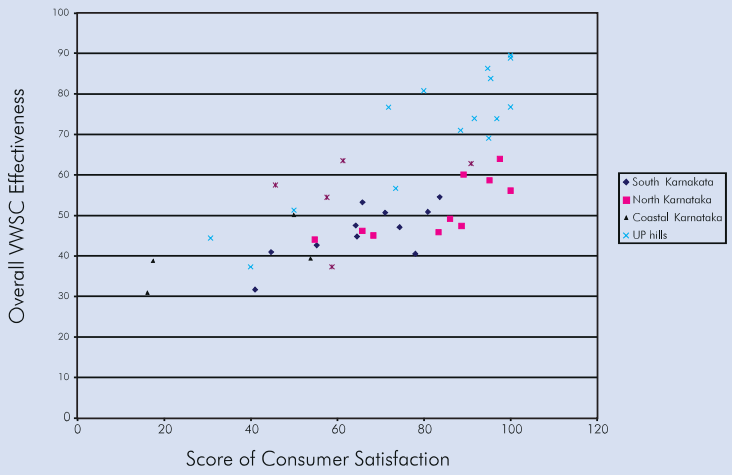


Table 2: Scores for Over in the Study Vi

	Transparency	Participati
South Karnataka		
Huskur	45.5	22.7
Danahalli	54.7	29.4
Yelawala	32.2	14.4
Hebbal	55.6	26.3
Vittalapura	60.1	33.7
Hirremaralli	58.8	47.2
A. Naga	63.2	39.1
Banavatti	38.9	28.5
Sulukunte	61.8	47.6
Bylanararas	51.1	31.6
Hadripura	61.0	45.5
Savanakan (C)	NA	15.6
Benvenahali (C)	NA	13.4
North Karnataka		
HB Halli	49.4	27.7
Shridaragad	57.4	35.2
KN Halli	56.7	35.2
Sovenahalli	44.2	25.8
Moka	46.8	26.0
Saidapur	47.5	28.2
Adaki Huda	41.3	42.9
Dupat M.	56.9	43.7
Bailur	60.1	46.3
Madlur	63.4	49.6
Kukkadolli (C)	NA	16.6
Amarapura (C)	NA	21.4
Coastal Karnataka		
Kepu	55.5	38.8
Belma	48.2	30.4
Puruvai	47.3	32.8
Panaje	46.7	19.3
UP hills		
Palkot	60.7	78.9
Ramnagar D	78.6	60.4
Gokulwala	85.2	70.1
Sada	88.5	78.1
Kunja Grant	53.2	60.8
Chamini	76.4	71.0
Densli	53.5	37.9
Mayal	94.2	87.9
Godigad	90.5	81.3
Saimli	88.2	79.4
Dharimkhol	44.2	41.9
Dadal	75.9	79.9
Banna	82.8	76.5
Matela	60.3	42.9
Tarikhet	98.6	88.9
Karala Mahar (C)	NA	3.0
Ogla (C)	NA	7.8
Navarathuw (C)	NA	4.0
Palas (C)	NA	9.8
UP – Bundelkhand		
Magarahi	60.1	59.6
Rewadi	56.8	70.4
Baniatala	57.7	62.7
Birhat	48.9	55.8
Alkachuwa	32.6	34.6
Barha (C)	NA	5.8
Dhanori (C)	NA	4.6

High scores indicate better performance. (C) denotes co

rall VWSC Effectiveness and Project Effectiveness
llages of Karnataka and Uttar Pradesh

ion	Inclusion	Ownership	Overall VWSC Effectiveness	Overall Project Effectiveness
	49.1	61.7	44.8	46.0
	35.8	42.0	40.5	55.1
	43.0	36.9	31.6	31.4
	41.8	46.8	42.6	45.2
	42.0	66.8	50.6	82.0
	46.9	50.5	50.9	65.6
	39.9	70.7	53.2	63.3
	62.7	58.1	47.1	37.2
	37.8	42.9	47.5	63.8
	37.2	43.7	40.9	53.6
	41.5	70.0	54.5	55.0
	NA	27.0	10.7	41.4
	NA	36.0	12.4	34.5
	63.7	56.0	49.2	62.2
	51.1	40.0	45.9	63.7
	53.1	79.5	56.1	70.9
	43.9	62.3	44.0	48.9
	48.4	68.6	47.5	56.1
	69.2	35.4	45.1	54.1
	47.6	53.0	46.2	32.9
	80.8	74.5	64.0	97.6
	44.4	89.6	60.1	63.8
	39.4	82.4	58.7	97.6
	NA	28.0	11.2	50.8
	NA	31.0	13.1	41.6
	57.7	48.3	50.1	54.9
	41.5	36.9	39.2	65.8
	32.6	42.2	38.7	26.5
	25.6	32.0	30.9	32.3
	60.5	76.0	69.0	51.4
	73.2	83.1	73.8	96.9
	79.5	71.9	76.7	85.9
	95.8	72.7	83.8	95.9
	71.6	41.2	56.7	40.8
	66.5	70.0	71.0	94.2
	36.7	49.2	44.3	27.4
	72.4	90.5	86.2	94.9
	83.6	100	88.9	84.9
	72.5	66.7	76.7	100
	58.0	5.0	37.3	20.0
	54.9	85.0	73.9	88.8
	78.0	85.6	80.7	70.0
	61.9	40.0	51.3	69.9
	79.2	91.4	89.5	100
	NA	0.0	0.8	7.0
	NA	0.0	2.0	33.5
	NA	0.0	1.0	49.0
	NA	22.0	8.0	45.5
	47.1	62.9	57.4	47.9
	61.8	61.8	62.7	45.5
	58.7	74.8	63.5	38.6
	73.2	40.0	54.5	28.8
	45.9	35.9	37.3	29.4
	NA	0.0	1.5	11.0
	NA	22.0	6.7	22.0

ontrol villages.

For each parameter, a series of measures were identified and an aggregate score was calculated for every village. Specific findings for each parameter are presented below:

- **Are VWSCs transparent?** Transparency has been operationalized in the study to mean that community members know about the project in terms of finances, committee functioning and the selection of committee members. It was found that households in VWSC villages are more aware of the project and its operation than households in the control villages.
- **Do VWSCs increase participation?** The study assessed measures such as attendance at committee meetings and community involvement in decision-making and the supervision of construction. The villages with VWSCs clearly followed a participatory process, with villages in Uttar Pradesh being more participatory than villages in Karnataka. One reason for the marked difference in scores between Karnataka and Uttar Pradesh lies

Women's focus groups in the hills of Uttar Pradesh

Box 1 **A Village in Bundelkhand, Uttar Pradesh**

The Impact of Low Social Capital on VWSC Effectiveness and Project Effectiveness

Alkachuwa village has a low score for both VWSC effectiveness and project effectiveness. The committee has not met since the implementation stage and has made no attempt to collect tariff. Only 59 percent of the households said they were satisfied with the new water system. The performance of the VWSC is marked by lack of participation, inclusion and transparency, and a low sense of ownership.

Participation: The village has 242 households, of which only 81 have contributed towards the initial capital cost. None of the surveyed households recalled attending a meeting during the planning stage and only 20 percent of the households participated in decisions regarding the location of handpumps.

Inclusion: Three women are ostensibly on the village committee. However, one woman is a landless laborer who infrequently attends meetings due to her need to work. The second woman is always represented by her son and the third woman is usually represented by her husband. This is typical of the culture in Bundelkhand, where women frequently practice purdah and politics is considered to be a male domain.

Water is not equitably distributed in the village. Although a total of 12 handpumps have been constructed, all of them are not considered 'public' handpumps. During the planning and implementation stages of the project, a few households contributed the entire capital cost for one handpump (Rs 4,000) on the understanding that neighboring households would pay them back after the handpumps were operational. However, this has not happened and the villagers consider the handpumps to be the property of individual households. Some households even go so far as to remove the chain when they are not using the pump to ensure that other villagers do not use the facility.

Transparency: The overall score for transparency in Alkachuwa is 32.6 (the highest possible score is 100). This is the second lowest score for transparency for the study villages of both states (N=45). The village community is generally unaware of the project; only 29 percent of the households in the village said that they were told during the planning stage of the community's responsibility for operation and maintenance, and 26 percent of the villagers knew how committee members were selected.

Sense of ownership: When asked, VWSC members in Alkachuwa said that they were not responsible for operation and maintenance of the project. It is not surprising that only 26 percent of the villagers feel that the community can sustain the handpumps over the next ten years. This VWSC scored the fourth lowest out of all the 45 study villages on this parameter.

Influence of social capital: The village has experienced a number of caste and class conflicts. Drainage has not been completed as households are unwilling to give up any part of their land. Similarly, one handpump was never installed due to disputes about its location.

in the percentage of households attending meetings either during the planning stage or during the operation and maintenance stage. In Karnataka, 22 percent of households attended a meeting during planning/implementation, and only 13 percent attended a meeting during operation and maintenance. In Uttar Pradesh, in contrast, 70 percent of households attended a meeting during the planning stage, and 27 percent attended during the operation and maintenance stage.

- **Are VWSCs inclusive?** In an inclusive committee, the poor, disadvantaged (Scheduled Castes and Tribes) and women are members of the committee who participate in the community at large and receive equal benefits. It is difficult to compare VWSC villages and control villages on this parameter, given that most control villages have no participatory component, whether inclusive or not. For the most part, VWSCs enable the voice of marginalized groups to be heard. While there are seldom more poor than non-poor, or more women than men who attend committee meetings and are aware of the project, in VWSC villages these frequently excluded groups are involved in the process.
- **Do VWSCs increase the community's sense of ownership?** Ownership is measured in three ways:
  - Whether the committee thinks the community owns the water system.
  - Whether the committee feels fully responsible for the costs associated with operation and minor repair.
  - Whether households feel the community has the capacity to keep the system functional for ten years.

With three exceptions (two in Karnataka and one in Uttar Pradesh), sense of ownership is higher in VWSC villages than in the control villages.

Relationship between VWSC effectiveness and project effectiveness

There is a positive correlation between VWSC effectiveness and project effectiveness.

An overall score of VWSC effectiveness was calculated for each village. Each of the four features of VWSCs: transparency, participation, inclusion and ownership—was assigned an equal value in determining an overall score of VWSC effectiveness. In this study, two indicators were taken

Box 2 **A Project Village in Karnataka**

'VWSCs are more representative and transparent than gram panchayats'

Madlur is a pilot village in north Karnataka. It received a number of inputs from the NGO in the form of building community awareness and participation. The VWSC adopted a novel method for collecting capital cost contributions—households pay Rs. 100 per acre of land, and landless households pay Rs. 100. Each of the 425 households in the village has contributed to the capital cost of the scheme and the committee was able to raise more funds than required. Although the scheme was among the earliest to be handed over, the VWSC in this village is more active than in many of the other villages.

The VWSC had representatives from different sections of the community and focused on addressing the needs of the community from the beginning. The committee ensured an equitable distribution of facilities throughout the village. The field team wrote at the end of their visit that the "basic groundwork and inputs given to the committee during the planning phase has helped the VWSC have a sound footing": so sound that the committee has taken innovative steps to collect tariff *despite* the lack of cooperation of the gram panchayat. The VWSC has not had an official meeting in two years because the gram panchayat has not called a meeting. However, since tariff was not being paid for some time, the VWSC met informally and institutionalized collection. Tariff is now collected at the village ration shop; households that do not pay their tariff every month have their rations cut.

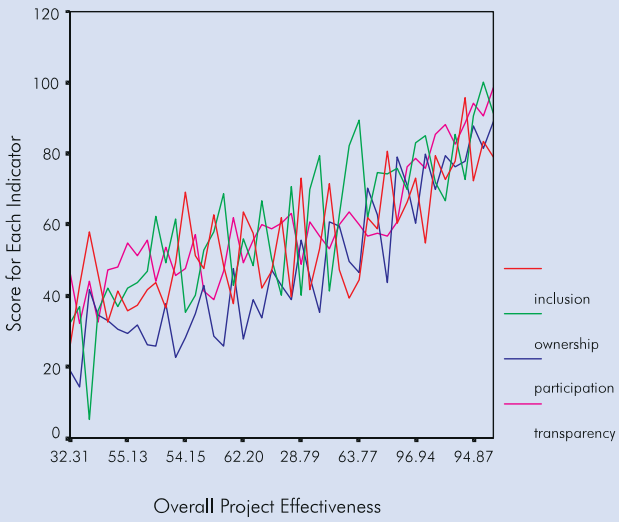
When asked about the strengths of the committee, one of the members said, "more representation, most of the members are unbiased and non-political. Their words are respected… more transparent and less groupism [or politics] than the gram panchayat."

as proxies for overall project effectiveness: consumer satisfaction with the completed scheme and the financial performance of the VWSC (i.e., its ability to recover operation and maintenance costs). Financial performance consists of two measures—the percentage of households using public standposts or handpumps who have paid the water tariff and the percentage of households with private house connections who have paid the water tariff. The measure of financial performance is based upon tariff payment because it is too early to have any accurate sense of replacement cost recovery in these projects—they have not been in operation long enough to have experienced any major breakdowns.

After calculating the scores for project effectiveness and VWSC effectiveness, the scores for each village were compared. The figures were found to be significantly and positively correlated—that is, high scores for VWSC effectiveness tend to be found in the villages with high scores for project effectiveness (see Table 2). Some interesting regional patterns emerge from this analysis. The schemes in the hills of Uttar Pradesh, for the most part, score very high in both project and VWSC effectiveness. The results from north and south Karnataka are mixed, with approximately half the villages in each region falling into both the top and bottom 20 villages on both scores. All the villages in the coastal district are in the bottom 20 in terms of VWSC effectiveness; however, one village scores in the top 20 for project effectiveness.

Villagers still use traditional water sources in many project villages of Bundelkhand

Figure 3: Relationship Between Overall Project Effectiveness and VWSC Features in the Study Villages



The difficulty in having effective VWSCs in coastal Karnataka can be partly explained by the terrain—due to the lack of clustering of the population and topographical limitations to water supply, VWSCs have difficulty encouraging and sustaining participation, inclusion, transparency and ownership. In Bundelkhand, Uttar Pradesh, all five villages are in the bottom 20 projects; however, three projects have effective VWSCs. This could, in part, be explained by the low social capital prevalent in the communities there (see Box 1).

Of the four features of VWSCs, which is the single most important?

Transparency emerges as the single most important feature of VWSCs.

As Figure 3 illustrates, there is a positive relationship between each of the four features of VWSCs and overall project effectiveness. The four features are all positively and significantly correlated; that is, where one feature is high, the others are also likely to be high. Given the correlation between transparency, participation, inclusion and ownership, it is difficult to isolate the effects of each and understand which is most important in terms of overall project effectiveness. However, using both regression models which control for intervening factors and tests of statistical correlation, transparency emerges as the single most important

feature of VWSCs. Next in importance is ownership, followed by participation and inclusion.

To say that transparency is the most important feature does not mean that it should be the sole objective when designing a project with a local committee. Transparency does not work in isolation; people cannot become aware of what is happening at project meetings unless at least some community members attend these meetings. In regression analysis, controlling for the other committee features, transparency is the only feature of VWSCs that significantly contributes to overall project effectiveness. Higher levels of participation also significantly contribute to a higher level of transparency.

What causes some VWSCs to perform better than others?
(What factors or inputs determine why the four features in Question 1 exist to a greater or lesser degree?)

Equity, homogeneity, and lower percentages of Scheduled Castes and Tribes in the community are correlated with higher VWSC effectiveness. Literacy rates, poverty level and quality of the NGO are not significantly correlated with VWSC effectiveness.

In addition to committee features, the most significant factors that impact project effectiveness are inequity and caste. As inequity within a village increases, VWSCs are less likely to have the four features. In other words, equity is associated with VWSC effectiveness. In heterogeneous settings where there are a number of different castes and religious groups, VWSCs are less effective, perhaps due to greater friction between groups and consequently greater difficulty in reaching consensus. Similarly, as the percentage of Scheduled Castes and Tribes increases, VWSCs are found to be less effective. This is not surprising considering the lower social capital generally found among the lower castes. The findings suggest that higher levels of social capital are related to better governance. Surprisingly, literacy rates, poverty levels and the quality of NGOs are not significantly correlated with the indicators of VWSC effectiveness.

In Uttar Pradesh, women are part of the participatory process in rural water schemes

Conclusions

The projects in Karnataka and Uttar Pradesh were designed on the premise that establishing VWSCs would lead to more effective management at the village level. This study provides evidence to suggest that this is correct. As hypothesized, the key features of VWSCs are transparency, participation, inclusion and ownership, which increase community cooperation and support for the project. Findings suggest that the most important feature is transparency—the more individual households are aware of the scheme, understand the tariff collection process and attend committee meetings, the higher the overall effectiveness of the project.

This note has not discussed the long-term sustainability of VWSCs and the projects. While one can assume that consumer satisfaction and effective tariff collection are both indicators of sustainability, there are other issues at stake in the Indian context. A key issue worth exploring in depth in a future study is the nature of the complex relationship between VWSCs and gram panchayats.

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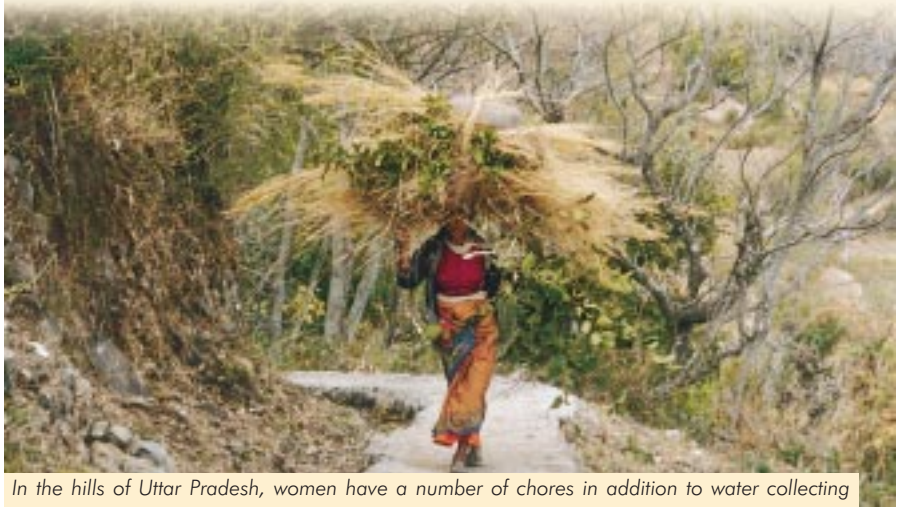
In project hills of Uttar Pradesh, detailed lists of capital cost collection are put up for the benefit of the community

A list of VWSC members is put up in Uttar Pradesh so the community knows who to contact



In the hills of Uttar Pradesh, women have a number of chores in addition to water collecting

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A copy of the study on which this note is based, entitled 'The Relationship Between Good Governance and the Effectiveness of Water Supply Projects: A Study of Village Water and Sanitation Committees in Karnataka and Uttar Pradesh' is available at the Water and Sanitation Program–South Asia.

Study undertaken by Linda Stalker for Water and Sanitation Program–South Asia
She was guided by G.V. Abhyankar, World Bank and Parameswaran Iyer, Water and Sanitation Program.

Photographs: Linda Stalker

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